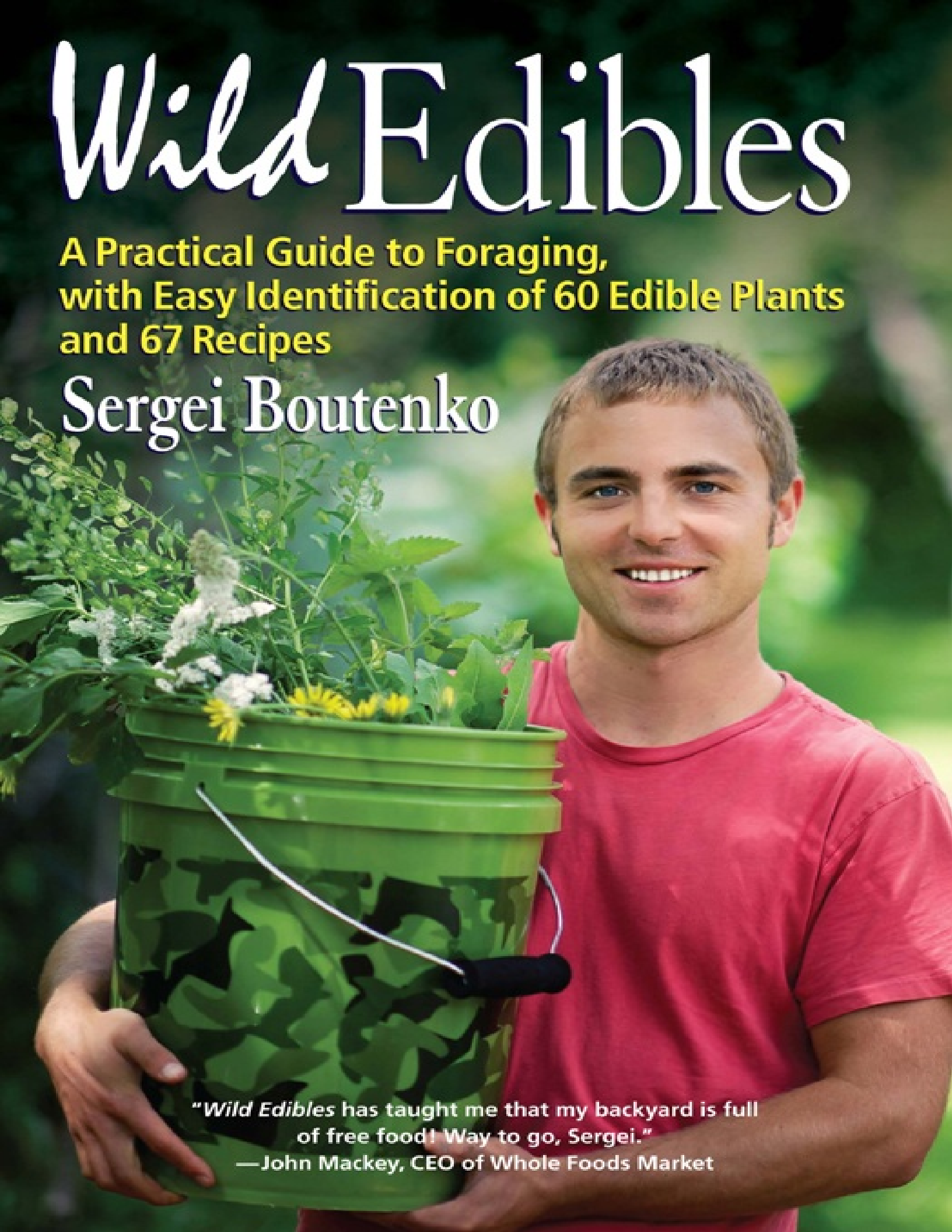
Wild Edibles

A Practical Guide to Foraging, with Easy Identification of 60 Edible Plants and 67 Recipes

Sergei Boutenko



"*Wild Edibles* has taught me that my backyard is full of free food! Way to go, Sergei."
—John Mackey, CEO of Whole Foods Market

Wild Edibles

Also by Sergei Boutenko

Fresh: The Ultimate Live-Food Cookbook (with Valya Boutenko)

The Miracle of Greens: How Greens and Wild Edibles Can Save Your Life (DVD)

Wild Edibles, an iPhone application, is available through the iTunes store.

Wild Edibles

A Practical Guide to Foraging, with Easy Identification of 60 Edible Plants and 67 Recipes

Sergei Boutenko

North Atlantic Books
Berkeley, California

eISBN: 978-1-58394627-5

Published by
North Atlantic Books
P.O. Box 12327
Berkeley, California 94712

Cover photo and photo on this page by Nicole Slater (www.NicoleSlaterPhotography.com).
Photo on this page © iStockphoto.com/gastonlacombe.
Except where noted, all interior photos are by the author.

Cover design by Brad Greene.

MEDICAL DISCLAIMER: The following information is intended for general information purposes only. Individuals should always see their health care provider before administering any suggestions made in this book. Any application of the material set forth in the following pages is at the reader's discretion and is his or her sole responsibility.

Wild Edibles: A Practical Guide to Foraging, with Easy Identification of 60 Edible Plants and 67 Recipes is sponsored by the Society for the Study of Native Arts and Sciences, a nonprofit educational corporation whose goals are to develop an educational and cross-cultural perspective linking various scientific, social, and artistic fields; to nurture a holistic view of arts, sciences, humanities, and healing; and to publish and distribute literature on the relationship of mind, body, and nature.

North Atlantic Books' publications are available through most bookstores. For further information, visit our website at www.northatlanticbooks.com or call 800-733-3000.

The Library of Congress has cataloged the printed edition as follows:

Boutenko, Sergei.
Wild edibles : a practical guide to foraging, with easy identification of 60 edible plants and 67 recipes / Sergei Boutenko.
pages cm

Includes bibliographical references.
Summary: “This practical guide to plant foraging provides readers with the tools to safely identify, harvest, and prepare wild edible plants and enjoy the health and economic benefits of eating wild”—Provided by publisher.
1. Wild plants, Edible—Identification. 2. Cooking (Wild foods) I. Title.
QK98.5.A1B68 2013
641.3′03—dc23
2012043040

v3.1

For the wildly adventurous and the playfully rebellious.

Disclaimer

Identification and use of wild plants requires particular care and attention. Never eat any plant unless you are absolutely sure that it is edible. Carefully read the introduction to wild edibles in this book prior to harvesting the plants discussed. The information in this book is for educational purposes only. It is not intended as a substitute for medical advice, diagnosis, or treatment. The author and publisher and any of their counterparts assume no responsibility whatsoever for any adverse effects encountered by the individual. Because of food allergies, any person may experience a reaction to a plant that is known to be safe. By choosing to consume unfamiliar, new foods, the reader agrees to assume all risks and responsibilities. Please harvest wild edibles with care!

We live in a society that loves guarantees. In the field of foraging, however, nothing is 100 percent certain. The topic of wild edibles is one of controversy. There are many expert opinions about how foragers should conduct themselves, and often these experts contradict one another. In writing this book, I will likely share viewpoints that will disagree with others. The information in this book comes from countless hours of my own research and years of experimentation in the field. I believe in it wholeheartedly, but it is still largely my opinion. I urge you to question my words and develop your own protocol for how you forage. There are definite risks you will encounter when harvesting and eating wild food, but life is full of risks, and the benefits of edible flora greatly outweigh the dangers. I approve the message in this book and support readers who want to incorporate nature's gifts into their lifestyle.

Acknowledgments

First and foremost, I would like to thank my parents for going against the grain and providing me with a first-class alternative education. Though my upbringing was intense at times, it has shaped me as the man I am today. Mom, you were right when you said, “You’ll thank me later.” Thank you! I am grateful to my sister, who, though younger than I am in years, provides me with a constant stream of much-appreciated wisdom. I would also like to thank Nicole Slater for supplying me with professional photographs and Jessica Musicar, Jennifer Eastman, and Jessica Moll for helping edit my book. Last but not least, I am grateful to all my friends who devoted their time and expertise to further improve this book, especially Stella Copeland, who gave me professional botanist feedback.

Contents

2. Field Guide to Edible Plants

Alder—*Alnus* spp.

Aloe Vera—*Aloe barbadensis*

Aspen—*Populus tremuloides*

Birch—*Betula* spp.

Blackberry—*Rubus allegheniensis*

Burdock—*Arctium minus*

Cat's Ear—*Hypochoeris radicata*

Cattail—*Typha* spp.

Cedar (Incense Cedar)—*Calocedrus* spp.

Chickweed—*Stellaria media*

Chicory—*Cichorium intybus*

Chokecherry—*Prunus virginiana*

Clover—*Trifolium* spp.

Common Mallow—*Malva parviflora*

Currant—*Ribes* spp.

Dandelion—*Taraxacum officinale*

Dock—*Rumex* spp.

Douglas Fir—*Pseudotsuga menziesii*

Gooseberry—*Ribes* spp.

Grape—*Vitis* spp.

Grass (Wild and Not So Wild)—*Poa* spp.

Green Amaranth—*Amaranthus* spp.

Huckleberry—*Vaccinium ovalifolium*

Lamb's Quarters—*Chenopodium album*

Maple—*Acer* spp.

Miner's Lettuce—*Claytonia perfoliata*

Mint—*Mentha* spp.

Oregon Grape—*Mahonia aquifolium*

Ostrich Fern—*Matteuccia struthiopteris*

Ox-Eye Daisy—*Leucanthemum vulgare*

Pennycress—*Thlaspi arvense*

Pine—*Pinus* spp.

Pineapple Weed (Wild Chamomile)—*Matricaria matricarioides*

Plantain—*Plantago* spp.

Prickly Pear Cactus—*Opuntia* spp.

Purslane—*Portulaca oleracea*

Raspberry—*Rubus idaeus*

Salmonberry—*Rubus spectabilis*

Salsify—*Tragopogon* spp.

Serviceberry—*Amelanchier* spp.

Sheep Sorrel—*Rumex acetosella*

Shepherd's Purse—*Capsella bursa-pastoris*

Siberian Miner's Lettuce—*Claytonia sibirica*

Sow Thistle—*Sonchus* spp.

Spruce—*Picea* spp.

Stinging Nettle—*Urtica dioica*

Thimbleberry—*Rubus parviflorus*

Thistle—*Cirsium* spp.

Watercress—*Nasturtium officinale*

Wild Ginger—*Asarum canadense*

3. Wild Edible Recipes

Introduction 

It was a cold morning in mid-April when we ran out of food. We sat on tree stumps at four thousand feet above sea level and watched as Mom rummaged through our shabby backpacks in search of something edible. After several minutes, she managed to round up a half-empty bottle of olive oil, several handfuls of rolled oats, a few cloves of garlic, and a small container of sea salt. We were four days into our journey and had to hike another fifty miles to collect our next food parcel in the closest middle-of-nowhere town in Southern California.

Earlier that year, in January of 1998, my parents decided that as part of our adventurous lifestyle and home-schooling experience, we would hike the entire Pacific Crest Trail, which stretches from Mexico to Canada along the West Coast. Our team consisted of my mom, dad, sister, cousin (who was visiting from Russia for a year to get a well-rounded American experience), and me. None of us had hiked much, but what we lacked in practice we made up for in drive. My mother spearheaded the idea of a six-month, 2,650-mile walk after she read a book about the adventures one thru-hiker had on the Appalachian Trail. She decided on the Pacific Crest Trail because it was more wild and had less traffic than its East Coast sibling. At first my father was not too keen on such a long trek, but my mom's determination quickly appealed to his adventurous side and he fell in line. There is a saying in Russia, "The man is the head of the family, while the woman is the neck, and the head cannot turn without the neck." As the neck, my mother steered our Chevy Astro van into a parking lot in front of a Play It Again Sports store in Escondido, California. There we equipped ourselves with top-of-the-line used backpacking gear in preparation for the journey ahead.

Once each of us had a rucksack and sleeping bag, my mother

initialized phase two—food planning and management. Since we could not carry six months' worth of food on our backs, we had to plan how and what to eat in advance. According to the Pacific Crest Trail guidebook, the trail intersects with a small town every sixty to one hundred miles. A backpacker could visit a small grocery store or pick up a general-delivery package full of grub in town. Our finite vagabond budget made it clear that shopping for food along the way was out of the question. My parents invested all the money they had in bulk food, which we repackaged into twenty-six resupply parcels. Because we had little overnight backpacking expertise, we made an educated guess as to how much food five hungry hikers could consume. Our average resupply parcel contained roughly five pounds of rolled oats, six dates per person per day, assorted dried fruit, mixed nuts, sea vegetables, an eight-ounce bottle of oil, random seasonings, and a few other essentials. Once I had wrapped each parcel with a thick layer of tape, my parents shipped them off. Then we packed our rucksacks and had a friend drop us off at the trailhead on the Mexican border.

Within a week of our April 3 departure, we realized that our calculations were off. Each food parcel we collected lasted four to five days instead of the intended week. Hiking hungry was not only more difficult, but less enjoyable. At the rate we were running out of food, we would almost certainly not make it to Canada. So there we were, at the top of the world without food. No one said much as my father rationed out the last few spoonfuls of oats and olive oil. Group morale was low, and quitting our adventure seemed inevitable. Our stomachs grumbled; we understood that if we were to succeed, we needed to acquire more food. Before we took off from our campsite that day, my mother ventured down to the nearby creek to wash her face. As she knelt on the sandy bank, she noticed a plant that looked a lot like celery. She picked it and brought it back to camp for further investigation. Though the stalks of the wild plant were thinner than store-bought celery, they looked and smelled the same. We knew better than to eat unknown things, but hunger and curiosity got the best of us. My father decided to take the first nibble to see if it caused any negative reactions. After several minutes of chewing, the verdict was that it was indeed edible. We picked all of the remaining stalks near the river and stashed them in our packs for dinner.

When we made it into town, my parents bought a used copy of *Edible Wild Plants* by Lee Allen Peterson at a local bookstore. It noted wild celery, as well as many other wild foods, as being edible and readily available. Flipping through its pages, we got the impression that nature was full of food. We had a family meeting that night to discuss how to proceed. My parents asked each hiker to share his or her concerns in order to determine whether we should continue hiking the trail. The unanimous decision was to attempt the next section of the path while foraging for wild edibles. If this did not work, we would abandon the Pacific Crest Trail.

Like all new things, venturing into the world of foraging was intimidating and awkward. During our downtime, we surveyed our surroundings and tried to identify the flora around us. When we found a potential match, someone from our expedition would eat a small quantity while the others observed. If the eater experienced no negative side effects after fifteen minutes, we deemed the vegetation fair game. We familiarized ourselves with plants such as miner's lettuce, wild mustard, wild onion, mallow, sorrel, chervil, watercress, and clover. Adding these edibles to our meals allowed us to conserve our prepackaged food. Our food shortages stopped. And not worrying about going hungry allowed us to relax and enjoy our time in nature.

Furthermore, because wild food grew in such abundance along the trail, it soon became our staple. By trail's end, 60 to 80 percent of our diet was composed of wild edibles. All of the new plants we used in our meals were fresh and extremely nutritious. Our diets grew in diversity and led to improved health. We were astonished how much we enjoyed the flavor of our food and always looked forward to the next meal. In short, discovering wild food enabled us to successfully finish our hike.

Upon completion of the Pacific Crest Trail in September of 1998, we all marveled at how wonderful we felt. Our endurance and energy levels were incredible. Our complexions were clear and our spirits soared. My cousin, sister, and I each gained eleven pounds of pure muscle, while my mother and father burned through the extra fat they had carried prior to the hike. All of these positive changes were indicators that we had been living a well-rounded, healthy lifestyle on the path.

Hiking the Pacific Crest Trail was the beginning of my exploration of wild edibles. Since the age of thirteen, I have continued learning how

advantageous eating free weeds can be and have maintained a vigorous curiosity for foraging. Through this book, I would like to pass on to you my excitement about edible weeds. I hope that this book will plant a seed in you that will grow into a deep appreciation for plants. If I accomplish what I set out to do, you will gain from my stories and experiences and go on to safely forage and enjoy wild food on a regular basis.

My primary motivation for putting words on paper is to inspire people to live more sustainably and healthfully by integrating wild edibles into their lives. Nature's fare gives us the incredible ability to save thousands of dollars on groceries and instead eat what nature offers for free. Moreover, this food is unbelievably nutritious and rivals the best, most expensive nutritional supplements on the market today. Over the last fifteen years, my travels have introduced me to tens of thousands of people suffering from a variety of health problems. Many of them experienced tremendous relief by regularly including foraged foods into their diet. Perhaps, after reading this book, you too will be able to tap into the benefits and healing powers of wild plants.

As a secondary motivation for writing this book, I aim to dispel the fear that prevents the vast majority of people from foraging. I would like to deconstruct the notion that foraging is dangerous and illustrate how pleasant it can be when done properly. Today's media is full of movies and news reports about people who suffered ill fates when they mistook poisonous plants for edible ones. Many of these accounts are inaccurately portrayed and/or dramatized by Hollywood producers to induce emotion. Such scary stories have duped us into believing that we put our lives at risk each time we eat something that's not FDA approved. Yet what I learned in practice is completely opposite—eating wild food can be as safe as visiting the produce section of a grocery store. Plant poisonings are rare and can be avoided with common sense and proper know-how.

I am not a botanist, and I don't claim to hold any accredited certifications in the study of plants. I am a regular guy who recognized the value of wild edibles at an early age. I have been eating foraged food for over half my life and continue to thrive on what I collect. In the pages that follow, I aim to challenge you to forage. I will do my best to balance my own experiences with the latest research on wild edibles. My

hope is that this will give you well-rounded, safe guidelines to edible plants. May you find value in my words and joy in the practice of collecting nature's free food. I am excited to embark on this journey with you!

The Plants and Regions of This Book

One of the first questions you may have for this book is, "Does it cover plants that are relevant to my area?" Yes, it likely does. In my books, classes, and smart phone applications, I aim to cover edible plants that are available not just in North America, but in other parts of the world. Thus, people from Colorado and Arizona, as well as Europe, Asia, Russia, Australia, and even Iceland, should be able to find at least some of my information pertinent. I won't deny that I have a strong Oregon bias. I have lived in the Northwest for most of my life and the bulk of my plant knowledge has been acquired here. Therefore, this book might be extra insightful for an Oregonian. However, if you live elsewhere, specifically in freshwater, grassland, or forest regions, I promise that most, if not all, of the information in this book will be applicable to your area.

I have done my fair share of traveling and to date have visited thirty-one countries. As a wild food lover, I make a point to learn about local ecology wherever I go. My adventures have taught me that there is a lot of overlap among edible plant life throughout the world. Many of the plants I have come to know in Oregon grow abundantly abroad. For example, I have harvested dandelions in Germany, Thailand, Fiji, Russia, and Bolivia. One explanation for this may be that our planet is comprised of only six major climate regions, or "biomes": freshwater, marine, desert, forest, grassland, and tundra (University of California Museum of Paleontology 2007). While the earth is incredibly diverse, each of the six biomes share similar properties, such as temperature, weather, animal population, and vegetation (Campbell 1996). Thus, a European, South American, and Canadian might be able to forage the same wild edibles if they all live in a similar environment.

Many wild edible books classify plants by their region. Some even have diagrams that depict a very specific area where a plant supposedly grows. While this can be helpful, it can also be misleading. Plants are

living organisms that have the ability to travel. By attaching their seeds to animals and humans or by spreading them via the wind or through other ingenious techniques, plants can propagate offspring globally. That is why you can find native European dandelions growing around the world. Some of my favorite wild edible books were written for New Zealand, Alaska, and the eastern United States and supposedly have no relevance for the Pacific Northwest. Yet, in practice, I have found them to be very helpful. I have spent countless hours compiling plants for this book that are common in many parts of the world. It is my hope that you will find it useful wherever you reside. To illustrate this further, I would like to offer a story:

A few years ago I was invited to visit Australia to do a series of lectures on wild edibles and green smoothies. The organizers told me that people wanted a hands-on course that would take them out in the field. I was nervous, because I had never been to Australia and had no idea what grew there. Being young and ambitious, I went in spite of my hesitations, thinking that if I couldn't find any plants to talk about, I would refund everyone's money and go home.

On the night before my first class in Perth, I was invited to go salsa dancing with my hosts. I agreed, without really knowing what I was getting myself into. On that particular weekend, Perth was hosting the International Red Bull Air Races, and the streets were teeming with people. After several hours of dancing in a packed nightclub, I got separated from my hosts and was left to fend for myself. At one in the morning I decided to make my way home. I had my host family's address in my pocket and figured that I could hail a cab to take me there. This plan didn't work out. There were thousands of other people with the same idea, and the lines for taxis were miles long.

My hosts lived twenty miles outside of Perth, which limited my options for getting home. I decided to get a hotel room for the night and sort things out in the morning. Again, the air races made this impossible. Every room in every motel, hotel, and hostel was booked. Then I recalled that the railroad tracks ran from the city center to within a few miles of my host's house. Not knowing what else to do, I took a deep breath and started walking. It turned out that this was the best thing that could've happened to me. The tracks were lit by street lamps, which illuminated the plants beneath them. For six glorious hours, I walked

and laughed out loud as I recognized plants I was familiar with back home.

When I walked in the door of my hosts' house at seven the next morning, I found them on the phone with the local police filing a missing-persons report. They were startled but relieved to see me. When I told them where I had been and what I had done, their worried faces only got more serious. "You walked twenty miles?" they exclaimed. I told them about my night and assured them that I wasn't too tired to teach my wild edible class that day.

COMMON NAMES VERSUS LATIN NAMES

Naming plants can be problematic. I am always tempted to refer to wild edibles solely by their common name (the local name given to a particular plant species, such as lamb's quarters, dandelion, or purslane), because these titles seem friendlier and are easy to remember. But common names vary depending on whom I'm talking to and what country or region I'm in. Thus, common names can lead to confusion and frustration.

On the other hand, Latin names (the names used by scientists for the genus and species of a plant) remain the same the world around and are a foolproof way to communicate specific plants and plant species. Why not use Latin names, right? The drawback to this approach is that few people outside the science community are familiar with these naming structures. Latin names are long and hard to pronounce, and sometimes scare people away from the main objective—harvesting and eating delicious wild edibles.

In an effort to create a book that reaches out to a broad scope of people, I have decided to use both. I mostly refer to plants by their common names, but offer the Latin alternative for those interested. When I need to make note of a specific plant, I use the scientific naming system to avoid misunderstanding.

Wildly Beneficial

During my first trip to New Zealand, I was stuck in an airplane for twenty hours while crossing the Pacific Ocean. I decided to kill some time by making a list of as many advantages to wild edibles as I could think of. As I brainstormed, I tried to give every thought an equal chance, no matter how silly it seemed at first. Within forty-five minutes I scribbled two full pages of benefits. In this section I would like to elaborate on the top reasons for foraging.

Free Food

Mint, an online budgeting website, claims that the average American spends roughly $581.46 on food and drinks each month. According to Mint's aggregated user data, a typical grocery store trip costs $41.97, while a meal in a restaurant averages around $28.47 (2011). Additionally, the United States Department of Agriculture reports that the Consumer Price Index for food increased 0.8 percent between 2009 and 2010 and is forecast to increase 3.5 percent in 2012 (United States Department of Agriculture 2012a). Food is expensive and continues to rise in cost. Since I value healthy food and fresh produce, my grocery expenditure is substantially more than that of the average person. During the cold months when wild edibles are not available, my weekly trip to the health food store costs me between $80 and $100. Some months it is difficult to spend so much money on groceries, but eating good food is my form of health insurance, and thus I continue doing it.

On the other hand, wild food is plentiful, free, and available to everyone. During the spring, summer, and fall months, I embrace nature's gifts and gratefully welcome them into my belly. Over the last five years, I've managed to lower my grocery bills significantly by foraging. On a typical summer day I'm likely to kick-start my morning with a freshly made smoothie of chickweed, purslane, frozen berries, and ripe seasonal fruit. At lunch I indulge in a salad or wrap made from garden veggies and edible weeds. I finish my day with a hearty dinner consisting of dandelion pesto, quinoa patties with assorted wild edibles, and coconut energy balls for dessert. These meals are pleasant to eat and

provide me with hardcore nutrition. While I don't abstain from shopping for food during the summer months, I go to the grocery store far less frequently, and my food bill diminishes dramatically.

To further illustrate my point, I would like to describe how non-traditional greens saved a retreat my family conducted in Australia in May of 2011. In the year leading up to our retreat, Australia suffered some really cold, wet weather, and food prices were astronomically high. The seventy people who were attending expected to partake in a seven-day, all-you-can-drink green smoothie challenge. Three days into our retreat, however, we had already surpassed our budget for ingredients. It became clear that if something didn't change, the next four days would empty our bank account and put us in the red. Luckily, I discovered that there was a small organic farm on an adjacent property. I walked down to negotiate a bulk purchase with the owners. They were very friendly and eager to help. As I toured the farm, I began noticing an abundance of edible weeds, such as dandelion, purslane, lamb's quarters, yam leaves, and countless others. I asked the farmers how much they would charge me to pick their weeds. They started laughing; they told me that they ought to pay me for helping them weed, and gave me permission to harvest to my heart's content. For the remainder of the retreat, the Boutenkos were blending local Australian weeds for free. Our guests were ecstatic. They couldn't stop raving about how good they felt on edible weeds. Many of our retreat-goers swore that smoothies made from wild ingredients were more satiating and provided higher energy levels. Thanks to wild herbs, we were able to benefit financially, and we introduced seventy people to foraging. As the retreat neared the end, our participants demanded a weed walk on the farm. Once again, the farmers obliged. They were so amazed at the stir their weeds had created that they later confided in me that they were going to sell weeds at the next farmers' market in addition to their cultivated produce.

An abundance of wild edibles harvested in one afternoon.

A. An abandoned fruit tree in an Oregon park produces an abundance of sweet plums.

B. Collecting fruit benefits you and the tree. You get free food, and the tree is able to produce more the following year.

C. Rotting fruit is a common sight under neighborhood fruit trees.

When talking about free food, I like to include forgotten fruit. Over the years, I've noticed many apple, apricot, fig, pear, and persimmon trees scattered around my hometown. These trees have been abandoned and are rarely sprayed with pesticides. Many are easily accessible and drop fruit on public land. This ripe, local fruit is delicious and should be collected and enjoyed. I'm bewildered that people will bypass an apple tree in their own backyard, only to go to the grocery store and buy

nonorganic apples for $3.99 a pound. I've asked people on many occasions why they don't eat the fruit from their trees. The typical reply is "it doesn't taste good" or "the fruit has brown spots."

Last fall, while gleaning apples, I came upon a magnificent tree loaded with beautiful red fruit. This tree was on private property, so I marched up to the front door to ask permission to pick some fruit. The lady at the door asked me why on earth I wanted her "wormy" apples, before giving me the go-ahead to pick her fruit. I sliced the apples I had collected and dried them into thin chips in my dehydrator. When they were ready, I packed a small bag and brought them back to the woman. She was surprised to see me again and gratefully accepted my offering. Now, whenever I run into her around town, she can't stop raving about how delicious her own apples are. Hopefully, tasting her own apples will make her consider picking them in the years to come. Next time you see a lonely fruit tree or a bountiful chickweed patch, harvest it and enjoy it.

Healthier for You and the Planet

Another wonderful advantage to wild edibles is their immense nutritional value. Like store-bought greens, wild food is loaded with vitamins, minerals, fiber, carbohydrates, and phytochemicals. All of these elements contribute to a healthier state of being. Unlike conventional kale and arugula, wild foods have not been tampered with and remain pure. Most domesticated produce has been hybridized and selected for flavor and transportability, and is increasingly genetically modified (Kallas 2010). According to Adam Drenowski and Carmen Gomez-Carnero, such practices have the tendency to reduce the nutritional value of our food (2000). In addition to producing less nutritional food, large-scale, commercial food growers often deplete the soil of minerals through poor farming techniques. In this respect, wild edibles are also superior, because they grow in areas where soil quality remains high.

Even if you eat weeds that grow in depleted soil, they are likely to be more nutritious than conventional crops. Weeds are hardy and accustomed to surviving in harsh environments. Many have root systems that are deeper than those of domesticated plants (Schofield 2003). This

allows them to draw water and minerals from deep beneath the earth's surface. Next time you spot a dandelion on your lawn after a prolonged dry spell, notice how it remains green, while the grass around it has started to turn brown. If you would like to investigate this matter further, try pulling a dandelion. Is it tough? Does it fight to stay grounded? This is likely a sign that it has deep roots and a high nutritional makeup. For this reason, I make it a point not to weed my property. If I notice lamb's quarters sprouting in my garden, I allow them to grow.

In addition to being healthy for your body, harvesting wild food is more kind to the planet, because it reduces the amount of waste created. When I walk into a supermarket, I sometimes feel uneasy at the thought of how many resources have been wasted on packaging. Chips are sealed tight in a plastic bag, and crackers are double-packaged in plastic and a box, because that's a requirement of modern food-safety rules. Once I consume the chips or the crackers, the bag will be thrown into a landfill, where it will remain for thousands of years. On the other hand, eating wild edibles or homegrown vegetables creates zero trash. Any scraps left over from meal preparation go into my compost pile, where they break down into rich soil that will eventually aid in the growth of more food. For me, this is reason enough to keep eating homegrown and wild-harvested food.

Local Food

In 1969 the US Department of Defense performed a comprehensive nationwide study to determine the average distance food travels from farm to plate. The study found that produce traveled an average of 1,200 miles to get to consumers (Brown and Pilz 1969). Brian Halweil, a researcher at the Worldwatch Institute, claims this figure is likely higher today—sitting somewhere between 1,500 and 2,500 miles. Some of the disadvantages of such practices include loss of freshness, food being harvested and eaten before it is ripe, and a massive waste of the earth's finite resources. Halweil says, "We are spending far more energy to get food to the table than the energy we get from eating the food. A head of lettuce grown in the Salinas Valley of California and shipped nearly

3,000 miles to Washington, DC, requires about 36 times as much fossil fuel energy in transport as it provides in food energy." If this same lettuce is shipped overseas, the ratio of fuel energy consumed to calories provided jumps to 127 (Halweil 2002). When I lived in Hawaii, I found it impossible to buy a Maui-grown pineapple, because they were all exported off the island. If I was craving pineapple, I had to go to the store and purchase one grown in Costa Rica or Ecuador. Likewise, when traveling in New Zealand, it was hard to find apples not grown in Washington State, and here in the apple-producing Northwest, grocery stores regularly sell apples from New Zealand. This is completely absurd and goes against any kind of logic and reason.

Some researchers estimate that eating regionally sourced meals could reduce petroleum consumption by four to seventeen times (Halweil 2002). Wild edibles are a textbook example of local food. If you find weeds growing in the park across the street from your house, you can avoid petroleum expenditure altogether. By walking over to the dandelion patch and harvesting yourself a meal, the only energy expended is your own. This is commonly referred to as "exercise." Such routines benefit you, while helping you to reduce your carbon footprint.

In addition to being friendlier on the environment, local food may help our bodies acclimate to their surroundings. In *Discovering Wild Plants*, Janice Schofield writes, "Eating plants in your local area is the best way to become acclimated to climate and resistant to illness" (2003). I know this to be true firsthand. While traveling the world, I've found that if I begin incorporating local and wild food into my diet from the moment I arrive, I'm much less likely to feel sick during the adjustment phase. Consuming greens such as dandelions, mallow, and purslane aids my body in overcoming jet lag and enables me to recuperate faster after traveling. Likewise, during the cold months of winter, if you can find or grow fresh edible weeds, eating them will boost your immune system and ward off seasonal illnesses.

Expand Your Food Options

As modern food growers and manufacturers continue to streamline the food supply and strive for convenience and profit, our diets become less

diverse and our health diminishes. For example, apples that keep well during transportation and have a uniform appearance trump the thousands of older varieties and those that nature has provided. In his book *In Defense of Food*, Michael Pollan writes that the average American eats a substantially less diverse diet now than his or her ancestors did. According to Pollan, humankind has historically consumed upward of eighty thousand species. Today that number has dropped to around three thousand (2008). When you think of pizza, pasta, hamburgers, bread, decadent desserts, and beverages, it may seem like a wide scope of food. The building blocks of all these eats, however, are things such as corn, corn by-products, wheat, meat, and sugar. We have homogenized our food into what is most economical, not what is most healthy.

I believe that as hunters and gathers, we ate wildly diverse diets comprised of thousands of ingredients. Have you ever heard the phrase "eat a balanced diet"? I have pondered this expression many times. It's so simple, yet so wise. Perhaps the person who first mumbled it was referring to the abundant environment around him. Maybe he lectured a captivated group of Neanderthals about eating things from the fields, mountains, and lakes. There is much evidence of this when we look at the diets of indigenous cultures. According to Daniel Moerman, an ethnobotanist, precontact Native Americans are known to have used thousands of plants in their diet each year (1998). Such diversity is possible today through foraging. Wild edibles are a fabulous way to expand your diet, as there are thousands of them. When you learn to identify just one plant, you have the potential to expand your diet exponentially. For example, the common dandelion has two hundred relatives (Wildflower Finder 2012). If you learn to recognize a dandelion, you could potentially increase your diet by two hundred ingredients.

Another benefit we gain from eating a diverse diet is added nutrition. John Kallas writes, "The most nutritious diet is a diverse diet of healthy foods" (2010). Wild edibles give us many more options. Different foods contain different amounts and kinds of vitamins, minerals, and other nutrients. For example, Granny Smith apples, pomegranates, and wild strawberries are rich in iron, while pumpkin seeds contain high amounts of zinc. The more variety you can add to your diet, the better your chances are for nourishing your body and maintaining health.

Wild edibles increase food diversity.

In the interest of good health, I would like to mention that meal diversity is best paired with moderation. In my relatively short life, I've experienced many types of foods. I was born in Russia, where I lived until I was five. During that time, my family ate a typical Russian cuisine, which consists of lots of meat, dairy products, and processed food. This diet led my body to develop the early symptoms of diabetes. When we immigrated to America, we were shocked by the wealth and variety of food available. As a family, we embraced traditional American food and in less than three years fell prey to serious health problems. In 1993, after my mother, father, sister, and I were all diagnosed with supposedly irreversible illnesses, we began eating a diet based on raw plants, and we regained our health. In addition to reversing diabetes, asthma, hyperthyroidism, and arrhythmia, our new lifestyle instilled in us a desire to seek total perfection. Just feeling healthy was no longer good enough. We strove to attain our maximum potential and again disregarded the need for a moderate diet. Under the guidance of experts in various fields, we began experimenting with different practices. We

committed several months to a radical fruitarian diet (a diet consisting solely of fruits). Some months were spent fasting on water or juice. There were periods when we ate nuts and times when we didn't. We sprouted, took supplements, and even ate nothing but greens.

The result of all these extremes was more or less the same. Whenever I leaned too far in one direction, my health would suffer. For example, after months of eating only sweet fruit, my teeth developed cavities. Likewise, when I ate a diet consisting solely of greens, my body accumulated too many alkaloids, which made me feel nauseous and ungrounded. Despite such observations, I had to go through several more health issues before I was willing to look at my convictions critically.

In the past I've known people who abandoned conventional food when they discovered wild edibles. Based on my previous trials and tribulations, I strongly discourage this behavior. While foraged food is among the healthiest available to us, it can cause problems if we overindulge. Your body does not like to be shocked by drastic dietary shifts. Ease into wild edibles slowly. Once you're sure that eating edible weeds agrees with your body, it is okay to increase the amount you consume. Then you can go out and enjoy all that nature has to offer in addition to the foods you know have always made you feel good. Learn to trust your body and its cravings. Though this can be difficult, following cravings and repulsions always yields the best results. Unfortunately, because we are all unique, I cannot provide an exact recipe for what a moderate, diverse diet looks like. This is something we each have to figure out individually.

Preparation for Unfortunate Events

Being less reliant on purchasing food from a grocery store allows you to be more self-sufficient. This is a valuable skill. While I'm not hoping for a major world disaster, I take comfort in knowing that, if one occurred, I could provide food for myself and loved ones by foraging. I have attended several major survivalist conferences and listened to numerous keynote speakers proclaim with certainty that a major economic collapse will occur in the near future. Most of these presenters advise stockpiling food and ammunition. I find this type of thinking amusing, because if

civilization came to an end, any saved rations would sooner or later run out, and you would be back at square one. To me, stockpiling isn't the same thing as being prepared. I feel equipped to face troubled times because I have the know-how to continue meeting life's basic needs in any situation. Stockpiling is merely a way to postpone struggles. Knowing what I can eat in my surroundings is liberating. If I needed to sustain myself for years on wild food, I could do it. I would, no doubt, have to adjust my comfortable, modern lifestyle, but nature is bountiful, and I am certain that I could live off the land in a pinch.

Foraging as a group is fun.

Bring People Together

Foraging can and should be done with family and friends. Going on food hunts is engaging and fun for people of any age. Think about how much you bond with your loved ones when you share a meal together. Now imagine how much more connected you might feel had you harvested the key ingredients for the meal from the wild. Group foraging can provide memories that will last a lifetime. And don't forget to engage

your children. Foraging as a family is a great way to spend time with your kids in nature. When your children accompany you on a wild edible excursion, you also have the benefit of having more eyes to help you find tasty trailside nibbles.

Help Farmers

Organic farmers can increase their profit margin by selling edible weeds that grow on their farms instead of throwing them away. For the past two summers I have been volunteering on a friend's farm in Missoula, Montana. The amount of purslane, mallow, clover, chickweed, lamb's quarters, nettles, and plantain growing on Dave's land is hard to believe. Easily 50 percent of his crop is comprised of unintentional food. As an organic farmer, Dave barely makes ends meet. He has lots of expenses, and his prices can never compete with those of large-scale conventional farmers and supermarkets. As I got to know Dave better, I began telling him about the benefits of the weeds going to waste on his farm. I could tell that he was absorbing my information, because his eyes lit up at the mention of such exotic greens. Finally, after many conversations, Dave began selling wild edibles at the local farmers' market. His booth offered a service that no store could provide, and his profits increased significantly. Best of all, Dave's team barely had to do any work to capitalize on this niche market, because the weeds were already growing on his farm. Throughout my travels, I have met many other farmers who have shared similar stories.

Exposure to Nature, Fresh Air, Sunshine, Exercise, and Relaxation

If you are still not convinced that wild edibles have the power to enrich your life, consider this: they get you outside. Once in the outdoors, you breathe fresh air. Your skin is exposed to sunlight, which fills your body with vitamin D. You walk, crouch, and dig, all of which is excellent exercise. Furthermore, many researchers have concluded that simply looking at an outdoor environment is conducive to better health. Roger S. Ulrich, director of the Center for Health Systems at Texas A&M University, discovered that patients whose hospital rooms overlooked

trees had an easier time recovering from surgery than those whose rooms looked out on brick walls. Patients able to see nature got out of the hospital faster, had fewer complications, and required less pain medication than those forced to stare at manmade environments (2002). Rachel Kaplan and Stephen Kaplan, professors at the University of Michigan, claim regular access to nature improves concentration, helps the body recover from physical illness, decreases mental fatigue, eliminates stress, increases a sense of well-being, and improves mood (Clay 2001). Anyway you look at it, nature is healthy. Foraging is simply another reason and another opportunity to get outside.

Greens and Green Smoothies

One of the best reasons to add wild food to your diet is the simple fact that many of them are leafy green vegetables. Adding more fresh greens to your meals will dramatically improve your health. After years of research and countless experiments on myself, I have concluded there is no substitute for a diet rich in leafy greens. It's true that we are all unique. We come from different backgrounds, have distinctive constitutions and blood types, and require different practices to achieve the same results. Yet I have never met a person who did not benefit from eating fresh greens. Over the past five years, my family and I have conducted nearly twenty weeklong green smoothie retreats worldwide. During our retreats, we've witnessed hundreds of people heal their bodies from various ailments. After seven days of drinking smoothies made from fresh vegetables and fruits, retreat participants notice improvements in their diabetes, insomnia, psoriasis, hypertension, osteoporosis, colitis, and many other health issues. One lady lost so much weight and became so rejuvenated at our workshop that her own mother didn't recognize her when she picked her up from the airport. Many of our retreat-goers have since implemented what they learned from us and have been able to completely reverse their "irreversible" health problems.

The secret behind leafy greens lies in their molecular makeup. Green vegetables, especially those that are dark green, are rich in chlorophyll. When you eat spinach, kale, miner's lettuce, lamb's quarters, and/or

mallow, you are ingesting a chemical substance that is incredibly similar to hemoglobin, the oxygen-carrying pigment of red blood cells that gives them their color and helps distribute oxygen throughout the body. Chlorophyll differs from hemoglobin in its central atom, but it closely resembles human blood (Boutenko 2005). When you ingest chlorophyll, you help your body rebuild and replenish red blood cells. This boosts your energy levels and builds a hearty immune system. Additional benefits of chlorophyll include cleansing the body of toxins; fighting infections; breaking down calcium oxalate deposits; healing wounds; reducing inflammation; improving circulation, digestion, and vision; and eliminating bad breath.

In addition to chlorophyll, green leaves are also packed with life-enhancing vitamins, minerals, protein, and fiber. Vitamins A, C, and K, plus folic acid, magnesium, and calcium, help to further boost your immune system and repair anything that is out of order. Finally, the dense cellulose matter, better known as fiber, assists your body in straining away anything that's not conducive to good health. According to Myron Winick, the molecule of fiber looks like a sponge under a microscope (1992). In the same way that a sponge absorbs spills, fiber soaks up toxic substances within your body, which are then flushed from your body via a bowel movement. Adequate fiber consumption has also been shown to positively affect high blood pressure, high cholesterol, diabetes, and cancer. According to the US Department of Agriculture, a healthy adult should consume twenty-six to thirty-one grams of fiber per day (Keefe 2011), but average Americans eat less than half of that (Winick 1992). One cup of collard greens contains six grams of fiber. If you incorporate fresh fruit, salads, nuts, and seeds into your daily routine, you could easily meet your fiber requirements.

Unfortunately, you cannot reap the benefit of greens if you don't eat them. When compared to complex, processed food with artificial flavors, greens can taste bitter and unpleasant. They require time and preparation in order to be enjoyable, and their high-fiber content makes them tough to chew. This is precisely why blending greens in a smoothie makes sense. When you blend dark greens with fresh fruit, you create a drink that is both nutritious and tasty. Blending pulverizes but does not destroy the fiber, and the fruit sweetens the bitterness or strong flavor of many greens. Furthermore, a blender enables you to achieve a more

varied diet by pulverizing greens that are spiky, fuzzy, or otherwise unappealing in their raw form. Consuming greens in liquid form is easy. Thus, smoothies enable you to eat more leafy vegetables regularly, which improves your health.

My mother, Victoria Boutenko, is largely responsible for popularizing green smoothies. In 1999, my family began running into minor health problems after eating an extreme raw food diet. After ten years of overindulging in fruits and nuts, we had developed dental cavities, felt energy lulls regularly, and suffered from constant food cravings. My mother thought these symptoms were a sign that our diet was lacking nutrients and began researching solutions. Her research led her to discover the nutritional potency of greens. Green smoothies came about accidentally, while we were experimenting with ways to easily and painlessly consume more leafy vegetables. Once we began drinking smoothies, our health problems disappeared and our energy levels returned.

Several years ago I decided to take my mother's smoothie concept and apply it to wild edibles, and started adding them to my smoothies. At first I was skeptical this would taste good, because foraged greens tend to be more intensely flavored than even the darkest store-bought vegetables. I was pleasantly surprised, however, when the first smoothie I made tasted phenomenal! I began making wild green smoothies on a regular basis to see what effect they would have on my health and energy levels. Almost instantly, I noticed an increase in vigor. My digestion improved noticeably, and I began to feel lighter on my feet. I observed that drinking a quart of smoothie an hour before a ten-mile run would curb my hunger and provide me with high energy. After a workout, I witnessed less soreness, and my muscles took less time to recover. I enjoyed both the taste and benefits of wild green smoothies so much that they have become part of my routine practice.

Another huge benefit of smoothies is that they take very little time to make. Who among us has not put off making a salad out of laziness or lack of time? On the other hand, throwing several ingredients in a blender and flipping a switch takes seconds. Knowing how fast and simple it is to make a smoothie helps me conquer any and all excuses. I've promised myself that if I ever find myself unwilling to make a thirty-second smoothie in the name of health, I'll need to change my lifestyle.

Finally, homemade green smoothies give me peace of mind; I know that the ingredients in the blender are of the highest possible quality. How many store-bought products can you say that about? My typical morning blend consists of one or two seasonal greens, one or two seasonal fruits, and water. I simply love that I can count all the ingredients on one hand. The wild greens I select offer even more assurance, because I am connected to their growing environment. I am present during the harvest, which ensures me that my food has not been altered in a science lab. I highly recommend experimenting with wild smoothies, as this is perhaps the best way to incorporate wild foods into your diet. You can find my favorite green smoothie recipes in chapter 3 (this page).

Children in the Wild

Much has been written about the importance of exposing children to nature. Books such as *Last Child in the Woods*, by Richard Louv, have revolutionized how we see television, the internet, and video games by presenting convincing data that illustrate how exposure to the outdoors is crucial for the physical, emotional, mental, and even spiritual development of children (2008). In this section I aim to summarize "nature deficit disorder" and push you to spend more time outside with your children, brothers, sisters, cousins, and friends.

The plain and simple truth is that children need regular exposure to the natural world. Such exposure leads to reduced stress; increased happiness, self-worth, and motivation; and improved physical fitness, balance, coordination, and even brain development. Beyond all of that, spending time in the natural world satisfies a child's need for autonomy. Though these benefits are widely publicized, nature and our children's contact with it are diminishing rapidly. According to the Children and Nature Network, only 6 percent of children between the ages of nine and thirteen spend time outdoors in a typical week (2008). Instead of playing in the sunshine, the average American kid spends more than thirty hours a week watching television (Gold 2009). The internet, video games, cell phones, and other technological devices absorb even more time. While the United States currently leads the world in nature-deficient children,

this is quickly becoming a global epidemic.

It can be tempting to scapegoat parents, the media, and all the other usual suspects that take our attention away from shrubs, trees, and grass, but the reality is that we are all to blame. Technology is captivating. As we advance, we prioritize our new electronic devices over nature. To some extent this is unavoidable, as we live in a modern age. It is important, however, to balance the time we spend plugged in with time in the great outdoors. Nature is simply irreplaceable. When we are outdoors, we connect to our deepest ancestral roots, and our instincts come alive. This cannot be achieved in the virtual realm. It can only be discovered in the wilderness.

For many of us, so much time has elapsed since we truly immersed ourselves in nature that it can feel intimidating or awkward to jump back in. But if you push yourself to go hiking, camping, or foraging, you'll feel comfortable again in no time. Think back to a time when none of your friends owned cell phones. How were things different? How did you interact? What did you do together before you watched videos on YouTube or updated your Facebook status?

What I remember is that I spent more time outside connecting with my loved ones. My friends and I frequently met in the park and spent the bulk of our interactions in nature. Even as teens we didn't feel too old to play in creeks and climb trees. We were not unique. I remember how the majority of the youth in Ashland, Oregon, congregated in the plaza or the park after school and on weekends to hang out until their parents forced them to come inside for the night. All the time spent outdoors was restful and incredibly fulfilling. Unfortunately, if you visit Ashland today, you will find only a fraction of the young population hanging around outdoors. Today's younger generations are losing touch with the wild, and it is up to us to jump-start that connection once more.

Foraging is a great way to immerse children of any age in the wilderness. Learning new plants is like meeting new friends. It expands the world by encouraging a person to notice tiny life forms. Nature itself is stimulating, fulfilling, and allows the imagination to come alive. When my niece, Lily, was five years old, she struggled to keep up with the other kids in her class at a conventional school. Her parents decided to try an alternative and enrolled her in a nature school based on the principles of Rudolf Steiner. Unlike regular preschool, Lily's class spent

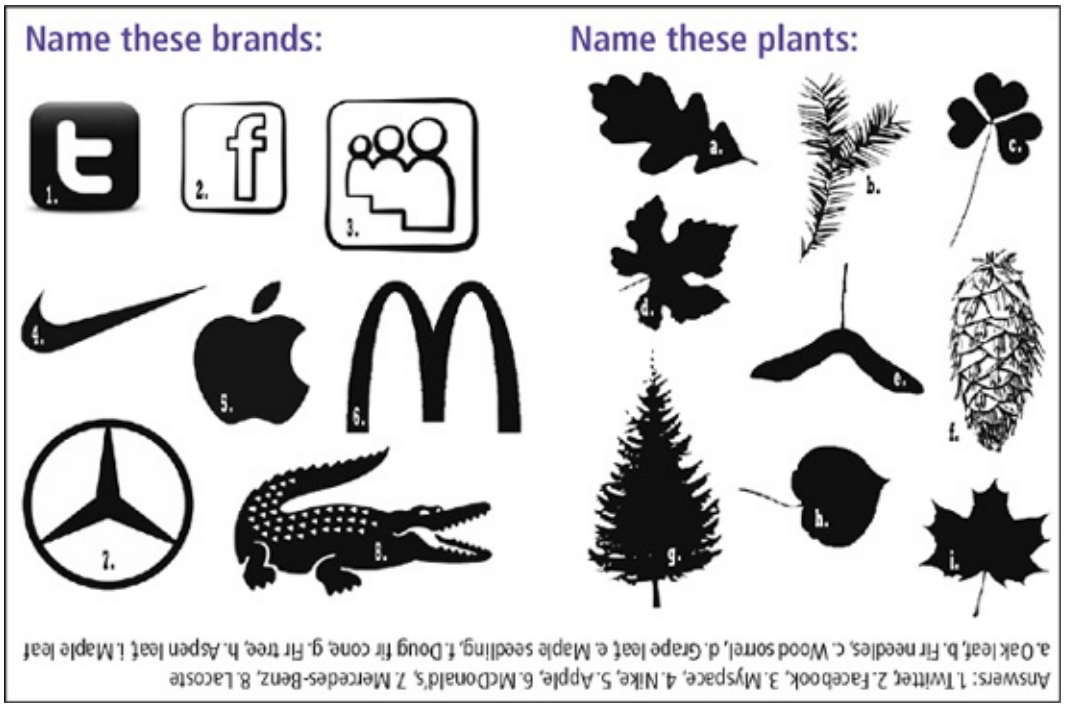
five hours in nature every day. Lily began making huge strides and over the next year nearly caught up to the academic level of her seven-year-old brother. My brother and his wife were so impressed with the change they witnessed in their daughter that they began spending more time outdoors as a family.

Children love to be engaged in foraging.

Make it a point to take your children outdoors and teach them about plants, animals, and everything else in nature. This may sound boring, but it's not! When my family set out to hike the Pacific Crest Trail, we anticipated being very bored during our half-year hike. We loaded our backpacks full of cards, board games, and books to make it more interesting. Within a few days of starting the trail we got rid of all the entertainment, right down to the last card. Not only was it heavy and hard to carry, but our surroundings were so captivating that we had absolutely no desire to do anything but immerse ourselves in the wilderness around us. Even at the end of the trail, after spending six solid months playing in nature, I felt as though there was more to discover and learn.

If your children initially need additional incentive to play outside, come up with interactive games that require your kids to delve further into the outdoor world. For example, when I was a child, my mom used to challenge us to see who could collect the most blackberries in fifteen minutes. Such experiences are memorable and will vastly enrich a youngster's life. If nothing else, spending quality time outdoors with loved ones will leave a silly grin on your child's face.

Here is a simple test to see how aware you and your kids are of nature:



Which images are you more familiar with?

The Basics of Wild Plant Foraging 

The very first time you go out to forage it may seem awkward and intimidating. As a novice, you will see a wall of green vegetation and begin doubting your ability to discern what is edible and what is poisonous. This is natural; it happens to most of us when we branch out and try new things. Fear is a valuable emotion; it keeps us from doing things that could potentially harm us. If we give in to our fears completely, however, we may end up stuck in our limited comfort zone and never get to experience all that life has to offer. This chapter is aimed at easing your journey through the early stages of foraging. The following simple, commonsense guidelines are meant to keep you safe while at the same time nurturing your curiosity and challenging you to forage.

Honing Your Search Image

Your brain catalogs everything you see in images. According to Samuel Thayer, our eyes capture billions of pictures over the course of our lives. When you come in contact with an object repeatedly, such as a banana, your brain collects more banana images, and your familiarity with bananas becomes more refined. Like a computer, your brain creates a folder in which it saves the information it receives about a particular banana, as well as bananas as a whole. This folder is called a "search image" (Thayer 2010). Over time, as you continue exposing yourself to bananas, peaches, and pears, your brain makes more search images, and you become great at differentiating one fruit from another.

In the same way you learned to distinguish kale from cilantro, you can learn to differentiate wild mustard from common mallow. Through careful observation, you can learn to spot a plant's distinguishing features and be able to identify it quickly, if not instantly. In order to progress quickly, you must expose yourself to plants often. Each time you reexamine a plant, your search image of this plant will improve, and your awareness will be heightened. If you regularly expose yourself to

wild edibles, you will become a professional in no time.

PLANT AWARENESS EXERCISE

Try this exercise the next time you go outside: Pick up a plant. Any plant. It could be one that you know or one that you have never seen before. Look at it for thirty seconds. Notice any striking characteristics this plant displays. Does it have any markings or discolorations? Are the edges of its leaves smooth or serrated? Are the leaf veins easily distinguishable? Does the top of the leaf have a different hue than the bottom? Crush the stem and smell it. What does it smell like? Notice how your body reacts to the aroma. Does your mouth salivate, or is the smell repulsive?

Be creative and come up with your own questions. You don't have to be too scientific. Ask yourself the kinds of questions that will help you remember the plant you are studying. You are creating a mental map.

Finally, if you don't know what you're looking at, take it home for identification. For this step it is helpful to have a plant reference book, such as *Plants of the Pacific Northwest Coast*, by Jim Pojar and Andy MacKinnon. Such books make it easy to identify unfamiliar flora by giving you the ability to search by leaf shape, flower color, the number of petals, and so forth. Once you determine the name of the plant you collected, you can then consult a book on wild edibles to determine its edibility. If you do this once a week for a year, you could learn fifty-two new plants by year's end.

As a way of helping myself progress as a forager, at least once a week I try to allocate fifteen minutes or more toward focusing my attention on my surroundings. This practice is not super-regimented and often occurs spontaneously. Having a dog helps. My pooch, Bella, requires a walk every day. During our expeditions it's easy to find a place or a plant that

I can lose myself in for a brief moment. I try to keep up this practice throughout the seasons to get a better grasp of how plants change during their various stages of growth. I do this both at home and when I'm traveling. As a result, I am able to spot edible plants easily and have piece of mind that I am not eating something poisonous. My observations also help me feel more connected to my environment.

Simple Rules for Foraging

Did you know that donkeys kill more people than airplane crashes each year? On average, 100 people choke to death on ballpoint pens annually. Texting while driving killed 6,000 people in the United States alone in 2011. About 450 Americans will die this year by falling out of bed (Jenkins 2011). Life is full of risks. Harvesting wild edibles presents some inherent dangers as well. Nature is unpredictable. Wild plants do not come with nutritional labels and should be approached with a degree of caution. But foraging is no more dangerous than the million other activities you engage in daily. If you are patient, attentive to your body, willing to educate yourself properly, and able to resist the temptation to eat everything you see, I'm confident that eating wild food will impose no major risk to you. Most of you will find foraging to be extremely pleasant, fun, and healthful. In this section, I would like to discuss a few simple guidelines that should be considered prior to eating new food, whether it is wild or not. Following these rules will greatly minimize your chances of experiencing any negative reactions.

Don't Eat Something If You Don't Know What It Is

Most plant poisonings occur when people make no effort to identify what's in front of them and put unknown vegetation into their mouths (Thayer 2010). You will be surprised how often this happens. I receive emails more often than I would like from people who eat mysterious wild plants. When they complain about the stomachache they got from consuming an unidentified herb, I have to fight my urge to shout, "Don't eat something if you don't know what it is!" (I wrote a song about this.

Search for “Don’t eat something if you don’t know what it is” on YouTube.) While nature is bountiful in edible plants, there are plants that can harm you. Every time you choose to eat a foreign food, you wager your well-being on your decision. Therefore, if you are even slightly hesitant about whether it’s edible, take the appropriate steps to double-check before you take a bite. Create an identification protocol that you feel comfortable with. This process may include bringing the actual plant, or a picture of plant, home for investigation, identifying it with the help of a book or a reputable website, or inquiring with a local expert. I recommend getting in the habit of cross-referencing all new plants with at least two different sources.

Engage Your Senses

When I was an undergrad in college, I learned that the majority of all communication exchanged between people happens nonverbally. Like humans, plants have the ability to convey information by how they look, feel, smell, sound, and taste. If we employ all of our senses to listen intently to every form of communication that a plant makes, we can better determine whether it is fit to eat. Engaging all your senses helps to significantly dilute your risk of experiencing an allergic reaction or being poisoned. Many poisonous plants display characteristics that communicate their lack of edibility. Some plants, or plant parts, have very strong, unpleasant odors, while others have tough leaves or sharp thorns. When we engage all of our senses, we can notice such characteristics and avoid the plants or plant parts that will make us sick. I do not recommend for people to forage relying solely on the five basic senses unless they are in an emergency situation. But even if you’re not stranded and starving in the woods, this technique—in addition to the guidance of a credible wild edible book—will help you train your observation skills and plant awareness.

Next time you go foraging, follow these five steps:

1. *Look* at your surroundings. Notice if any plants appear more tender or edible than others. Even if you’re harvesting a familiar plant, study it and try to figure out which part(s) are suitable for consumption.

Notice anything that is not particularly edible (i.e., leaves, sap, thorns, and so forth). Consider the environment you are in. Are there signs saying that chemical sprays have been used in the area? If no signs are posted, but you see plants that are dead or dying for no apparent reason, this could mean pesticides or herbicides may have been used. If unsure, it's best to harvest from someplace else.

2. *Touch* everything before you eat it. Sometimes what the eyes miss, the hands see. Use your sense of touch to determine if a plant would be pleasant to consume. Some plants, or plant parts, might appear to be edible, but upon further investigation, your fingers might notice little hairs that can cause irritation. Use your sense of touch as a second pair of eyes to back up your assumptions.
3. *Smell* everything before eating it. You may need to crush a plant's leaves or stem to be able to detect its odor. This is a very important step, because a putrid smell often indicates toxicity. On the other hand, some plants have a pleasant aroma that might cause you to salivate. If you notice a strong or unpleasant aroma emitted by a plant, please take extra precautions to determine its edibility.
4. *Listen* to your surroundings. Become still and try to hear the plants talking to you. This may sound a little crazy, but during my six-month hike from Mexico to Canada, I became more attentive to nature and could hear plants speaking to me. For example, curly dock seeds are encased in a loosely fitting husk that rattles in the wind. There were many times when I would have walked by dock without noticing had I not heard its gentle clatter. Even if a plant doesn't make a peep, see if you can detect any other sounds that could potentially jeopardize its edibility. Listen for automobiles, roadways, pets, people spraying chemicals, and other potential sources of contamination.
5. *Taste* only a small amount of anything you pick for the first time. If you want to be even more cautious, you can rub a little piece of a plant on your lip or under your tongue prior to tasting it. Both these areas are extremely sensitive and will alarm you if the plant is toxic. Make sure you give your body time to react. Allow fifteen to twenty minutes to elapse from the moment you taste a new plant. Once you know how your body reacts to it, you can eat more of it.

Start Small

As a newbie forager, many wild edibles will be foreign to you. As adults, we rarely experiment with new foods, which is exactly what we do when we begin eating foraged fare. Just as some people are allergic to peanuts, some wild edibles may cause allergic reactions to any individual. When I say that dandelions are completely edible, don't just take my word for it. Conduct your own experiment to make sure. The best way to avoid suffering any unpleasant symptoms is to approach new food cautiously and in small proportions. As mentioned earlier, engaging your five basic senses when experimenting with new food is incredibly helpful.

Don't Mix Weeds

Once, at the start of my wild edible exploration, I made a salad out of seventeen different ingredients. I chopped up wildly harvested salsify, miner's lettuce, and wild radish, along with other greens, and dressed them with olive oil, lemon juice, and salt. I had never tried several of the edibles in my salad prior to that point. I ate the entire bowl and shortly thereafter broke out in hives. I made sure to drink lots of water to flush out whatever I was allergic to. Nevertheless, the experience shook me up. Though it was a relatively mild reaction, it is not something I'd care to repeat. On the bright side, I learned a valuable lesson that day. I understood the importance of easing new foods into my diet one by one.

I recommend not mixing newly discovered wild edibles. If you combine too many ingredients in a recipe and have a reaction, you won't know which plant caused it. Instead of mixing your weeds, consume one wild edible at a time until you are absolutely sure how your body will react.

Educate Yourself

Knowledge is power! The best way to stay safe is through good old-fashioned education. Reading a book, such as this one, carefully and in its entirety will help you grasp nuances that will make your foraging experience more enjoyable. Attending a hands-on wild foods workshop is

a great way to learn about plants as well. The internet is also a valuable tool for identification, but you should never make conclusions solely on what you read on the net. Anybody with a computer can post anything, any time. It is a good idea to cross-reference any and all information about wild edibles with several other sources. After all, it's only your life we're talking about.

Follow the Baby Greens Rule

All greens taste best when they are young. New leaves are generally more tender than mature ones and contain higher concentrations of protein and sugar (Thayer 2010). These factors make young plants and plant parts more enjoyable and more nutritious. As a forager you will need to know how to identify meristems in order to get the maximum amount of enjoyment and health out of your meal.

The term *meristem* was coined by Swiss botanist Karl Wilhelm von Nägeli in 1858. Nägeli discovered that certain groups of plant cells were capable of division and called these parts *meristems*, from the Greek word for "divided." Meristems are the parts of a plant where growth occurs. During cell division, the tissue of a plant will need to shift or expand, so plants supply growing parts with constant nutrients so that they will remain flexible for growth to occur. Thus the young, growing parts of plants are always more tender and taste better than the older, fibrous parts.

How do you find a meristem? When a plant is young it's easy. New flora is likely to consist entirely of flexible, growing parts. This means that the whole plant is a meristem. As a plant develops, however, it becomes increasingly difficult to identify which parts are newly formed. Generally, as a plant matures, the lower parts closest to the ground begin to harden, in order to support the growth taking place above. These hard sections are not meristems, as they no longer experience stretching or widening. It can be helpful to note such fibrous parts, as they are the exact opposite of what you're looking for. When looking for meristems on mature vegetation, try searching near the tops and tips of the plant. For example, in late summer, the stinging nettles patch near my house reaches its peak height of about seven feet. If I try to harvest the bottom

leaves from such mature nettles for a smoothie, my drink will be extremely bitter and tough to blend. On the other hand, using leaves from the top two feet of the nettles guarantees a delicious smoothie, because I am using new growth (meristematic parts).

Here are a few easy ways to spot meristems:

These parts are often a different color. Their hue is usually a lighter green than other portions of the plant.

These parts break and bend more easily.

Meristematic leaves are generally smaller than mature ones.

These parts can lack the hairs or thorns of mature plants.

These parts usually grow in tighter clusters.

These parts may be folded or curled, unlike other leaves.

Respect the Roots

Many edible plants have roots that are both delicious and edible. I make note of this in the field guide chapter of this book. From time to time I like to indulge in these earthy treats. However, for the majority of my harvests, I prefer to stick to fruits and greens. These parts are nutritionally superior to roots and are much easier to harvest and eat. Additionally, harvesting roots often ends a plant's life and prevents other creatures from enjoying its bounty. Thus, I stick to what grows above the ground and on rare or special occasions eat roots.

Poisonous Plants

When you go out to forage for food, it is likely that you will at some point encounter poisonous flora. This is normal and nothing to be alarmed about. Our modern, fearful society makes it seem like picking wild foods is akin to playing a game of Russian roulette. Through movies and books such as *Into the Wild*, we get the false impression that weeds are evil and are trying to trick us into eating their poisonous lookalikes. Further, we are told that even experts make mistakes and that novice

foragers don't stand a chance. I don't agree with this mindset in the slightest. I believe that if you are a rational person, capable of restraining yourself from eating unfamiliar, unidentified foliage, foraging will be nothing but fun for you. As a rational forager you will have almost zero risk of harming yourself. In this section, I would like to present several considerations about plant poisons and give you peace of mind that you can collect wild edibles safely.

Highly Poisonous Plants

Educating yourself about highly poisonous plants is a good idea. Nature produces some plants that can cause serious injury. Luckily there are relatively few of them. In this section I discuss some of the most toxic plants in North America. Study them and be aware they exist. Additionally, I recommend conducting your own research about poisonous flora in your geographical region. In this way you will be able to recognize and avoid local plants not meant for food. If you are new to foraging, the best precautionary measure you can take is to approach all unfamiliar food as though it were poisonous. This means first identifying what's in front of you, then sampling it in a very small dose to see how your body will react. This is the best approach even with plants you know are edible. For example, if you have never tried eating dandelions, you cannot be sure how your body will react to them. For all you know, you could be allergic. By tasting a tiny amount and paying close attention to any signs your body sends you, you can figure out how to classify dandelions for yourself. This method is labor-intensive, but it's the most effective way to keep you healthy and happy. Laziness is dangerous! According to Nancy Turner and Adam Szczawinski, most plant poisonings occur when people, particularly children, put unknown vegetation into their mouths (1991). If you resist the urge to eat wild plant life before you're confident that it's safe, your chances of harming your body are almost nonexistent. This may seem like common sense, yet many adults struggle with this basic concept.

WARNING: The following plants are poisonous plants that can have harmful effects on your health if ingested. No part of these plants should be used for food. Familiarizing yourself with the most poisonous plants in your area will maximize your safety and reduce your chances of getting poisoned. Never eat any plant unless you are absolutely sure of what it is. It is a good idea to cross-reference your knowledge with a book written by an expert.

☠ Baneberry (red and white)—*Actaea rubra/Actaea pachypoda*

Family Name: Ranunculaceae/Buttercup Family

Baneberries are red or white waxy berries that grow in clusters at the top of the plant. Berries are extremely bright and glossy. Leaves are thin, sharply divided, and serrated. The entire plant is between one and three feet tall.

A. Red baneberry *(Actaea rubra)*. Photo: Warren Lynn

B. White baneberry *(Actaea pachypoda)*. Photo: ayjackson, Flickr

Buttercup—*Ranunculus spp.*

Family Name: Ranunculaceae/Buttercup Family

Buttercups are low-growing plants with butterfly-like leaves. Leaves are divided with many lesions. Flowers are flat, bright yellow, and round. They have five overlapping petals and five sepals.

A. Waxy yellow flowers with five petals.

B. Buttercup leaves.

C. Buttercups grow in patches near the ground.

Death Camas—*Zigadenus spp.*

Family Name: Liliaceae/Lily Family

Death camas is often confused for wild onion. It has an onion-like appearance, but it has no onion smell. Leaves are flat and slender and grow from a single base. One round stem sprouts from the middle of the root. At the top of this middle stem is a round cluster of white flowers. Flowers have six narrow petals and a yellowish, round gland.

A. Flat, iris-like leaves with white flowers that grow in clusters. Photo © iStockphoto

B. Flowers have six triangular petals. Photo: Keir Morse, keiriosity.com

C. Death camas resembles wild onion but does not have an oniony smell. Photo: Keir Morse, keiriosity.com

False Hellebore—*Veratrum viride*

Family Name: Liliaceae/Lily Family

False hellebore is a tall (four to seven feet tall), upright plant with broad, oval leaves. Leaves are green in color and have well-defined parallel running veins. Flowers are greenish-white and grow in spiky clusters at the top of the plant. False hellebore likes to grow near water.

A. Broad leaves growing in an alternate pattern.

B. False hellebore top.

C. False hellebore often grows in meadows near water.

Foxglove—*Digitalis purpurea*

Family Name: Scrophulariaceae/Figwort Family

Foxglove is an erect plant with a hardy stem. Flowers are bell-shaped and grow in one long cluster at the very top of the plant. Flowers range in color from white to purple. Leaves follow an alternate pattern.

A. Foxgloves are common garden plants.

B. Flowers grow in tall clusters and are bell shaped.

Lupine—*Lupinus* spp.

Family Name: Fabaceae/Pea Family

Lupines have bunched, narrow leaves growing in an alternate pattern. Leaves are compound with five or more leaflets. Flowers are typically blue or purple and grow in clusters at the top of the plant.

A. Leaves have a palmate shape.

B. Purple lupines in a meadow.

Nightshade—*Solanum* spp.

Family Name: Solanaceae/Nightshade Family

Nightshades are vine-like plants that grow in patches near to the ground. Stems are long, slender, and woody at the base. Leaves are shaped like teardrops and follow an alternate pattern. Fruits look like small tomatoes and grow in little clusters. Flowers range from purple to white.

A. Nightshade fruits resemble tiny tomatoes. Photo: Warren Lynn

B. Flower color may vary, depending on species. Photo: ayjackson, Flickr

C. Fruits grow in clusters. Photo: ayjackson, Flickr

D. Leaves are fuzzy. Photo: ayjackson, Flickr

Poison Hemlock—*Conium maculatum*

Family Name: Apiaceae/Parsley Family

Poison hemlock is a musty-smelling plant with hairless, purple-blotched stems. Leaves look like carrot greens. Flowers are white and grow in

little umbel-shaped clusters. Poison hemlock is in the carrot/parsley family (Apiaceae). You should avoid harvesting any species from this family unless you feel comfortable differentiating edible varieties from poisonous ones.

A. Poison hemlock near a roadway.

B. Poison hemlock flowers.

C. Stems are smooth, with purple blotches.

D. Poison hemlock is in the carrot/parsley family, and its leaves are proof of that.

Poison Ivy—*Toxicodendron radicans*

Family Name: Anacardiaceae/Cashew Family

Poison ivy is a common three-leafed vine that grows in many parts of the United States. Leaves are typically almond shaped and resemble green bean leaves. Leaves contain oils that give them a natural shine. Poison ivy leaves are mostly green in color, but can develop yellow or red tints. Do not touch this plant, as it can cause an unpleasant rash.

A. Poison ivy leaves. Photo: Keir Morse, keiriosity.com

B. Poison ivy is commonly found in the eastern United States. Photo: Keir Morse, keiriosity.com

Poison Oak—*Toxicodendron diversilobum*

Family Name: Anacardiaceae/Cashew Family

Poison oak is a common three-leafed plant that grows in many parts of the United States. Leaves are typically lobed and resemble oak tree leaves. Leaves contain oils that give them a natural shine. Poison oak leaves are mostly green in color, but can develop yellow or red tints. Poison oak can vary in size from a single-stemmed plant to a large shrub. It likes to grow below four thousand feet and in dry areas. Do not touch this plant, as it can cause an unpleasant rash.

A. Poison oak leaves are shiny and grow in groups of three.

B. Poison oak is commonly found in the western United States.

C. Poison oak likes wooded areas below four thousand feet in elevation.

Water Hemlock—*Cicuta maculata*

Family Name: Apiaceae/Parsley Family

Water hemlock is a foul-smelling plant that grows near water. It has a thick rootstock containing a yellowish, oily sap. Leaves grow in an alternate pattern and have saw-toothed edges. Flowers are white and grow in round clusters.

A. Water hemlock flowers and leaves. Photo: Keir Morse, keiriosity.com

B. Flowers and leaves, side view. Photo: Keir Morse, keiriosity.com

C. Leaves are serrated with well-defined veins. Photo: Keir Morse, keiriosity.com

Oxalates and Other Mild Plant Poisons

After thoroughly studying poisonous flora, I have arrived at the conclusion that there is no cut-and-dry distinction between what is toxic and what is edible. The label "poisonous" can be misleading and is easily swayed by personal bias and educational background. Experts who study plants in labs are likely to oppose foraging, because their research yields proof of toxins, whereas followers of Native American teachings embrace all plants and believe that toxicity is dosage-dependent. Google "poisonous plants," and your results will include apples, cherries, mint, nutmeg, potatoes, tomatoes, onions, and garlic. If you do a chemical analysis of an apricot seed, you will discover that it has trace amounts of cyanide and arsenic, both of which can be lethal. Likewise, greens, both wild and domestic, contain different chemical compounds. Some of these are vitamins and minerals, and some are oxalates and alkaloids (Kallas 2010). Some help our bodies, while others are said to detract from our health.

Wild or not, all food can be toxic to one degree or another if you consume too much of it. The keywords, of course, are "too much." For most people, ingesting small amounts of oxalates and alkaloids from greens is not problematic. In fact, many common foods, such as coffee, beer, chocolate, wheat bran, and soy products, contain these same chemical compounds. If you consume any of these foods, then you know first hand that it is not a big deal. Your liver and kidneys are fully capable of eliminating oxalates without ill effect, as long as you don't eat oxalate-rich foods in unthinkable amounts. If you gorge on a bucket of

lamb's quarters daily, perhaps you should consider cutting back, but if you enjoy lamb's quarters in your smoothie every other day, then you have nothing to worry about. As long as you eat a diverse diet, your body will be able to adequately manage the oxalate/alkaloid content.

Some researchers state that eating small amounts of oxalates is healthy. John Kallas writes that oxalates have the ability to bond with heavy metals, such as lead and mercury, and eliminate them from the body (2010). Other experts claim that certain chemical compounds, while toxic in large amounts, help destroy cancer cells when ingested in moderation. I am a strong believer that if you make it a point to eat a diverse diet, oxalates and other mildly poisonous substances become a nonissue. But if the idea of overdosing on such compounds worries you, I invite you to be extra attentive to your body's needs and reactions. Over the years I have learned that it is not a good idea to rely solely on science to tell me what to eat, because modern nutrition is limited by what it knows at the moment. A better system is to test all scientific data on yourself and pay attention to how your body reacts. This is the only sure way to know whether something is beneficial or not for you personally. For example, my sister, Valya, once got on a narrow-leaf plantain kick and began adding it into her smoothies every morning. After two weeks of sipping approximately the same drink, she began feeling nauseous directly after ingesting her smoothie. As soon as she noticed the correlation between drinking the smoothie and feeling sick, Valya simply changed the ingredients that went into her morning drink. This stopped the feelings of nausea and prevented further mishap. After taking a break from plantain for a few weeks, my sister tried it again to see if it was a food allergy or just a reaction to accumulated alkaloids. That time she didn't have any sort of negative reaction and concluded that it was indeed just too many alkaloids. From that point on, she made it a point to vary her diet.

Manmade Pollutants

Pesticides, herbicides, artificial fertilizers, and other manmade chemicals can be just as harmful as highly poisonous plants. Whenever possible, foragers should avoid harvesting food from an environment where such

chemicals are present. In today's world this can be challenging. In my own practice, I never harvest from sites I know to be contaminated, such as golf courses, roadways, railroads, corporate lawns, strip malls, business offices, apartment complexes, and other high-traffic areas. Further, I always try to be as informed as possible about potentially hazardous harvest sites. In my hometown of Ashland, Oregon, I have made a point to contact officials from the parks and recreation office, the downtown association, and the forest service to question them about contamination. I have found that when I inquire in a friendly manner, these branches of the city, county, and state are more than willing to divulge information.

It is wise to apply this same principle to your own property. If you use toxic chemicals on your lawn or garden, you should refrain from eating weeds from your yard. If you decide you no longer want to spray your land, wait at least two years before gathering and eating wild edibles.

Unfortunately, we live in a world where nothing is completely free of contamination. Even the best store-bought organic produce is likely to contain some chemical residue. I do my best to avoid such pollutants, but at a certain point I have to relax and enjoy what I collect. Wild edible greens are by nature good at cleansing the body of unhealthy matter. So if I accidentally eat something that is slightly contaminated, I am comforted knowing that my food will keep me healthy. While it is wise to be cautious, being overly concerned about external pollution has the potential to dissuade you from foraging.

Plant Identification Protocol

Every forager's main goal should be to identify a plant correctly and determine if it is fit for consumption. This process can be easy or long and tedious, depending on the plant. It is best not to cut any corners and to identify everything you plan on eating meticulously. Personally, I prefer to spend extra time concluding that a plant is edible rather than miscalculate and suffer the consequence. While I stand behind my book wholeheartedly, I believe that serious foragers should equip themselves with several other reliable books for accuracy. Having more than one book in your arsenal allows you to cross-check the knowledge of one

expert with another. Check out my list of recommended readings on this page.

The procedure you choose to implement is largely up to you. Take my recommendations and tailor them to fit your life and habits, so your method of identification feels safe and comfortable. I should note that while hiking with a foraging book is a good idea, I often forget mine at home or in the car and have to rely on other skills to collect information about new plants.

The first step in identifying an unfamiliar plant is always observation. My friend and fellow forager Karen Sherwood taught me that if I take the time to look at a plant, I will remember it forever. When I look at a plant for the first time, I try to notice every little detail. Is the stem fuzzy or smooth? Are the leaves opposite or alternate? What color are the flowers? Are the veins easily distinguishable? Are there any markings that make this plant easy to spot? Does it have an odor? If so, is it pleasant or repulsive? I ask myself these questions, as well as many others, in order to create mnemonic devices that will help me remember that plant clearly. While I will eventually collect a physical sample or take photographs of the plant, meticulous observation of the actual plant engages all of my senses and gives me more information about what I'm looking at. This process in its entirety can take seconds or minutes, depending on the complexity of the plant. On average, I generally spend between two and five minutes studying each new plant.

When I feel comfortable that I am able to identify the plant in question, I move to phase two and collect a specimen. You can choose to collect an actual sample or snap several photos. More often than not, I choose the second option, because I usually have some sort of camera on me. Next, I take my sample home to determine what it is and whether it's edible. Note that if you make it a point to hike with a wild edible book, you can begin this process trailside. I strongly urge you to corroborate any and all information with at least two credible sources prior to consumption.

I have several favorite books that help me familiarize myself with a new plant. *Plants of the Pacific Northwest Coast*, by Jim Pojar and Andy MacKinnon, and *Wildflowers of the Pacific Northwest*, by Mark Turner and Phyllis Gustafson, are great books for identifying vegetation in the Northwest. While they don't comment on edibility, those books make it

easy to search through hundreds of plants by categorizing them by flower color, family, genus, and species. After you have matched your specimen with a plant in your reference book, you will have the plant's name, both common and Latin. You can now use these names to reference a wild edible book to determine if the plant is safe to eat. Make sure to read all the information in the wild edible book carefully, as many plants have nuances that should be considered. As mentioned earlier, it never hurts to reference more than one book to make sure there is consensus.

Finally, when you are 100 percent certain that you collected food, it is good idea to fall back on other commonsense guidelines (see Simple Rules for Foraging on this page) to make sure that you don't have an intolerance to it. Remember, try all new food in small amounts the first time, and try not to mix too many edibles in one recipe.

USING THE INTERNET

The internet can also help you identify foreign vegetation. This method also requires you to observe and acquire plant samples. Once you are in front of a computer with samples in hand, you can look up a plant description in a search engine. For example, if you find a five-petaled flower that's purple, you can google "purple flower with five petals." It is helpful to note the region in which it was collected, such as alpine, desert, Northwest, and so forth. Once the search engine generates results, navigate to the "search by image" section. This will enable you to quickly look over thousands of pictures to find a match. If you are successful, you should be able to derive a name from your search. You can then use this name to identify your mystery plant by referencing other books. Because the web is a place where anyone can post whatever they please, substantiating any and all information in reliable field guides is a must!

Conservation and Etiquette

A responsible wild crafter is one who recognizes that he or she could negatively impact an area by overharvesting its sensitive plant life. As a conscious forager, you should approach ecosystems the way you would your garden. When collecting wild food, pick only what you need for the next meal or two. Don't stock up for the week. Most of us are used to grocery shopping once or twice a week. During our visits to the store, we tend to stock up on food so that it will last until our next trip. Try to break this habit when picking weeds. Harvest plants where they grow in abundance and do so selectively instead of uprooting everything in your path. When you pick crops from your garden, do you collect all of them at once? I don't. I take just enough for my meal. If I need more, I know where to get it. The same concept applies to wild edibles.

Another thing I am very selective about is harvesting roots. On most foraging outings, I take only what grows aboveground. The greens and fruits are usually the most delicious and nutritious parts of a plant. They are also the easiest to prepare. By leaving the roots in the ground, I ensure the plant will continue prospering and supporting other life forms. Good stewardship is one of my biggest concerns. If you appreciate the many gifts wild edibles bring you, I invite you to be grateful and approach nature with respect. Think about giving back to the earth by occasionally planting seeds. This can be as easy as blowing a dandelion puffball into the wind or shaking dock seeds free of their dried stalks.

That said, don't let fear of overharvesting prevent you from foraging. Nature is strong and resilient. While it is a good idea to get into the habit of practicing proper wild crafting, it is highly unlikely that your foraging adventure will bring your local flora any serious harm. As humans, we destroy exponentially more plant life each time we build houses and pave roads than when we pick dandelions for a salad. Harvesting from nature's garden is the ultimate tribute to Mother Earth. When we enjoy the nourishment she provides, we connect with nature on a deeper level. I have noticed that the more I expose myself to nature, the more I want to conserve it.

The following plant categorization will give you a better idea of how sensitive certain plants are and will help you determine how much to

harvest.

Annual weeds are weeds that complete their life cycle in one year. Such plants often grow abundantly and are considered a nuisance. Purslane, chickweed, lamb's quarters, prickly lettuce, amaranth, wild mustard, wild radish, pennycress, and pineapple weed multiply rapidly and can be harvested without fear of eradication.

Perennials are plants that grow throughout several seasons. While the aboveground portion of a perennial plant generally dies each winter, it regrows in the spring from the same root. Perennial plants include dock, sheep sorrel, stinging nettle, plantain, dandelion, and chicory. You can pick the greens from most perennials without fear of overharvesting. Be mindful of collecting their roots, however, as it can take years for them to regenerate.

Invasive weeds are species that are designated by county, state, or country as harmful to agriculture, natural habitats, and/or ecosystems. Such plants should be harvested with reckless abandon. These weeds include Japanese knotweed, wild mustard, ox-eye daisy, and thistle. Check with your local park service to determine what plants are considered invasive in your region. Many states provide color pamphlets that can be helpful in the identification process. Eating invasive weeds is patriotic! Your local government will love you for helping it fight nonnative species.

Biennials are plants that take two years to complete their life cycle. During the first year, biennials produce only roots, stems, and leaves. They can reproduce only once they've grown flowers, fruits, and seeds in the second year. Biennial plants include burdock, thistle, and salsify. Such species can be completely wiped out by overharvesting of their roots, flowers, and greens. Be mindful not to pick too much when harvesting biennials. If you harvest roots, make sure you leave some in the ground. Allow a significant percentage of biennials to go to seed each year, so that they can continue prospering. These plants produce a lot of seeds, however, and are aided by soil disturbance. Thus, harvesting biennial plants in small amounts can be beneficial for their reproductive cycle.

Flowers are the parts of a plant that make seeds. Eating wild edible

flowers is recommended, but be mindful not to pick all of them. This will ensure that the plant will be able to reproduce.

Fruits, nuts, and seeds are nature's gifts. These parts are intended to be consumed, digested, and later excreted to give the plant's offspring life. Picking the fruits and seeds from a plant can make it more bountiful the following year. You should embrace and enjoy these offerings.

Underground storage organs and roots—roots, bulbs, corms, and rhizomes —are the underground parts of a plant. These are the easiest parts to overharvest. Collect these parts mindfully and in limited quantities.

Knowing Where to Look

Occasionally, after leading a wild edible walk, I am approached by someone who argues that clover doesn't grow in his or her area. When this happens, I think back to the first foraging course I took from Karen Sherwood of Earth Walks Northwest. During this intensive three-day workshop, we, the students, harvested wild food under the guidance of Karen and her team. Our group prepared meals out of what we collected and were able to eat almost entirely wild during the retreat. On the second day of the event, I volunteered to fill a large stainless-steel bowl with clover for the lunch salad. I grabbed a bowl and took a stroll around the farm where the retreat was being held. After half an hour I returned empty-handed and frustrated. I told Karen that I couldn't find a single leaf of clover. Karen chuckled and shot me a look of amusement. She told me to go back to the field I had dilly-dallied in. Only this time, she said, "take a deep breath, relax, and slow down." She instructed me to get down to eye level with the ground and try to spot a clover. Although I had already done this, I agreed to give it another try. Standing between the plowed rows of cover crop, I took a deep breath and dropped down to my hands and knees. I crawled around for a few seconds before realizing that I was kneeling on clover. The oval leaflets with crescent-shaped markings grew by the millions around me. As it turned out, I had been unable to find clover in a clover field. This

experience is one of the best lessons I took away from that weekend and one I wish to share with my readers.

Abundant field of dandelions near my house.

Wild edibles are all around us. Before we can spot them, however, we need to know what to look for. If we are too engrossed in our own worlds, we can pass them by without knowing it. Weeds cannot compete with flashy smart phones, television, or the internet. They can't contend with our worries about finances or relationships. They have their own agenda to grow and multiply. Unless you're talking about plants that propagate by exploding their seeds, a weed will never throw itself at you or beg you to eat it. We must learn to slow down to notice plants. Otherwise, we will pass them by.

Growing Your Own Weeds

As your passion for wild edibles grows, you may notice that you have more curiosity about common garden weeds. About ten years ago, I got fed up with weeding my garden of weeds that tasted great and rivaled my cultivated crop in nutrition. This may sound crazy, but allowing

edible weeds to grow in my veggie patch is convenient. Since I've stopped weeding my garden, harvesting wild greens for smoothies has never been easier. Every morning I walk down to the garden with scissors in one hand and a blender container in the other. I snip the tender tops off any weeds that are in season and blend them for breakfast.

If you are a gardener, next spring, when you plant your garden, leave some of the weeds that are sprouting up. As they mature, see if you can recognize any of them. Edibles such as lamb's quarters, purslane, plantain, common mallow, chickweed, and clover thrive in places where soil has been turned and aerated. Your garden is the perfect environment for these plants to flourish. The best part about farming weeds is that it requires no effort on your part. Weeds grow whether you want them to or not. I used to fight to keep my garden free of these green parasites until I realized that much of what I was trying to eradicate made a valuable addition to my diet. Now I welcome weeds into my garden with open arms. When I notice their sprouts shooting up amidst more conventional crops, I allow them to grow unless they start crowding their neighbors. Sometimes, if I really want to nurture a population of weeds, I will transplant it to a contained area or an indoor planter, where it can prosper.

If you don't have weeds in your garden, you can order them online from companies such as Seeds of Change (www.seedsofchange.com). Seed companies often carry seeds for lamb's quarters, mallow, purslane, and more. You can also check with your local farms and nurseries to see if they sell any wild edible seeds. I try to support local businesses whenever possible.

A. Picking cultivated weeds from my yard.

B. Lamb's quarters greens taste amazing in smoothies.

C. Weeds from my yard make my diet more diverse. Photos: NicoleSlaterPhotography.com

A Forest Does Not Always Equal Abundance

Many people think that wild edibles only grow in pristine forest settings far away from civilization. Perhaps, when you purchased this book, you romanticized the notion of leaving your food at home and foraging on your next backpacking trip. I don't mean to discourage you, and I'm certainly not implying that this cannot be done. It is important to understand, however, that a pristine wilderness is wild and untouched for a reason—a relative lack of food (Thayer 2006).

PLANT AWARENESS EXERCISE

Here is a simple exercise you can use to increase your plant awareness. Find a nice piece of nature, such as a garden, park, or grassy lawn. Take off your shoes, so your feet can connect with the earth. Get down on your hands and knees or belly and try to relax. Steady your breath and take in your surroundings. Allow yourself to observe and try not to judge yourself. Start by looking at what is directly in front of you. Get close enough until your eyes lose focus. Notice the blades of grass. Study the droplets of dew that have formed on them. Look past the plants directly in front of you. What else do you see? Can you spot different vegetation? How does it

differ from the grass? Is it round, oval, triangular? Does it have big leaves or small ones?

Get on your hands and knees and slowly branch out in any direction. As you crawl, notice if anything changes about your surroundings. Look for plants that were not present only a few feet back. Let yourself be childlike and explore the microcosms in front of you. Try to refrain from identifying things by name; just be present in your environment. Most of us did this a lot more as children. You may find that it feels really, really good to go back to this kind of exploration.

When I assign this exercise at my workshops, people always marvel at how captivating it is. One of my students once approached me after this drill and told me that she felt as though crawling around and looking at plants helped her tap into a part of herself that had existed for millennia—her ancient hunter-and-gatherer roots. She exclaimed that she was not learning, but rather relearning how to be aware of her environment.

Certainly we are not the first or only creatures to eat things that grow in nature. Mice, rabbits, deer, and even bears have long roamed the earth in search of good eats. Many animals that search for food are not light on their feet, are often hungry, and can consume tens if not hundreds of pounds of food in a short space of time. Thus, scenic areas that look pristine are likely to look that way because they don't provide enough sustenance for the local residents. I learned this lesson the hard way five years ago when I tried to lead a group foraging/backpacking trip in my favorite scenic wilderness area. It became evident within the first day that though the Sky Lakes Wilderness was beautiful, wild food was lacking. While I managed to find a lush grove of huckleberries, prepare pine needle tea, and pack in food I had made before the hike, I was a bit disappointed that my participants didn't get much exposure to foraging. I made the best of the situation by focusing on other primitive skills, and ultimately everyone on the trip left satisfied. Since then, I

have made an extra effort to visit every place where I plan to lead a wild edible excursion to make myself aware of current conditions.

Just like plants in your garden, wild edibles require sunlight, water, and warmth. Thus, if you are at a high elevation, in a dense forest, or far away from moisture, your food options will be limited. A spot with abundant wild edibles will likely have at least two of these three elements. When choosing where to go on your next wild edible outing, look for places at elevations that are lower than four thousand feet and that are close to water. Places with lakes, rivers, and streams are likely to have abundant vegetation. With this in mind, you might be able to find great foraging spots close to home. Try scouring city parks, vacant lots, fields, backyards, overgrown gardens, organic farms, and grasslands near your house. You might be shocked at the many different types of edibles hiding in your neighborhood.

Tools You Will Need for Harvesting

In this section I would like to briefly discuss several tools I find helpful for foraging. These items will make harvesting wild edibles more convenient, will preserve your harvest's freshness, and will increase your productivity. All of these tools are inexpensive and easy to acquire.

Bucket

Wild edibles do not keep as well as store-bought foods do. They begin wilting almost instantly after they are picked. If you want to preserve your harvest more than fifteen to twenty minutes, you will need some way of keeping the plants cool and hydrated. I accomplish this by filling a five-gallon bucket with a few inches of fresh, cold water. Every plant I harvest goes straight into the bucket, with the cut stem down in the water. This allows me to stay out in the field for hours without worrying about losing my crop. Once I get home, I usually transfer what I collected to ziplock bags, which I put in the refrigerator.

A. Simple tools that I find helpful.

B. A spray bottle helps keep my harvest fresh.

Scissors

Every foraging superhero should have a pair of scissors in his or her utility belt. Harvesting weeds with scissors is convenient and increases your productivity. I can harvest substantially more wild edibles in five minutes with scissors than I can with a knife. Furthermore, with scissors I don't need to worry about cutting my fingers. Scissors also enable you to be more selective about what you pick. You can use them to quickly snip a desired leaf or cut around a bug hole.

Homemade Harvesting Pouch

Sometimes I find it helpful to use a smaller container that can be

strapped onto my body when harvesting food. For example, if I'm harvesting berries or tree fruit, a bucket might not be practical. A smaller container strapped to my body frees both hands and allows me to maneuver and climb more easily. I cut a hole in the top of a plastic container, like a gallon or half-gallon cider or milk jug, leaving the handle attached, so that I can thread my belt through the handle to attach it to my waist.

Spray Bottle (Optional)

A spray bottle with a mist setting is another helpful tool for preserving freshness. Misting the tops and leaves of the plants in your bucket will further ensure their survival. I have found that tall weeds and flowers keep much better after a thorough spray down.

Field Guide to Edible Plants

According to James Duke, the most common definition of a weed is any plant that grows where it is not wanted (Duke 2001). By this description, even the most magnificent flower can be considered a nuisance if it sprouts in the wrong place. Not that long ago I believed all weeds should be exterminated. One of my childhood chores was pulling dandelions from our lawn. Then I learned that dandelions had properties that helped diabetes, which I had at the time. I began incorporating dandelions into my mostly plant-based diet, and in addition to regular exercise, I managed to reverse my health condition naturally. Weeds helped me escape miserable insulin injections, constant medication, and an early death. Furthermore, surrounding myself with plants has brought me endless relaxation, joy, and pleasure. Having experienced such profound changes firsthand, I feel obligated to share my findings with others. The plants I present in this chapter are weeds and wild edibles with which I have had extensive practice. My compilation is by no means absolute. As you progress as a forager, you will learn more about plants and discover many edibles that are not in my book. For the time being, however, the plants I discuss represent a starting point for those interested in living a healthier, wilder life. I hope you will find the information I have compiled helpful and go on to safely forage all the magnificent free food around you.

EDIBLE TREES

In this field guide to wild edibles, you will notice the mention of numerous trees. Wild edibles are not only low-growing plants. Many common trees have edible parts. Throughout history, countless cultures have survived by eating the leaves, buds, and bark of

maple, aspen, birch, and willow trees during times of famine. My own grandparents, who lived in Russia during World War II, told me stories of how they ate the leaves and inner bark of birch and maple trees when food was scarce.

My general view of trees is that they are last-resort foods. Though I have experimented many times with eating parts of trees, I have found few practical reasons for consuming trees when other, better-tasting plants are available. Trees are usually more strongly flavored and bitter and thus less desirable. Since this book is all about free food, however, it seems like a good idea to include several common tree varieties. In times of dire need, knowing which trees and tree parts are edible may come in handy.

Alder—*Alnus* spp.

Family Name: Betulaceae/Birch Family

Caution: Alder is absolutely safe for consumption. Alders are strong-flavored, and thus it is not recommended to use them as a bulk food.

Edible: Inner bark, twigs, sap, pollen, young leaves, and catkins.

Flavor: Bitter, but the young leaves and inner bark (cambium layer) are sweet.

Description: Alders vary from small shrubs to trees thirty feet tall. They have long, droopy catkins at the tips of their branches. Flowers develop into green fruits and then become woody and look like pinecones. These tiny cones hang at the tips of the branches. Leaves are ribbed, dark green, and oval.

Uses: Pollen is collected and used as a protein supplement. Tender young leaves, catkins, and buds can also be eaten raw or used in recipes.

A. Alder trunk.

B. Alder bark close-up.

C. Leaves and cones.

D. Cones and catkins. Photo: M. Mee, Flickr

Nutritional Highlight: The bitterness of alder leaves, twigs, and buds is said to stimulate digestion and cure stomachaches. Alder consumption also reduces inflammation, tightens tissues, and stops bleeding.

Helpful Tips: Alders have an inner bark (cambium layer) that is sweet and delicious. The improper harvesting of this layer, however, can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

ID Trick: Alders have waxy leaves with well-defined veins and serrated edges. They have seedpods that look like tiny pinecones.

Sergei Says: I don't generally harvest alder leaves for food, because they are rather bitter and often have an undesirable texture. Nevertheless, alder leaves contain nutrients that benefit the body. I think there is value in knowing that common trees are edible so that, if circumstances ever call for it, the know-how is there. I invite you to experiment with alders to see how you like their flavor.

Aloe Vera—*Aloe barbadensis*

Family Name: Aloaceae/Aloe Family

A. Aloe vera leaves. Photo © iStockphoto

B. Aloe gel is great for healing cuts.

Caution: Aloe is absolutely safe to eat.

Edible: Leaves.

Flavor: Young leaves are mild and refreshing. Mature aloe is very bitter.

Description: Aloe has green, succulent leaves that are filled with clear gel. Leaves grow in a compound pattern and have hardy spikes at every tip.

Uses: Eat young leaves (and the gel) raw or add to smoothies. Use aloe gel to treat burns and other skin ailments.

Nutritional Highlight: Aloe vera is said to have antispasmodic properties, making it beneficial for people with asthma, colds, and congestion. Aloe gel also helps tighten skin and reverse wrinkles.

Helpful Tips: Aloe is very nutritious and beneficial to consume, but it can be extremely bitter and unpalatable. I like to add a small piece of aloe leaf to my smoothies to boost their nutrition. Remember, the smaller the leaf, the less bitter it will be.

ID Trick: Desert plant with long, pointy leaves full of gel.

Sergei Says: Most people know aloe as an ingredient in skin products. It's well known for its soothing properties. In addition to its topical applications, aloe is beneficial to eat. Aloe contains blood sugar–regulating nutrients that help diabetics and hypoglycemics alike.

Eating large amounts of aloe is nearly impossible, as it is very bitter in its raw form, but if you add a small, thumb-sized piece to a smoothie, the bitterness is undetectable. This is how I prefer to incorporate aloe vera into my diet.

Another great application for aloe's slimy gel is to use it in place of shaving cream. Not only does it help a razor glide smoothly over your skin but it also helps heal nicks and cuts.

Aspen—*Populus tremuloides*

Family Name: Salicaceae/Willow Family

Caution: Aspen is absolutely safe for consumption. Aspens are pretty strong-flavored, and thus it is not recommended to use them as a bulk food.

Edible: Inner bark, twigs, sap, young leaves, and catkins.

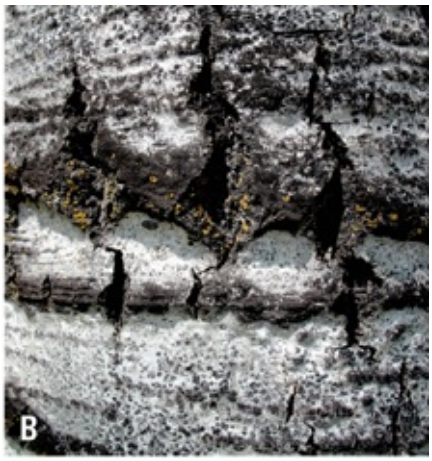
Flavor: Bitter, but the young leaves and inner bark (cambium layer) are sweet.

Description: Slender deciduous tree with smooth, gray bark. Bark ranges from light to dark and has dark brown/black spots on it. Leaves are oval with a pronounced point, dark green on top surface, pale on bottom surface. Aspen leaves can be heard making a rattling noise on a windy day. Buds are large and pointy, and produce a sticky sap.

Uses: Sap can be scraped off and eaten raw. Tender young leaves, catkins, and buds can also be eaten raw or used in recipes.

Nutritional Highlight: Rich in vitamin C. Tea made from aspen bark has been used to treat fever, skin problems, urinary tract infections, jaundice, diarrhea, and parasites. Aspen also has pain-alleviating properties, similar to the willow tree.

A. Aspen trunk.



B. Aspen bark close-up.

C. Aspen leaves.

D. Leaves close-up.

Helpful Tips: Aspens have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the

tree, harvest individual branches for their inner bark.

ID Trick: Aspens are often heard before they are seen. They grow in mountainous regions, and the leaves rattle in the wind.

Sergei Says: I don't generally harvest aspen leaves for food because they are rather bitter and often have an undesirable texture. I tend to classify extremely bitter things as "survival food." However, aspen leaves still contain nutrients that benefit the body. I think there is value in knowing that common trees are edible so that if circumstances ever call for it, the know-how is there. I invite you to experiment with aspens to see how you like their flavor.

Birch—*Betula* spp.

Family Name: Betulaceae/Birch Family

A. Birch trunk.

B. Bark close-up.

C. Leaves and catkins.

Caution: Birches are absolutely safe for consumption. Birches are pretty strong-flavored and thus it is not recommended to use them as a bulk food.

Edible: Inner bark, twigs, sap, young leaves, and catkins.

Flavor: Bitter, but the young leaves and inner bark (cambium layer) are

sweet.

Description: Slender deciduous tree with beautiful, white peeling bark. White bark with dark brown/black markings. The bark peels off the trunk of the tree and curls in on itself, giving it a flaky appearance. Leaves are dark green in color and range from pointy to oval.

Uses: Sap can be consumed raw or made into syrup. Tender young leaves, catkins, and buds can also be eaten raw or used in recipes.

Nutritional Highlight: Similar to willow and aspen, birch contains salicylic acid, which has painkilling properties and is the active ingredient in aspirin. Tea made from birch bark has been used to treat fever, skin problems, urinary tract infections, jaundice, diarrhea, and parasites.

Helpful Tips: Birch trees have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

ID Trick: Birch trees have bright white, papery bark that peels off the trunk.

Sergei Says: I don't generally harvest birch leaves for food because they are rather bitter and often have an undesirable texture. However, birch leaves still contain nutrients that benefit the body. I think there is value in knowing that common trees are edible so that if circumstances ever call for it, the know-how is there. I invite you to experiment with birches to see how you like their flavor.

Blackberry—*Rubus allegheniensis*

Family Name: Rosaceae/Rose Family

A. Dark, ripe blackberries are as sweet as honey. Photo © iStockphoto

B. Close-up of berries. Photo: Warren Lynn

C. Blackberries on a bush.

Caution: Please note that chemical changes occur in blackberry leaves during the wilting process that can cause stomach upset. Eating fresh, tender leaves or leaves that have been fully dried will prevent mishap.

Edible: Leaves, stems, berries, and flowers.

Flavor: Berries are sweet if harvested ripe. Greens are mild and slightly astringent.

Description: Blackberry bushes range in size from a single low-growing cane to bountiful mounds nine feet tall. Canes are fibrous with hearty thorns. Leaves are saw-toothed and grow in groups of three and five. Berries are pebbly and turn dark purple/black when ripe.

Uses: Blackberries are related to other berries, such as thimbleberries, raspberries, and salmonberries. All of these berries are edible and very delicious. They each have a unique flavor and fragrance. All four varieties have edible flowers and greens.

Nutritional Highlight: Blackberries are rich in vitamins A and C. Perhaps the most promising benefit of consuming blackberries is their substantial quantity of phenolic acids, which are antioxidants known to prevent cancer.

Helpful Tips: Blackberries are members of the rose family. This is a bountiful family with many edible relatives. Experts disagree on the actual number of varieties, but in the United States alone there are hundreds of species of each of these berries (Bradford 2002). If you can identify a blackberry, you will have no trouble spotting other berries in the rose family. Rose family berries are made up of many tiny, drop-like ovals containing juice and seeds.

ID Trick: Black or dark purple berries made up of many tiny drupelets containing juice and seeds.

Sergei Says: Blackberries, raspberries, thimbleberries, and salmonberries are great fever breakers. A couple of years back, I picked up some tropical germs in Thailand and got incredibly ill. I had a fever over 104 degrees for eleven days. Because of the severity of my condition, I decided to take some ibuprofen, which for me is rare. While the pills did help, they provided only temporary relief. Once the medication wore off, my fever climbed back up above normal. I decided to look into natural remedies for reducing fever and read about the benefits of

rose-family berries and their leaves. I asked my mom to pick up some fresh berries at the store, and I began eating them and drinking highly concentrated raspberry-leaf tea. Within twenty-four hours my fever was gone and never came back.

Burdock—*Arctium minus*

Family Name: Asteraceae/Aster Family

A. Burdock leaves are big and broad.

B. Burdock leaves in late spring.

C. Leaves with roots.

D. Stems are slightly fuzzy with reddish-purple markings.

E. Burdock roots.

F. Dried seed heads.

G. Green seed heads. Photo: Amadej Trnkoczy

Table 1. Nutrient data for burdock root, raw

NUTRIENT	Unit	Value per 100.0g	1 cup (1" pieces) 118g	1 root 156g
Water	g	80.09	94.51	124.94
Energy	kcal	72	85	112
Protein	g	1.53	1.81	2.39
Total lipid (fat)	g	0.15	0.18	0.23
Carbohydrate, by difference	g	17.34	20.46	27.05
Fiber, total dietary	g	3.3	3.9	5.1
Sugars, total	g	2.9	3.42	4.52
Minerals				
Calcium, Ca	mg	41	48	64
Iron, Fe	mg	0.8	0.94	1.25
Magnesium, Mg	mg	38	45	59
Phosphorus, P	mg	51	60	80
Potassium, K	mg	308	363	480
Sodium, Na	mg	5	6	8
Zinc, Zn	mg	0.33	0.39	0.51
Vitamins				
Vitamin C, total ascorbic acid	mg	3	3.5	4.7
Thiamin	mg	0.01	0.012	0.016
Riboflavin	mg	0.03	0.035	0.047
Niacin	mg	0.3	0.354	0.468
Vitamin B6	mg	0.24	0.283	0.374
Folate, DFE	mcg	23	27	36
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	0	0	0
Vitamin A, IU	IU	0	0	0
Vitamin E (alpha-tocopherol)	mg	0.38	0.45	0.59
Vitamin D (D2 + D3)	µg	0	0	0
Vitamin D	IU	0	0	0
Vitamin K (phylloquinone)	µg	1.6	1.9	2.5
Lipids				
Fatty acids, total saturated	g	0.025	0.03	0.039
Fatty acids, total monounsaturated	g	0.037	0.044	0.058
Fatty acids, total polyunsaturated	g	0.059	0.07	0.092
Cholesterol	mg	0	0	0
Other				
Caffeine	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Burdock is absolutely safe to eat.

Edible: Leaves, stems, and roots.

Flavor: Roots are earthy, starchy, and a little bitter. Greens are mild.

Description: Burdock leaves resemble rhubarb leaves. Leaves are dark green and oval, and have a distinct main vein. When mature (in their second year of growth), leaves can be more than two feet long. Young leaves emerging from the ground are covered with white, woolly fuzz. Flower heads are round and bur-like, with pink or purple flowers. Burs have Velcro-like hooks and easily attach themselves to clothing.

Uses: Tender young leaves are delicious raw in salads or boiled as potherb. Roots are used in stir-fries and soups, or can be baked or fried. Also good in sushi.

Nutritional Highlight: Burdock is incredibly nutritious. According to Brigitte Mars, it's an amazing detoxifier that has been used for centuries to help people cope with manmade pollution (2007). Burdock also has anti-inflammatory properties that benefit a whole slew of conditions. It is also rich in folate, vitamins A, C, and K, plus calcium, magnesium, potassium, phosphorus, sodium, zinc, and selenium. Burdock has been used to purify blood and treat skin ailments such as eczema and psoriasis. Burdock is also beneficial for the liver and gallbladder.

Helpful Tips: The hooked bristles of the burdock plant are said to have inspired the invention of Velcro.

ID Trick: Burdock has round seed heads that have Velcro-like hooks. This is the best way to identify this plant.

Sergei Says: Burdock is one of the few wild edibles that I harvest for its roots instead of its greens. While young burdock leaves are good in salads, the roots of burdock are the real treat. The roots are sweet, sort of like an earthy carrot. If this description doesn't sell you on burdock root, I hope you get the opportunity to try it in a medley of roasted root vegetables before you make up your mind. In the right amount, burdock's flavor makes a recipe finger-licking good.

Burdock roots can be harvested year-round if the ground it grows in is not frozen. Once the ground freezes, it becomes difficult to dig up

the roots without destroying them. Furthermore, the cold temperatures make them woody and unpleasant to eat. That said, the fact that burdock is available during seasons when other wild edibles are scarce makes it a huge asset to every forager.

Cat's Ear—*Hypochoeris radicata*

Family Name: Asteraceae/Aster Family

Caution: Cat's ears are absolutely safe to eat.

Edible: Leaves, young stems, buds, and flowers.

Flavor: Cat's ears are slightly bitter, like a cross between dandelion and spinach.

A. Cat’s ear leaf close-up.

B. The leaves of cat's ear resemble dandelion leaves, but they are more fuzzy.

C. Left: cat's ear flower, right: dandelion flower.

Description: Cat's ears have dark green, toothy leaves that resemble dandelions. Leaves are fuzzy and grow in a basal rosette near the ground. Main stem is slender and shoots up to the sky (up to two feet). Cat's ear stems produce white, milky sap. Flowers are compound, yellow, and dandelion-like.

Uses: Leaves, buds, flowers, and seeds can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant.

Nutritional Highlight: Rich in vitamins A, B, and C, copper, phosphorus, potassium, iron, calcium, and magnesium (Kallas 2010). Cat's ears are beneficial for the liver, kidneys, gallbladder, pancreas, and spleen.

Helpful Tips: Cat's ears are extremely nutritious and beneficial for many different health reasons. They are most acclaimed as organ cleansers. Their bitter taste stimulates bile production, aids digestion, and cleans pretty much every organ inside the body.

ID Trick: Dandelion lookalike with extremely fuzzy leaves. Cat's ears and dandelion flowers look similar, which can make them hard to distinguish. Dandelion flowers generally have exponentially more petals than cat's ears. Cat's ears also produce several flowers per stem, whereas dandelions never grow more than one blossom per shoot.

Sergei Says: Cat's ears are often confused with dandelions and vice versa. Unlike dandelions, cat's ears grow hairs on the main vein of their leaves.

Because cat's ears are bitter to the taste, and I'm not particularly fond of the bitter flavor, I have come to process them in one of several ways to reduce their overbearing taste. One way to kill the bitterness is to blend cat's ears with fruit in a green smoothie. Another way is to process them in a food processor with some sort of fat (i.e., nuts, oils, or avocados). Finally, boiling cat's ear greens will also take away their bitterness.

Cattail—*Typha* spp.

Family Name: Typhaceae/Cattail Family

Caution: Cattails can be confused with poisonous members of the iris family. Water irises often share the same pond as cattails. However, cattails are easily distinguishable from water irises as their leaves wrap around the stalk of the plant like a leek. Iris leaves, on the other hand, are flat and spread out like a fan or palm frond. Cattails also generally grow in much denser patches than water irises. Mature cattails display a cottony brown head, which most people are familiar

with. Finally, if water purity is in question, refrain from eating cattails as they absorb toxins as well as nutrients from water.

A. Cattails in a pond.

B. Peeled cattail shoots.

C. Edible rootstocks.

D. Sergei harvesting cattails.

E. Young cattail heads are edible raw or cooked. They taste like corn on the cob when steamed.

F. Mature cattail heads are not edible, but they are a great identifying feature.

G. Sergei peeling the stem to get to the tender shoot.

H. Cattail leaves are circular and wrap around the stem like the leaves of a leek.

Table 2. Nutrient data for cattail, narrow leaf shoots

NUTRIENT	Unit	Value per 100.0g	1 shoot, 19g
Water	g	92.65	17.6
Energy	kcal	25	5
Protein	g	1.18	0.22
Total lipid (fat)	g	0	0
Carbohydrate, by difference	g	5.14	0.98
Fiber, total dietary	g	4.5	0.9
Sugars, total	g	0.22	0.04
Minerals			
Calcium, Ca	mg	54	10
Iron, Fe	mg	0.91	0.17
Magnesium, Mg	mg	63	12
Phosphorus, P	mg	45	9
Potassium, K	mg	309	59
Sodium, Na	mg	109	21
Zinc, Zn	mg	0.24	0.05
Vitamins			
Vitamin C, total ascorbic acid	mg	0.7	0.1
Thiamin	mg	0.023	0.004
Riboflavin	mg	0.025	0.005
Niacin	mg	0.44	0.084
Vitamin B6	mg	0.123	0.023
Vitamin A, RAE	mcg	1	0
Vitamin A, IU	IU	11	2
Vitamin K (phylloquinone)	µg	22.8	4.3

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Edible: Roots, rootstocks, young shoots, young heads, and pollen.

Flavor: Roots, rootstocks, and young shoots have the texture and taste of zucchini. Young heads resemble corn on the cob when boiled.

Description: Cattails grow in wetlands. They are often found growing in ponds and around lakeshores. Plants are tall and slender and can reach eight feet in height. Leaves grow wrapped around the stalk the way the leaves of a common leek wrap around inner leaves. Mature cattails display brown cotton-like heads.

Uses: Young shoots and heads can be eaten raw or cooked. Shoots taste

great in salads, soups, and stews. The tender young pollen spike (head) can be boiled and eaten like corn on the cob. Roots can be dried and ground into flour for baking. I think that the most delicious part of a cattail is the tender rootstock. I like dicing it up into salads. Please see salad recipe on this page.

Nutritional Highlight: Cattails contain about 30 percent complex carbohydrates. Compared to other wild edibles, cattails are high in calories, which makes them a good energy food. Cattails are a great source of vitamins A and C, plus potassium and phosphorus.

Helpful Tips: When harvesting cattails, you will notice a lubricating slime seeping from the plant's leaves. This slimy substance is incredibly healing for the skin. Use it on sunburns like you would aloe gel.

ID Trick: Circular leaves that wrap around one another. Tall, thin stems with a cottony brown head.

Sergei Says: Generally anything associated with being "high calorie" is considered bad in today's society. However, in the wild, calories can be hard to come by. While most wild edibles are rich in nutrients, they are very low in calories and thus not good sources of energy. If we lived in the wild, we would most likely be on a constant search for food that was high in calories in order to replenish the energy we expend through physical and metabolic actively. From this point of view, cattails are a great energy substitute for nuts and grains.

Cattails are water-loving plants that grow partially submerged in streams and ponds and near lakeshores. Because they get much of their nutrients from the water they grow in, you should take extra precautions to make sure the water is clean. Call you local department of forestry and ask them for resources about water quality. I generally avoid harvesting cattails in urban environments, as they are often more polluted. On the other hand, if I am in a natural setting that is far from roads, factories, or other sites that could contaminate a pond, I don't worry too much.

Golf courses often plant cattails in their ponds to create a natural-looking scene. You should never harvest any plants from a golf course, as this is one of the most chemically polluted manmade areas.

Cedar (Incense Cedar)—*Calocedrus* spp.

Family Name: Cupressaceae/Cypress Family

Caution: Do not eat evergreens if you are pregnant or breast-feeding, as the oils in the needles have been known to negatively affect infants. Also, if you suffer from seasonal allergies, you may want to refrain from harvesting tree pollen, as it can affect your body negatively. For all other purposes, eating cedar is absolutely safe.

Edible: Inner bark, sap, twigs, catkins, light green tips, needles, cones, pollen, and nuts.

Flavor: Slightly lemony, but the inner bark (cambium layer) is sweet.

Description: Coniferous, evergreen tree with reddish-brown bark. Leaves are rounded and overlap, growing in an alternate pattern. They look like tiny puzzle pieces that stack on one another. Cedar cones are tiny and grow in clusters near branch tips.

Nutritional Highlight: Rich in vitamins A and C. Cedar needle tea helps fight dandruff when applied to the scalp. Resin found in evergreen needles is beneficial for respiratory problems. Cedar resin is great for removing sugars from teeth; the needles can be used as a makeshift toothbrush. Pollen is rich in protein. Cedar tinctures have been used to fight inflammation and sore throats, as well as to treat skin infections.

A. Cedar needles and trunk *(Calocedrus decurrens)*.

B. Cedar needles close-up.

C. Cedar trunk.

D. Cedar bark close-up.

Helpful Tips: Cedar trees have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

When the tree is blooming and the buds are full of pollen (in the spring), you can cover the tip of a branch with a plastic bag and give it a vigorous shake. Pollen will accumulate quickly in the bag.

Transfer the collected pollen into a glass jar and store in a cool, dry place. Add as a supplement to smoothies.

ID Trick: Cedar needles are easy to spot because they are flat and look like they are made up of tiny triangular puzzle pieces.

Sergei Says: Cedars are a good natural source of vitamin C and historically have been used by travelers to prevent scurvy. It might be hard to imagine a meal made from Christmas trees, but with the right preparation and know-how, you can come to enjoy and even crave a recipe that incorporates cedar.

My absolute favorite way to consume any evergreen is to sip on tea made from freshly collected needles by a campfire after a long day of hiking. See the pine needle tea recipe on this page.

Chickweed—*Stellaria media*

Family Name: Caryophyllaceae/Pink Family

Caution: Chickweed is absolutely safe to eat.

Edible: Leaves, stems, and flowers.

Flavor: Leaves and flowers are slightly sweet and juicy. Stems taste earthy.

Description: Chickweed grows in a dense mat on the ground. Leaves are oval and grow in an opposite pattern along long, slender stalks. Flowers are tiny and white, with five petals that are deeply cleft, so it looks like there are actually ten petals. Chickweed has a Mohawk hairline that runs up the stem. This hairline is found between each set of leaves. If one examines it closely, one can notice that the hairline changes positions and alternates sides on the stem. This quality is unique to chickweed.

Uses: Chickweed is a mild and delicious plant that can be eaten raw. Try adding chickweed to your next salad, sandwich, or wrap.

Nutritional Highlight: Rich in copper, phosphorus, calcium, potassium, and vitamin C. Chickweed tinctures have been used to treat bladder, kidney, and urinary tract difficulties. It soothes irritated tissue, which makes it beneficial for cosmetic or topical applications.

A. Chickweed patch.

B. Chickweed flowers have five deeply cleft petals.

C. Flowers close-up.

D. Chickweed has an alternating Mohawk hairline on the stem.

Helpful Tips: Because chickweed grows in dense mats, it can be easily harvested with a pair of scissors. Simply grab a handful of chickweed in one hand and use your other hand to cut it near the base of the plant.

ID Trick: Tiny white flowers with five deeply cleft petals that look like ten petals. Alternating Mohawk hairline on the stem.

Sergei Says: Chickweed is one of the most prolific weeds in my garden every spring. It grows as a ground cover and displays tiny white flowers that are about one-third the size of a penny. I love freezing

chickweed flowers in ice-cube trays to add flair to my drinks.

Chicory—*Cichorium intybus*

Family Name: Asteraceae/Aster Family

Table 3. Nutrient data for chicory greens, raw

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 29g
Water	g	92	26.68
Energy	kcal	23	7
Protein	g	1.7	0.49
Total lipid (fat)	g	0.3	0.09
Carbohydrate, by difference	g	4.7	1.36
Fiber, total dietary	g	4	1.2
Sugars, total	g	0.7	0.2
Minerals			
Calcium, Ca	mg	100	29
Iron, Fe	mg	0.9	0.26
Magnesium, Mg	mg	30	9
Phosphorus, P	mg	47	14
Potassium, K	mg	420	122
Sodium, Na	mg	45	13
Zinc, Zn	mg	0.42	0.12
Vitamins			
Vitamin C, total ascorbic acid	mg	24	7
Thiamin	mg	0.06	0.017
Riboflavin	mg	0.1	0.029
Niacin	mg	0.5	0.145

Vitamin B6	mg	0.105	0.03
Folate, DFE	mcg	110	32
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	286	83
Vitamin A, IU	IU	5,717	1,658
Vitamin E (alpha-tocopherol)	mg	2.26	0.66
Vitamin D (D2 + D3)	µg	0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	µg	297.6	86.3
Lipids			
Fatty acids, total saturated	g	0.073	0.021
Fatty acids, total monounsaturated	g	0.006	0.002
Fatty acids, total polyunsaturated	g	0.131	0.038
Cholesterol	mg	0	0
Other			
Caffeine	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Chicory is absolutely safe to eat.

Edible: Leaves, stems, flowers, roots.

Flavor: Greens and roots are bitter. Flowers are faintly sweet.

Description: Chicory is a hardy perennial that ranges from one to four feet tall. Large leaves generally grow near the base of the plant in a basal rosette like that of a dandelion. Small lance-like leaves grow from the stem of the plant; they are larger near the base and smaller near the top. Chicory flowers grow sporadically up the stem and are bluish-purple in hue.

A. Chicory flowers. Photo: MFCarter

B. Chicory greens can easily be mistaken for dandelion. When identifying chicory, look for tall, fibrous stems and/or unique purple flowers.

C. Chicory and red clover. Photo: ayjackson, Flickr

D. Leaves, stem, and flower.

E. Flowers close-up. Photo: MFCarter

Uses: Young, tender leaves can be eaten raw, or used in salads, soups, and stir-fries. Adding chicory flowers to any dish will add color and

make it look absolutely scrumptious.

Nutritional Highlight: Chicory leaves are a good source of vitamins A, B, C, E, and K, plus potassium, calcium, phosphorus, copper, zinc, and magnesium. Chicory is beneficial for the liver, kidneys, gallbladder, and pancreas.

Helpful Tips: Similar to dandelions, the more mature a chicory plant is, the more bitter it is. If you get to a plant before it flowers, you will notice that the leaves will be more tender, less bitter, and more enjoyable.

ID Trick: Chicory flowers make this plant easy to spot. They are purple and daisy-like with serrated clefts at the tips of the petals.

Sergei Says: Chicory prefers dry soils and can often be found growing around deserted lots, construction sites, and ditches. It has been used historically as a caffeine-free coffee substitute in the South, because the root tastes similar to coffee when it is ground and roasted (Mabey 2007). While I am not a coffee drinker, I brew chicory coffee from time to time and enjoy the taste. After a long day of hiking, sipping on a dark, warm beverage makes me feel like an old-time cowboy.

Another practical application for chicory is to add its roots to mixed roasted vegetable dishes, along with carrots, yams, parsnips, and potatoes. When I've made this dish for community potlucks, it has been a raging success. Chicory flowers make a nice, colorful addition in salads. I eat the young leaves to aid my liver and kidneys in eliminating toxins. The older leaves are also very suitable for recipes that call for bitterness. I love adding them to homemade pesto.

Chokecherry—*Prunus virginiana*

Family Name: Rosaceae/Rose Family

A. Chokecherry fruit.

B. Fruit close-up.

C. Berries are sweet and tart.

D. Wide shot of chokecherry tree.

E. Chokecherry tree in the fall. Photo © iStockphoto

Table 4. Nutrient data for chokecherries, raw, pitted

NUTRIENT	Unit	Value per 100.0g	1 cup 154g
Water	g	60.72	93.51
Energy	kcal	162	249
Protein	g	3.04	4.68
Total lipid (fat)	g	1.69	2.6
Carbohydrate, by difference	g	33.62	51.77
Fiber, total dietary	g	20	30.8
Sugars, total	g	9.37	14.43
Minerals			
Calcium, Ca	mg	60	92
Iron, Fe	mg	0.69	1.06
Magnesium, Mg	mg	27	42
Phosphorus, P	mg	67	103
Potassium, K	mg	379	584
Sodium, Na	mg	5	8
Zinc, Zn	mg	0.33	0.51
Vitamins			
Vitamin C, total ascorbic acid	mg	5.5	8.5
Thiamin	mg	0.034	0.052
Riboflavin	mg	0.173	0.266
Niacin	mg	0.628	0.967
Vitamin B6	mg	0.198	0.305
Vitamin A, RAE	mcg	8	12
Vitamin A, IU	IU	168	259
Vitamin E (alpha-tocopherol)	mg	0.35	0.54
Vitamin K (phylloquinone)	µg	21.1	32.5

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Chokecherries are absolutely safe to eat.

Edible: Fruit and flowers.

Flavor: Slightly sour, like Bing cherries.

Description: Chokecherry is a large shrub or small tree. The bark is thin, and dark gray or brown. Leaves are alternate, oval, and sharply serrated with tiny teeth. Flowers are white with five petals and grow in dense, drooping clusters.

Uses: Eat fruit raw as a trailside nibble. Use in jams, jellies, pies, syrups, salads, and wines.

Nutritional Highlight: Chokecherry juice is used to reduce inflammation and has also been known to alleviate the pain from arthritis. Chokecherries are rich in antioxidants, which neutralize harmful free radicals, which can cause cancer. Chokecherries also have high amounts of melatonin, which help boost the immune system and improve heart health.

Helpful Tips: Like store-bought cherries, chokecherries contain hard pits. If you plan to use large quantities in cooking, purchasing a cherry pitting tool will make your life easier.

ID Trick: They look like small Bing cherries.

Sergei Says: Chokecherries are essentially wild cherries. They make scrumptious additions to pies and crumbles.

Clover—*Trifolium* spp.

Family Name: Fabaceae/Pea Family

Caution: I have found major discrepancies in print as to whether all clover species are edible. Some authors claim that yellow clover should not be eaten, while others write the opposite. I have eaten yellow clovers from time to time and have never experienced any negative side effects. If you are wont to be extra cautious, you can avoid yellow clover varieties. All other varieties are unanimously considered fit to eat.

Edible: Flowers, leaves, and stems.

A. Clover flowers are made up of a collection of flowers.

B. White clover. Photo © iStockphoto

C. Clover leaves grow in threes.

D. Wood sorrel *(Oxalis* spp.) is often confused with clover. Wood sorrel leaves are heart-shaped, while clover has oval leaves.

E. Clover flower and leaves.

Flavor: Greens are mild and remind me of pea sprouts. Flowers are sweet.

Description: Clovers have green, oval leaves with whitish, crescent-shaped markings. Leaves grow in groups of three. Flowers range in color and have upward of forty petals, which cluster together creating an overall spherical shape.

Uses: Clover flowers make a colorful addition to any dish. Leaves are

tender and can be used in salads, stir-fries, soups, and so on.

Nutritional Highlight: Clovers have been said to contain beta-carotene as well as vitamins C, B1, B2, B3, B5, B6, B9, and B12, plus biotin, choline, inositol, and bioflavonoids. Clovers are rich in minerals, such as magnesium, manganese, zinc, copper, and selenium. Clovers are commonly referred to as the "blood-purifying weed." In her book *Discovering Wild Plants*, Janice Schofield writes that clovers have been used to effectively treat disorders such as eczema, hepatitis, and mononucleosis (2003). They have even been known to shrink tumors. Michael Tierra claims that clovers contain blood-thinning coumarins that help the body fight chronic degenerative diseases such as cancer (1988).

Helpful Tips: Clovers are often confused with another edible plant commonly known as "wood sorrel." It's not hard to tell these two plants apart once you know what to look for. Wood sorrel has three heart-shaped leaves, while clovers have three oval-shaped leaves.

ID Trick: Clovers have some key characteristics that make them easy to recognize. The best way to identify a clover is by its round, colorful flower. If the plant isn't blooming, the leaves are a dead giveaway. Unless you are tremendously lucky (and find a four-leafed clover), clovers will have three oval leaves. The top surface of the leaf often displays a whitish, crescent-shaped mark. If you pick a clover leaf and hold it up to the light, you will see that its edges have tiny serrations.

Bad Clover Joke: Question: Did you know that a four-leafed clover is more nutritious than a three-leafed one?

Answer: Yes, it's 25 percent more nutritious.

Sergei Says: If you look at your lawn carefully, I'm willing to bet you'll find hundreds, if not thousands, of clovers. Along with dandelion and plantain, clover is one of the most prolific plants around. Clovers are part of the pea family and have a slightly sweet taste that resembles pea sprouts. Because of this, I think clover makes for a delicious addition to any salad, sandwich, or wrap.

When I was in kindergarten in Russia, my teacher taught my classmates and me how to pick clover flowers and suck out their nectar through the stem. During our school outings, we would often

stop at colorful flower patches and take a few moments to enjoy their sweetness. After my family immigrated to America, I continued this practice and scared many adults half to death. It seems like there is more fear surrounding plants in America, and children are generally discouraged from eating wild fare. Several educators throughout my childhood even told me that clovers were poisonous and would cause severe pain and discomfort. While I agree that children should be instructed not to eat unfamiliar plants, teaching them that a healthy, edible plant is poisonous is equally detrimental. If children grow up believing that safe food is exclusively found in a store, they become dependent on others to tell them what they can and can't eat. On the other hand, kids who have been taught how to forage properly can fend for themselves, which is a life-enhancing skill that may one day save their lives.

Common Mallow—*Malva parviflora*

Family Name: Typhaceae/Mallow Family

Caution: Common mallow is absolutely safe to eat.

Edible: Leaves, stems, fruits, and flowers.

Flavor: Leaves, stems, fruits, and flowers have a mellow, okra-like flavor.

Description: Mallow is a low-growing plant with freely branching stems. Leaves are round with shallow lobes. Flowers have five petals and can be white, pink, or lavender in color. Flowers also display longitudinal stripes. Mallow fruits are round, flat, and disc-shaped. Leaves and fruits are mucilaginous.

Uses: Leaves, fruits, stems, and flowers can be eaten raw, steamed, boiled, sautéed, blended, and baked.

Nutritional Highlight: Mallow contains the minerals copper, calcium, and iron, plus vitamins A and C. It is rich in beneficial mucilage, which helps relieve colds, flus, and coughs.

Helpful Tips: Common mallow is a relative of okra and thus has a similar sliminess. This makes mallow a very good binding agent for

recipes that require a certain consistency. In a smoothie, for example, liquids may separate from the solids almost immediately after blending. Adding a few mallow leaves to a smoothie will prevent this separation.

ID Trick: When a mallow plant matures, it develops round fruits that resemble buttons. Identifying mallow by these fruits is a cinch.

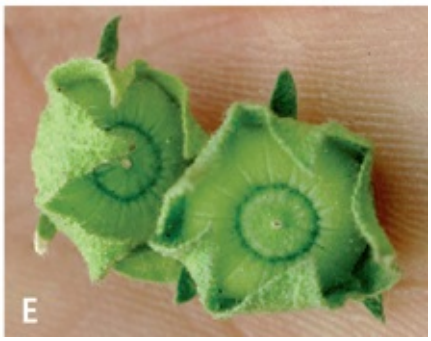
Sergei Says: When I was thirteen years old, my mother introduced me to raw-food guru David Wolfe. We hit it off, and he invited me to come stay at his house in San Diego for a week. Even though David lived in a city, he had a large backyard with heaps of mallow. Every evening for dinner, David and I would slice up several ripe avocados, wrap them in mallow leaves, and sprinkle them with lemon juice. Then we would sit amongst the intentionally overgrown weeds, eating our wraps and enjoying the setting sun.

A. Mallow is a ground cover.

B. Common mallow.

C. Leaf close-up.

D. Flower and leaves.



E. Mallow fruits, commonly referred to as “buttons” or “cheeses.”

Currant—*Ribes* spp.

Family Name: Grossulariaceae/Currant Family

A. Red and black currants. Photo © iStockphoto

B. Currants grow on bushes. Photo © iStockphoto

Caution: Currants are absolutely safe to eat.

Edible: Berries.

Flavor: Ranges from sour to sweet.

Description: Currants grow on slender, upright shrubs. Shrub stems and branches contain woody thorns. Currant leaves resemble maple leaves, with five-lobed points. Berries are round and sometimes striped, and have flower-like fibers sticking out of one end. Berries are often sticky with sweet juice.

Uses: Eat berries raw as a trailside nibble. Use them in jams, jellies, syrups, salads, and wines.

Nutritional Highlight: Currants are renowned for their high content of vitamin C. They have been shown to have twice the potassium of bananas, four times the vitamin C of oranges, and twice the antioxidants of blueberries. Currants also have anti-inflammatory properties, which help alleviate pain from arthritis and fight cancer.

Helpful Tips: Currants are in the same family as gooseberries.

ID Trick: Currants come in red, deep purple, and white colors. Currant shrubs have long woody thorns.

Sergei Says: Currants are antioxidant superfoods. Antioxidants are vitamins, minerals, and other nutrients that protect and repair cells from damage caused by free radicals. Many experts believe people

who consume foods that are rich in antioxidants are many times less likely to suffer from chronic diseases, such as hardening of the arteries, cancer, and arthritis.

Table 5a. Nutrient data for black currants, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 112g
Water	g	81.96	91.8
Energy	kcal	63	71
Protein	g	1.4	1.57
Total lipid (fat)	g	0.41	0.46
Carbohydrate, by difference	g	15.38	17.23
Minerals			
Calcium, Ca	mg	55	62
Iron, Fe	mg	1.54	1.72
Magnesium, Mg	mg	24	27
Phosphorus, P	mg	59	66
Potassium, K	mg	322	361
Sodium, Na	mg	2	2
Zinc, Zn	mg	0.27	0.3
Vitamins			
Vitamin C, total ascorbic acid	mg	181	202.7
Thiamin	mg	0.05	0.056
Riboflavin	mg	0.05	0.056
Niacin	mg	0.3	0.336
Vitamin B6	mg	0.066	0.074
Vitamin B12	µg	0	0

Vitamin A, RAE	mcg	12	13
Vitamin A, IU	IU	230	258
Vitamin E (alpha-tocopherol)	mg	1	1.12
Lipids			
Fatty acids, total saturated	g	0.034	0.038
Fatty acids, total monounsaturated	g	0.058	0.065
Fatty acids, total polyunsaturated	g	0.179	0.2
Cholesterol	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Table 5b. Nutrient data for currants, red and white, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 112g
Water	g	83.95	94.02
Energy	kcal	56	63
Protein	g	1.4	1.57
Total lipid (fat)	g	0.2	0.22
Carbohydrate, by difference	g	13.8	15.46
Fiber, total dietary	g	4.3	4.8
Sugars, total	g	7.37	8.25
Minerals			
Calcium, Ca	mg	33	37
Iron, Fe	mg	1	1.12
Magnesium, Mg	mg	13	15
Phosphorus, P	mg	44	49

NUTRIENT	Unit	Value per 100.0g	1 cup 112g
Potassium, K	mg	275	308
Sodium, Na	mg	1	1
Zinc, Zn	mg	0.23	0.26
Vitamins			
Vitamin C, total ascorbic acid	mg	41	45.9
Thiamin	mg	0.04	0.045
Riboflavin	mg	0.05	0.056
Niacin	mg	0.1	0.112
Vitamin B6	mg	0.07	0.078
Folate, DFE	mcg	8	9
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	2	2
Vitamin A, IU	IU	42	47
Vitamin E (alpha-tocopherol)	mg	0.1	0.11
Vitamin D (D2 + D3)	µg	0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	µg	11	12.3
Fatty acids, total saturated	g	0.017	0.019
Fatty acids, total monounsaturated	g	0.028	0.031
Fatty acids, total polyunsaturated	g	0.088	0.099
Cholesterol	mg	0	0
Other			
Caffeine	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Dandelion—*Taraxacum officinale*

Family Name: Asteraceae/Aster Family

A. Dandelion flower and greens. Photo © iStockphoto

B. Dandelion seed heads.

C. I have found at least one variety of dandelions in almost country I've visited.

D. Leaf close-up.

Table 6. Nutrient data for dandelion greens, raw

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 55g
Water	g	85.6	47.08
Energy	kcal	45	25
Protein	g	2.7	1.48
Total lipid (fat)	g	0.7	0.38
Carbohydrate, by difference	g	9.2	5.06
Fiber, total dietary	g	3.5	1.9
Sugars, total	g	0.71	0.39
Minerals			
Calcium, Ca	mg	187	103
Iron, Fe	mg	3.1	1.7
Magnesium, Mg	mg	36	20
Phosphorus, P	mg	66	36
Potassium, K	mg	397	218
Sodium, Na	mg	76	42
Zinc, Zn	mg	0.41	0.23
Vitamins			
Vitamin C, total ascorbic acid	mg	35	19.2
Thiamin	mg	0.19	0.104
Riboflavin	mg	0.26	0.143
Niacin	mg	0.806	0.443
Vitamin B6	mg	0.251	0.138
Folate, DFE	mcg	27	15
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	508	279
Vitamin A, IU	IU	10161	5589
Vitamin E (alpha-tocopherol)	mg	3.44	1.89
Vitamin D (D2 + D3)	µg	0	0

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 55g
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	µg	778.4	428.1
Lipids			
Fatty acids, total saturated	g	0.17	0.094
Fatty acids, total monounsaturated	g	0.014	0.008
Fatty acids, total polyunsaturated	g	0.306	0.168
Cholesterol	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Dandelions are absolutely safe to eat.

Edible: Leaves, flowers, stems, and roots.

Flavor: Leaves, stems, and roots are bitter. Flowers are sweet.

Description: Dandelions typically have sharply serrated leaves, which grow in a basal rosette on the ground. Dandelions have one yellow flower per stem. As the flower matures, it turns into a white puffball. Stems are filled with milky, white sap.

Uses: Greens can be used in salads or smoothies, or as trailside nibbles. Flowers can be eaten raw or prepared in a gourmet fashion. Roots are often dried, roasted, and ground as a coffee substitute. I generally don't eat the roots, as they are very bitter and require extra preparation.

Nutritional Highlight: Rich in vitamins A, C, E, and K, and the minerals copper, phosphorus, potassium, iron, calcium, sodium, and magnesium. Dandelions are widely used to treat obstructions of the liver, kidneys, gallbladder, pancreas, and spleen. They have also been known to help diabetics reduce their blood sugar levels. Eating dandelions will also stimulate bile production and aid the digestive process.

ID Trick: Dandelions have many lookalikes. A friend and fellow forager, Karen Sherwood, once taught me a wonderful trick to help identify a true dandelion. Run your fingers along the main vein on the underside of a dandelion leaf. If it's completely smooth, you've found a true dandelion. Dandelion lookalikes may have similar looking veins, but they will be hairy or prickly to the touch. Another great

way to identify dandelions is by their flowers. Dandelions produce one flower per stem, while many imposters have two or more.

Sergei Says: There are over 250 known species of dandelions (Wildflower Finder 2012). All species are edible and have no poisonous lookalikes. Dandelions are one of my favorite weeds, because of their many nutritional benefits and their widespread availability. I have been to thirty-one countries and found at least one dandelion species in all but three of them. This reason alone should be enough of an incentive to become familiar with this awesome plant. If you are a novice forager, learning how to identify a dandelion will greatly expand your diet and guarantee free food everywhere you go.

The first few times I tried dandelions, they tasted too bitter for my liking. After a great deal of experimentation, however, I found two ways to mask their sharpness:

1. Blending dandelion greens with fruit in a blender completely eliminates bitterness. Please see the recipe section of this book for green smoothie recipes (this page).
2. Processing dandelion greens in a food processor with some kind of natural fat, such as nuts, seeds, oils, or butter, helps reduce their bitterness. Many recipes are actually complemented by a dandelion's bitterness; for example, adding dandelion greens to pesto makes it taste incredible. (See this page.)

Additionally, picking young spring leaves will keep the bitterness to a minimal. This is true for most plants; the younger the green, the more nutritious and mild it will be.

Dock—*Rumex* spp.

Family Name: Polygonaceae/Buckwheat Family

A. Dock has broad leaves.

B. Green dock seeds.

C. Dock seeds grow in dense clusters at the top of the plant. Seeds are rich in omega-3 fatty acids.

D. Dock leaves curl at the edges.

E. Dock has long, hearty stems.

F. Dried dock seeds.

Table 7. Nutrient data for dock, raw

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 133g
Water	g	93	123.69
Energy	kcal	22	29
Protein	g	2	2.66
Total lipid (fat)	g	0.7	0.93
Carbohydrate, by difference	g	3.2	4.26
Fiber, total dietary	g	2.9	3.9
Minerals			
Calcium, Ca	mg	44	59
Iron, Fe	mg	2.4	3.19
Magnesium, Mg	mg	103	137
Phosphorus, P	mg	63	84
Potassium, K	mg	390	519
Sodium, Na	mg	4	5
Zinc, Zn	mg	0.2	0.27
Vitamins			
Vitamin C, total ascorbic acid	mg	48	63.8
Thiamin	mg	0.04	0.053
Riboflavin	mg	0.1	0.133
Niacin	mg	0.5	0.665
Vitamin B6	mg	0.122	0.162
Folate, DFE	mcg	13	17
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	200	266
Vitamin A, IU	IU	4,000	5,320
Vitamin D (D2 + D3)	µg	0	0
Vitamin D	IU	0	0

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 133g
Lipids			
Cholesterol	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Dock is absolutely safe to eat.

Edible: Leaves, stem, seeds, and flowers.

Flavor: Slightly bitter and a little sour. Dock greens look a little like kale.

Description: Elongated green leaves that curl at the edges. Showy clusters of seeds can be observed growing near the top of the plant. These seeds will turn brown in late summer and will rattle in the wind, making it easier to identify the plant. Flowers are green and inconspicuous.

Uses: Leaves can be eaten raw. You can also steam, sauté, boil, fry, and marinate them. Seeds can be used in crackers and breads.

Nutritional Highlight: Dock is one of the best sources of iron, which is great for treating constipation, blood disorders, skin disease, rheumatism, and indigestion. It is also great for cleansing the system of heavy metals such as lead, arsenic, and mercury. Seeds contain omega-3 fatty acids, which are beneficial for the heart.

Helpful Tips: Dock is very healing for the skin. Thus, you can apply dock paste (made from either chewing or blending the plant) onto the skin to treat rashes, bug bites, cuts, and bruises. Next time you're stung by a bee, chew some dock, apply it to the sting, and see what happens.

ID Trick: Dock leaves ruffle at the edges. This makes them easy to spot. Seeds turn brown and rattle in the wind. In late summer, if you listen closely, you can sometimes hear dock before you see it.

Sergei Says: Dock is a great green for the skin. It soothes and disinfects bug bites, cuts, and scrapes. If you have a bad run-in with a patch of stinging nettles, cover the itchy rash with dock juice for instant relief. Dock greens and tender stems are delicious in soups and stir-fries.

Douglas Fir—*Pseudotsuga menziesii*

Family Name: Pinaceae/Pine Family

Caution: Do not eat evergreens if you are pregnant or breast-feeding; the oils in the needles have been known to negatively affect infants. Also, if you suffer from seasonal allergies, you may want to refrain from harvesting tree pollen, as it can affect your body negatively. For all other purposes, eating Douglas fir parts is absolutely safe.

Edible: Inner bark, sap, twigs, catkins, light green tips, needles, cones,

pollen, and nuts.

Flavor: Slightly lemony, but the inner bark (cambium layer) is sweet.

Description: Coniferous evergreen tree with drooping branches. Bark is ridged with deep lesions. Needles are flat and short. Pinecones grow in clusters near the tips of the branches. Pinecones are scaly and delicate and display what looks like a tiny mouse-tail sticking out between the scales. Needles are flat.

Uses: Steep green needles in boiling water and drink the wonderfully aromatic tea. Harvest light green, tender needles (found at the tips of the branches in the spring) and eat raw in salads or smoothies, or as a trailside nibble. Collect pollen from the flowers at the tips of branches in early spring and add to smoothies for a protein boost.

Nutritional Highlight: Rich in vitamins A and C. Fir needle tea helps fight dandruff when applied to the scalp. Resin found in evergreen needles is beneficial for respiratory problems. Consuming the greens raw or in a tea has been said to eliminate coughs, fevers, and excess mucus. Fir resin is great for removing sugars from teeth; the needles can be used as a makeshift toothbrush. Pollen is rich in protein. Fir tinctures have been used to fight inflammation and sore throat, as well as to treat skin infections.

A. Douglas fir tree trunk.

B. Needles close-up.

C. Douglas fir cones have mouse-like tails that stick out of the cone scales.

D. Douglas fir bark close-up.

E. Fir needles with light green tips.

Helpful Tips: Douglas fir trees have an inner bark (cambium layer) that

is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

When the tree is blooming and the buds are full of pollen (in the spring), you can cover the tip of a branch with a plastic bag and give it a vigorous shake. Pollen will accumulate quickly in the bag. Transfer the collected pollen to a glass jar and store in a cool, dry place. Add as a supplement to smoothies.

ID Trick: Identifying a fir tree can be tricky. After all, most evergreens look like Christmas trees. The easiest method I have found to tell common conifers apart is by their needles. All pines have long needles that grow in groups of two, three, or five. Fir and spruce trees have short needles all around the twig, so that the twigs resemble pipe cleaners. Fir needles are flat, while spruce needles are four-sided. If you are unsure whether you are looking at a fir or spruce, pick a few needles and roll them between your fingers. Since fir needles are flat, they will not roll easily. Douglas firs are extremely easy to identify by their cones. Douglas fir cones have little mouse-like tails that stick out between the scales of the cone.

Sergei Says: Firs are a good natural source of vitamin C and historically have been used by travelers to prevent scurvy. It might be hard to imagine a meal made from a Christmas tree, but with the right preparation and know-how you can come to enjoy and even crave a recipe that incorporates fir.

My absolute favorite way to consume evergreens is to sip on tea made from freshly collected needles by a campfire after a long day of hiking. See the pine needle tea recipe on this page.

In early spring most coniferous evergreens produce light green new needles at the tips of branches that have a mild, lemony taste. I like to add these tender greens to salads and smoothies for zest.

Gooseberry—*Ribes* spp.

Family Name: Grossulariaceae/Currant Family

A. Gooseberries. Photo © iStockphoto

B. Gooseberry leaf.

C. Gooseberries on a bush.

Table 8. Nutrient data for gooseberries, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 150g
Water	g	87.87	131.8
Energy	kcal	44	66
Protein	g	0.88	1.32
Total lipid (fat)	g	0.58	0.87

Carbohydrate, by difference	g	10.18	15.27
Fiber, total dietary	g	4.3	6.4
Minerals			
Calcium, Ca	mg	25	38
Iron, Fe	mg	0.31	0.46
Magnesium, Mg	mg	10	15
Phosphorus, P	mg	27	40
Potassium, K	mg	198	297
Sodium, Na	mg	1	2
Zinc, Zn	mg	0.12	0.18
Vitamins			
Vitamin C, total ascorbic acid	mg	27.7	41.6
Thiamin	mg	0.04	0.06
Riboflavin	mg	0.03	0.045
Niacin	mg	0.3	0.45
Vitamin B6	mg	0.08	0.12
Folate, DFE	mcg	6	9
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	15	22
Vitamin A, IU	IU	290	435
Vitamin E (alpha-tocopherol)	mg	0.37	0.56
Lipids			
Fatty acids, total saturated	g	0.038	0.057
Fatty acids, total monounsaturated	g	0.051	0.076
Fatty acids, total polyunsaturated	g	0.317	0.476
Cholesterol	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Gooseberries are absolutely safe to eat.

Edible: Berries.

Flavor: Ranges from sour to sweet.

Description: Gooseberries grow on slender, upright shrubs. Shrub stems and branches contain woody thorns. Gooseberry leaves resemble maple leaves with their five-lobed points. Berries are large, round, and striped, and have flower-like fibers that stick out of one end. Berries are often sticky with sweet juice.

Uses: Eat berries raw as a trailside nibble. Use them in jams, jellies,

syrups, salads, and wines.

Nutritional Highlight: Gooseberries are renowned for their high content of vitamin C. They have been shown to have twice the potassium of bananas, four times the vitamin C of oranges, and twice the antioxidants of blueberries. Gooseberries have anti-inflammatory properties, which help alleviate pain from arthritis and fight cancer.

Helpful Tips: Gooseberries are in the same family as currants. While they can look quite similar, currants are much smaller than gooseberries.

ID Trick: Gooseberries range in color and have striped, slightly translucent berries. Both gooseberries and currants have maple-shaped leaves, and the shrubs have thorns.

Sergei Says: Gooseberries are antioxidant superfoods. Antioxidants are vitamins, minerals, and other nutrients that protect and repair cells from damage caused by free radicals. Many experts believe people who consume foods that are rich in antioxidants are many times less likely to suffer from chronic diseases, such as cancer, arthritis, and hardening of the arteries.

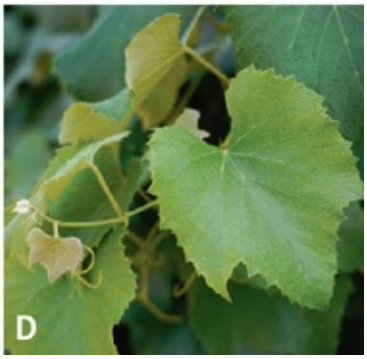
Grape—*Vitis* spp.

Family Name: Vitaceae/Grape Family

A. Green grapes on a vine. Photo © iStockphoto

B. Black grapes. Photo: ayjackson, Flickr

C. Grape leaves.



D. Leaves close-up.

Table 9. Nutrient data for grapes, red or green, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 151g	10 grapes 49g
Water	g	80.54	121.62	39.46
Energy	kcal	69	104	34
Protein	g	0.72	1.09	0.35
Total lipid (fat)	g	0.16	0.24	0.08
Carbohydrate, by difference	g	18.1	27.33	8.87
Fiber, total dietary	g	0.9	1.4	0.4
Sugars, total	g	15.48	23.37	7.59
Minerals				
Calcium, Ca	mg	10	15	5
Iron, Fe	mg	0.36	0.54	0.18
Magnesium, Mg	mg	7	11	3
Phosphorus, P	mg	20	30	10
Potassium, K	mg	191	288	94
Sodium, Na	mg	2	3	1
Zinc, Zn	mg	0.07	0.11	0.03
Vitamins				
Vitamin C, total ascorbic acid	mg	3.2	4.8	1.6
Thiamin	mg	0.069	0.104	0.034
Riboflavin	mg	0.07	0.106	0.034
Niacin	mg	0.188	0.284	0.092
Vitamin B6	mg	0.086	0.13	0.042
Folate, DFE	mcg	2	3	1
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	3	5	1
Vitamin A, IU	IU	66	100	32
Vitamin E (alpha-tocopherol)	mg	0.19	0.29	0.09

Vitamin D (D2 + D3)	µg	0	0	0
Vitamin D	IU	0	0	0
Vitamin K (phylloquinone)	µg	14.6	22	7.2
Lipids				
Fatty acids, total saturated	g	0.054	0.082	0.026
Fatty acids, total monounsaturated	g	0.007	0.011	0.003
Fatty acids, total polyunsaturated	g	0.048	0.072	0.024
Cholesterol	mg	0	0	0
Other				
Caffeine	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Please take extra caution when identifying wild grapes. Grape leaves and berries have poisonous lookalikes. Check for red tendrils, saw-toothed leaves, and familiar grape odor.

Edible: Leaves, tendrils, and fruits.

Flavor: Leaves are mild and taste like spinach. Grapes taste like grapes.

Description: Grapes grow on vines. They have broad, saw-toothed leaves. These leaves are typically heart-shaped, with two deep clefts near the point. Fruits range in color from green to deep purple and grow in large clusters. Wild grapes generally have smaller berries than cultivated varieties.

Uses: Eat young leaves, tendrils, and grapes raw as a trailside nibble. Use all parts in stir-fries, soups, or stews.

Nutritional Highlight: Grape leaves contain calcium, potassium, manganese, iron, sodium, magnesium, and vitamins A, C, and K. Grape leaves and grape skins are also a great source for resveratrol, which boosts energy and reduces inflammation. Berries contain vitamins B2, B6, and C6. These compounds decrease the risk of heart disease. Grapes also fight breast cancer.

Helpful Tips: Since grape leaves are so broad, I love using them as a substitute for tortillas when making wraps. In Greece, as well as in parts of the Middle East, *dolmas*, or stuffed grape leaves, are popular. Mixtures of rice and other ingredients are wrapped in prepared grape leaves and cooked.

ID Trick: Grape berries are the best way to identify grapes.

Sergei Says: Grape leaves and grape skins are said to contain high amounts of resveratrol, an antioxidant that reverses aging and boosts the immune system. Though the study of resveratrol is still new and unrecognized by conventional medicine, I like knowing that eating grapes has the potential of keeping my body young and healthy.

Grass (Wild and Not So Wild)—*Poa* spp.

Family Name: Poaceae/Grass Family

A. Grass blade up close.

B. You can blend or juice wild grasses to reap their nutritional benefits.

Caution: Some people confuse grass with iris greens, rushes, and sedges, which are not particularly edible. Rushes and sedges grow in or near water and are extremely fibrous and tough to the touch. Irises, which are the least edible of the lookalikes, have large colorful flowers that make them easy to spot.

Edible: The entire plant.

Flavor: Sweet.

Description: Thin, tall, green blades growing in yards, forests, fields, and elsewhere. Grass comes in many shapes and sizes. Some varieties are tall and some are short. Some grasses crawl over the ground, while others grow upright.

Uses: Use grass as a survival food or add it to juices and smoothies as a nutritional supplement.

Nutritional Highlight: Grass contains most of the vitamins and minerals needed for human maintenance. It is a whole meal and a complete protein with about thirty enzymes, and it's approximately 70 percent crude chlorophyll. Grass is also an excellent source of calcium, iron, magnesium, phosphorus, potassium, sodium, sulfur, cobalt, and zinc. Next time you think of buying a shot of wheatgrass juice from a health

food store, consider making one with your own grass instead. If you don't spray your lawn with chemical fertilizers, you can literally juice the grass and get the same benefits that you would get from store-bought wheatgrass juice.

Helpful Tips: Most grasses are considered edible. Some experts caution against eating certain grass varieties, not because they have toxic elements, but because they are very fibrous and hard for the body to digest. This issue can be easily circumnavigated by juicing or blending your harvest. In this way the tough grass fibers are broken down and become easier to digest.

While eating grass (except in the form of juice or a smoothie) may not bring you very much enjoyment, it will bring you health. If you are ever caught in a survival situation, grass can literally become your lifeline. Grass is easily recognizable and abundant worldwide.

You can chew on all parts of the plant and suck out its juices for nourishment and energy. If you decide to swallow the fiber, make sure that it is well chewed, as it can cause mild constipation. I recommend chewing on the tender parts exactly as if it were chewing gum; then you can just spit out the wad once it's well chewed.

ID Trick: Long, flat blades bend easily around your fingers.

Sergei Says: One plant family that is commonly neglected by foragers is grass. It may not seem all that appetizing, but it is very rich in nutrients and can provide your body with energy in a pinch. The great thing about grass is that most people (whether they are accomplished foragers or novices) can recognize grass amidst other plants. For this reason, grass is good survival food. If you are ever lost or stranded and need sustenance, chances are you will be able to locate some grass and nibble on its leaves.

Wild grass is not much different from the grass sold in health food stores in the form of wheatgrass juice. I would argue that wild grasses are more nutritious than store-bought varieties. Wild grasses grow in soil that has not been depleted, which allows them to acquire more minerals.

If you are not a fan of the grassy aftertaste, blend or juice grass with fresh or frozen pineapple to neutralize it.

Green Amaranth—*Amaranthus* spp.

Family Name: Amaranthaceae/Amaranth Family

Table 10. Nutrient data for amaranth leaves, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 28g	1 leaf 14g
Water	g	91.69	25.67	12.84
Energy	kcal	23	6	3
Protein	g	2.46	0.69	0.34
Total lipid (fat)	g	0.33	0.09	0.05
Carbohydrate, by difference	g	4.02	1.13	0.56

Minerals				
Calcium, Ca	mg	215	60	30
Iron, Fe	mg	2.32	0.65	0.32
Magnesium, Mg	mg	55	15	8
Phosphorus, P	mg	50	14	7
Potassium, K	mg	611	171	86
Sodium, Na	mg	20	6	3
Zinc, Zn	mg	0.9	0.25	0.13
Vitamins				
Vitamin C, total ascorbic acid	mg	43.3	12.1	6.1
Thiamin	mg	0.027	0.008	0.004
Riboflavin	mg	0.158	0.044	0.022
Niacin	mg	0.658	0.184	0.092
Vitamin B6	mg	0.192	0.054	0.027
Folate, DFE	mcg	85	24	12
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	146	41	20
Vitamin A, IU	IU	2917	817	408
Vitamin D (D2 + D3)	µg	0	0	0
Vitamin D	IU	0	0	0
Vitamin K (phylloquinone)	µg	1140	319.2	159.6
Lipids				
Fatty acids, total saturated	g	0.091	0.025	0.013
Fatty acids, total monounsaturated	g	0.076	0.021	0.011
Fatty acids, total polyunsaturated	g	0.147	0.041	0.021
Cholesterol	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

A. Washing green amaranth greens in preparation for a huge summer salad.

B. Greens are tender and delicious.

C. All amaranth varieties develop bountiful seed heads. Photo © iStockphoto

D. Green amaranth and lamb's quarters sprouting up in my garden. Both these edibles are common garden weeds.

E. Green amaranth and pineapple weed.

Caution: Green amaranth can be confused with members of the nightshade family, which are not considered edible. There are some key characteristics, however, that allow for easy identification of both plants. Of the nightshades, hairy nightshade looks the most like green amaranth, but hairy nightshade is bristly, while amaranth is not. Nightshades also have white, purple, or yellow flowers that look nothing like amaranth flowers. Nightshade flowers resemble tomato flowers (tomatoes are also members of the nightshade family, hence the similarity), while green amaranth flowers are green, very tiny, and almost indistinguishable from amaranth seeds. Finally, amaranth plants develop bountiful seedpods at their tips.

Edible: Leaves, stems, seeds, buds, and flowers.

Flavor: Mild, like spinach.

Description: Plants can range from six inches to six feet in height. Green amaranth leaves are dull green and pointy. Seeds grow in clusters atop the plant. The whole plant is covered with a fine, waxy powder that shines in the sunlight.

Uses: Eat the tender parts raw or mix into your next salad. This spinach-like plant is also delicious when sautéed, steamed, or boiled in soups.

Nutritional Highlight: Green amaranth is rich in fiber, vitamins A and C, riboflavin, calcium, zinc, copper, and manganese. These nutrients have been known to fight and prevent cancer, reduce inflammation, alkalize the body, and strengthen bones.

Helpful Tips: Green amaranth is often compared to spinach, as it is mild and free from an overbearingly "green" taste. If you are not particularly fond of eating greens, then green amaranth would be a great starting point for you.

ID Trick: All amaranths develop bountiful seedpods at the very top of the plant. Seeds range in color from green to red to purple. Leaves are dark green on the top surface and slightly whitish on the underside.

Sergei Says: Amaranth grain is similar to quinoa (a protein-rich grain from Central America) both in taste and nutrition. Both grains are high in protein and are high-energy foods.

Amaranth grain is extremely difficult to harvest. A few summers back, my girlfriend's father was ready to harvest his quinoa and amaranth crops and invited me to help him hull and thresh the grain. After five hours of trying various primitive methods for shelling the seeds, George and I had hulled three cups of grain between us. We laughed about our struggles and joked that if we practiced every year, we could maybe boost our productivity to four cups of grain in the next decade. The labor-intensive process I endured helped me to appreciate the convenience of co-ops and health food stores for acquiring grains.

Huckleberry—*Vaccinium ovalifolium*

Family Name: Ericaceae/Heath Family

A. Wild huckleberries.

B. Red huckleberries *(Vaccinium parvifolium)*.

C. Berry up close. Photo: 907Britt

Table 11. Nutrient data for huckleberries, raw

NUTRIENT	Unit	Value per 100.0g
Water	g	90.7
Energy	kcal	37
Protein	g	0.4
Total lipid (fat)	g	0.1
Carbohydrate, by difference	g	8.7
Minerals		
Calcium, Ca	mg	15
Iron, Fe	mg	0.3
Sodium, Na	mg	10

Vitamins

Vitamin C, total ascorbic acid	mg	2.8
Thiamin	mg	0.01
Riboflavin	mg	0.03
Niacin	mg	0.3
Vitamin A, IU	IU	79

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Be extra careful when harvesting huckleberries, as there are numerous poisonous lookalikes. Make sure to read my description of huckleberries thoroughly so that you can learn to identify all parts of the plant, not just the berry. Be wary of all dark blue berries until you are absolutely sure they are edible.

Edible: Berries, flowers, and young, tender leaves.

Flavor: Berries are sweet. Young leaves are bittersweet.

Description: Huckleberries are essentially wild blueberries. They grow on low, branching shrubs that vary in height. Leaves are oval and follow an alternate pattern. Stems are often reddish in color. Typically, the fruit is either red or dark blue. Like store-bought blueberries, all huckleberries appear slightly flattened and display a small crater-like eye.

Uses: Eat berries raw as a trailside nibble. Use them in jams, jellies, syrups, salads, and wines. Add young leaves to salads.

Nutritional Highlight: Huckleberries rank at the top of antioxidantrich foods. Antioxidants neutralize harmful free radicals, which can cause cancer. Huckleberries are also a great source of vitamins A and C and also pectin, a soluble fiber that reduces cholesterol and lowers blood sugar.

Helpful Tips: Huckleberries have a familiar blueberry-like scent. If you need help with identification, crush fruit with fingers to see if it has the characteristic blueberry smell.

ID Trick: Huckleberries look identical to blueberries, except they are generally smaller. Like blueberries, they have a distinct eye on the bottom of the berry. This crater is a good way to distinguish them.

Sergei Says: There are numerous huckleberry species. The berries of these species range in color from dark blue to red. Berry size also varies. Typically, a huckleberry is 20 to 30 percent smaller than a store-bought blueberry. Huckleberries are low-glycemic fruits. They are rich in fiber and help lower blood sugar. This makes them especially good for diabetics. When I was first diagnosed with diabetes at nine years old, I remember having constant cravings for mangos and blueberries. No matter how many cases of blueberries and mangos my parents bought, I still craved more. Years later I discovered that both blueberries and mangos contain nutrients that help regenerate the pancreas. While experts generally caution people with insulin imbalances not to eat too much fruit, I discovered that as long as I ate whole fruit, with the fiber still intact, my blood sugar levels would not spike.

Wild huckleberries are even safer for diabetics than blueberries are, because they have not been modified or selected for sweetness. While they can be very sweet straight off the bush, I have never heard of an instance of huckleberries raising someone's insulin levels.

Lamb's Quarters—*Chenopodium album*Family Name: Chenopodiaceae/Goosefoot Family

A. Lamb's quarters have kinked stems.

B. Dust can be purple or white.

C. Dust also occurs on the underside of leaves.

D. Lamb's quarters dust close-up.

E. Lamb's quarters are a common garden weed. They like to grow on mounds in direct sunlight.

F. Purple dust.

Table 12. Nutrient data for lamb’s quarters, raw

NUTRIENT	Unit	Value per 100.0g
Water	g	84.3
Energy	kcal	43
Protein	g	4.2
Total lipid (fat)	g	0.8
Carbohydrate, by difference	g	7.3
Fiber, total dietary	g	4
Minerals		
Calcium, Ca	mg	309
Iron, Fe	mg	1.2
Magnesium, Mg	mg	34

Phosphorus, P	mg	72
Potassium, K	mg	452
Sodium, Na	mg	43
Zinc, Zn	mg	0.44
Vitamins		
Vitamin C, total ascorbic acid	mg	80
Thiamin	mg	0.16
Riboflavin	mg	0.44
Niacin	mg	1.2
Vitamin B6	mg	0.274
Folate, DFE	mcg	30
Vitamin B12	µg	0
Vitamin A, RAE	mcg	580
Vitamin A, IU	IU	11,600
Vitamin D (D2 + D3)	µg	0
Vitamin D	IU	0
Lipids	**Unit**	**Value per 100.0g**

Fatty acids, total saturated	g	0.059

NUTRIENT	Unit	Value per 100.0g
Fatty acids, total monounsaturated	g	0.15
Fatty acids, total polyunsaturated	g	0.351
Cholesterol	mg	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Lamb's quarters are absolutely safe to eat.

Edible: Leaves, stem, flowers, and seeds.

Flavor: Like spinach.

Description: Lamb's quarters can grow up to ten feet tall. The plant has triangular leaves that are dark green. Leaves are dusted with a waxy, whitish or purplish dust, which rubs off when touched. Flowers are green and tiny, and grow in the crown of the plant.

Uses: Lamb's quarters can be eaten raw in salads, smoothies, or juices, or as a trailside nibble. Leaves resemble spinach in taste and texture. One plant can produce up to seventy-five thousand seeds. The seeds are similar to poppy seeds and are also a viable food source. Lamb's quarters greens are delicious when sautéed, steamed, and boiled in soups.

Nutritional Highlight: Lamb's quarters are rich in protein and vitamins A, B, C, and K, plus folate, iron, calcium, phosphorus, potassium, sodium, and selenium. They are also rich in omega-3 fatty acids. Like all dark greens, lamb's quarters help prevent cancer, reduce the risk of diabetes, strengthen bones, and reduce inflammation.

Helpful Tips: As the popularity of wild edibles grows, so does their accessibility. You can now purchase lamb's quarters seeds from many garden seed suppliers to plant in your garden. During the winter

months I like to grow lamb's quarters in pots on my windowsill. I find that this not only benefits my health and energy levels but also gives me more variety in my diet. Like purslane, lamb's quarters prefer soil that has been manipulated by humans. Thus, if you visit an organic farm to find out about edible weeds, make sure you inquire about lamb's quarters.

ID Trick: Lamb's quarters can easily be recognized by the white/purple dust that forms on its leaves. You don't need to wash this dust off, as it is very nutritious. Lamb's quarters also have tough, kinky stems with reddish-purple lines.

Sergei Says: Over the last few summers I have been running a mobile green smoothie business from a custom-made tricycle. My tricycle has a huge cooler on the front, where I store prepared green smoothies in ice. After several months of being in business, I befriended some local farmers, who began supplying me with edible weeds from their farm. One of the weeds that grows abundantly on their farm is lamb's quarters. I started blending lamb's quarters in my drinks and offering my customers a choice between "wild" or "tamed" green smoothies. At first people were a little reluctant. Mothers would come up to me and say, "Do you really put meat into your smoothies?" I would tell them the name *lamb's quarters* was a term farmers used long ago to describe a plant that livestock fed on. I explained that a better name for lamb's quarters is wild spinach, because its nutritional properties and taste remind one of store-bought spinach. After weeks of talking to people about the benefits of wild edible smoothies, the majority of my customers began requesting them instead of the conventional ones. The feedback I received indicated that my customers enjoyed, and sometimes preferred, the flavor of the wild smoothies.

Maple—*Acer* spp.

Family Name: Aceraceae/Maple Family

Caution: Maple is absolutely safe for consumption.

Edible: Inner bark, twigs, sap, young leaves, and seeds.

Flavor: Ranges from bitter to sweet.

Description: Maples have broad, serrated leaves that are deeply lobed and have three sections with definitive points. Bark is dark gray and ranges from smooth to rough.

A. Maple tree trunk.

B. Bark close-up.

C. Most people know maple seeds as “helicopters.”

D. Seeds and leaf.

Uses: Young leaves can be eaten raw. Soft twigs can be chewed or used to make tea. Sap can be consumed fresh or processed into maple syrup.

Nutritional Highlight: Maple has anti-inflammatory properties and has

been used historically to reduce the swelling from snakebites.

Helpful Tips: Maple trees have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

ID Trick: Leaves have five lobes. Tree has seeds that are commonly known as "helicopters" because of how they spin when they fall off the branches.

Sergei Says: I don't generally harvest maple leaves for food, because they are rather bitter and often have an undesirable texture. However, maple leaves are still full of nutrients that benefit the body. I think there is value in knowing that common trees are edible, so that if circumstances ever call for it, the know-how is there. I invite you to experiment with maples to see how you like the flavor.

Miner's Lettuce—*Claytonia perfoliata*

Family Name: Portulacaceae/Purslane Family

A. Miner's lettuce has tiny white flowers that are much smaller than Siberian miner's lettuce *(Claytonia sibirica)*.

B. Miner's lettuce often sprawls across the ground.

C. Round, disc-shaped leaves with a stem in the middle.

Caution: Miner's lettuce is absolutely safe to eat.

Edible: The whole plant can be eaten. Miner's lettuce is mild, tender, and—most of all—delicious.

Flavor: Greens and flowers are mildly sweet and juicy.

Description: Miner's lettuce is an annual that usually pops up in early spring. It is light green in color and has round, disc-like leaves, which surround its smooth, tender stem. This stem, which passes directly through the round leaf, is a key identifier of miner's lettuce. When the plant blooms, one can observe a small white or pink flower growing above its round leaves. Miner's lettuce ranges in height from one to twelve inches and may have anywhere from one to twenty-five or more stems growing out of a single root.

Uses: Miner's lettuce can be used in salads or smoothies, or eaten as a trailside nibble.

Nutritional Highlight: Miner's lettuce is renowned for its high vitamin C content. It has more than citrus, strawberries, currants, cherries, or kiwis. Early settlers ate miner's lettuce to prevent scurvy.

Helpful Tips: Miner's lettuce is most abundant in the spring. However, this tasty edible can be found late into summer if you know where to look. Miner's lettuce prefers shade, so don't forget to check under trees and other shady places.

ID Trick: Miner's lettuce couldn't be easier to identify. Look for round, disc-like leaves with a stem that grows through the middle of the leaf.

Sergei Says: Every March, as winter comes to an end, I begin impatiently waiting for the first miner's lettuce crop to appear. There are few things I love more than a freshly harvested miner's lettuce salad topped with olive oil, balsamic vinegar, sea salt, and nutritional yeast. After a long winter of eating produce shipped in from far away, harvesting a wild, local green is such a treat. It is the wild equivalent for lettuce and therefore not very good when cooked. I prefer to eat it raw. I love using miner's lettuce in salads, wraps, and sandwiches in place of ordinary greens.

Because of its mild taste and high water content, miner's lettuce is especially popular with children and teens. Throughout our trek from Mexico to Canada in 1997, we had friends come to hike sections of the trail with us. Most of them were not accustomed to eating vegetables and would try to rebel by pretending they were not hungry or by smuggling in their own food. However, once hunger set in, or their food supply ran dry, they felt more inclined to try our food. Miner's

lettuce was always a favorite among my peers. My friend Tom liked it so much he started writing songs about it while hiking. He would sing, “Miner’s lettuce is so yummy, I want to have it in my tummy…. It’s so succulent and sweet, miner’s lettuce is a treat!”

Mint—*Mentha* spp.

Family Name: Lamiaceae/Mint Family

A. Mint.

B. Mint is easiest to identify by its familiar smell.

C. All mints have a square stem.

Table 13. Nutrient data for peppermint, fresh

NUTRIENT	Unit	Value per 100.0g
Water	g	84.3
Energy	kcal	43
Protein	g	4.2
Total lipid (fat)	g	0.8
Carbohydrate, by difference	g	7.3
Fiber, total dietary	g	4
Minerals		
Calcium, Ca	mg	309
Iron, Fe	mg	1.2
Magnesium, Mg	mg	34
Phosphorus, P	mg	72
Potassium, K	mg	452
Sodium, Na	mg	43
Zinc, Zn	mg	0.44
Vitamins		
Vitamin C, total ascorbic acid	mg	80
Thiamin	mg	0.16
Riboflavin	mg	0.44
Niacin	mg	1.2
Vitamin B6	mg	0.274
Folate, DFE	mcg	30
Vitamin B12	µg	0
Vitamin A, RAE	mcg	580
Vitamin A, IU	IU	11,600
Vitamin D (D2 + D3)	µg	0
Vitamin D	IU	0
Lipids	**Unit**	**Value per 100.0g**
Fatty acids, total saturated	g	0.059

NUTRIENT	Unit	Value per 100.0g	2 tbsp 3.2g	2 leaves 0.1g
Lipids				
Fatty acids, total saturated	g	0.246	0.008	0
Fatty acids, total monounsaturated	g	0.033	0.001	0
Fatty acids, total polyunsaturated	g	0.508	0.016	0.001
Cholesterol	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Mint is absolutely safe to eat.

Edible: Leaves, stems, and flowers.

Flavor: Minty fresh.

Description: Plant has an aromatic, sweet smell. Mint leaves feature crinkly, serrated edges and grow in an opposite pattern. All mint varieties have a unique, square stem. Mint flowers grow from the place where a leaf joins the stem. Flowers are white to pink.

Uses: Eat the leaves and flowers raw as a trailside nibble or use in recipes. Steep fresh or dry leaves in boiled water to make a wonderful tea.

Nutritional Highlight: Rich in vitamins A and C, thiamine, folic acid, riboflavin, manganese, magnesium, copper, potassium, iron, calcium, and zinc. All mint varieties soothe the stomach and intestines. Mint is often used to treat nausea, morning sickness, and irritable bowel syndrome (Schofield 2003). Mint is a digestive aid. If you eat a sprig of fresh mint during or after a meal, it will help your body process the food. When applied topically, the cooling effect of mint stimulates circulation and blood flow. This has a revitalizing effect on the skin. Mint tea also helps eliminate dandruff when applied to the scalp.

Helpful Tips: Chewing on a small piece of mint after a meal will aid the digestive process and freshen your breath.

ID Trick: All mints have a strong, pleasant smell and a square stem.

Sergei Says: All mints have soothing properties. For foragers, this is tremendously advantageous. As foragers, we are constantly being exposed to new foods. If you consume something that your body doesn't like, you can quickly reduce the negative side effects by chewing on mint leaves and drinking lots of water. This works especially well for stomachaches and hives.

Oregon Grape—*Mahonia aquifolium*

Family Name: Berberidaceae/Barberry Family

A. Oregon grape flowers.

B. Flowers close-up.

C. Leaves are tough and holly-like.

D. Green Oregon grape berries.

E. Berries are ripe when they are purple or dark blue. Photo: Sara Morris

Caution: Oregon grapes are absolutely safe to eat.

Edible: Berries, flowers, and roots.

Flavor: Berries and flowers are sour. Roots are starchy with a hint of

bitterness.

Description: Oregon grape is an evergreen shrub with prickly, holly-like leaves. Oregon grape is not related to regular grapes (*Vitis* spp.); it gets its name because the berries resemble grapes. Leaves are tough and waxy. Flowers are round and yellow, and grow in tight clusters. Berries are dark blue and also grow in clusters, hanging underneath the leaves of the plant.

Uses: Eat berries raw as a trailside nibble. Use them in jams, jellies, pies, syrups, salads, and wines. Sprinkle flowers into salads and wraps to add exotic aroma and color.

Nutritional Highlight: Oregon grape is a great source of vitamins A and C and pectin, a soluble fiber that reduces cholesterol and lowers blood sugar. Berries also contain many immune-boosting properties, which provide relief for common conditions such as colds, flu, nasal and chest congestion, and yeast infections.

Helpful Tips: The leaves of Oregon grape are very sharp. I recommend wearing gloves when harvesting. It is also helpful to have a pair of scissors on hand to snip the berries straight off the plant.

ID Trick: Oregon grape resembles holly. Its leaves are tough and have sharp spikes, so I don't recommend eating Oregon grape leaves. The flowers and berries are sour and pleasant.

Sergei Says: The berries are very sour, but they're full of antioxidants. Add them to smoothies.

Ostrich Fern—*Matteuccia struthiopteris*

Family Name: Dryopteridaceae/Wood Fern Family

Caution: Ferns contain thiaminase, an enzyme that depletes vitamin B. Heat destroys this enzyme and makes ferns safe for consumption. Young fiddleheads can be eaten raw, but only in small quantities.

A. Ferns are shade-loving plants. Photo © iStockphoto

B. Ostrich fern fiddlehead.

C. Fiddlehead unravels as fern matures.

D. Mature fern leaves.

Description: Ostrich ferns have woody stalks with bushy, palm frond–like leaves. Individual leaves on the fronds are either triangular or oval in shape, with serrated edges. In the spring, ostrich ferns emerge from the ground tightly curled, looking like the scroll on the neck of a violin, hence the name “fiddleheads.” If left to grow, the scroll will uncurl and grow into the familiar fern leaf. Fiddleheads are covered with hairy, brown scales.

Uses: Steam, boil, fry, and bake.

NUTRIENT	Unit	Value per 100.0g
Water	g	88.68
Energy	kcal	34
Protein	g	4.55
Total lipid (fat)	g	0.4
Carbohydrate, by difference	g	5.54
Minerals		
Calcium, Ca	mg	32
Iron, Fe	mg	1.31
Magnesium, Mg	mg	34
Phosphorus, P	mg	101
Potassium, K	mg	370
Sodium, Na	mg	1
Zinc, Zn	mg	0.83
Vitamins		
Vitamin C, total ascorbic acid	mg	26.6
Thiamin	mg	0.02
Riboflavin	mg	0.21
Niacin	mg	4.98
Vitamin B12	µg	0
Vitamin A, RAE	mcg	181
Vitamin A, IU	IU	3,617
Vitamin D (D2 + D3)	µg	0
Vitamin D	IU	0
Lipids		
Cholesterol	mg	0

Nutritional Highlight: Ostrich ferns are rich in vitamins A, B, and C, plus iron, calcium, magnesium, and potassium. They have abundant antioxidants, which improve immune-system health and reduce the risk of cancer.

Helpful Tips: When collecting ostrich fern fiddleheads, be mindful not to overharvest from any one plant. Overharvesting can weaken or even kill the plant. Take no more than half of the fiddleheads from each plant. If you'd like more, find more ostrich ferns to harvest from. The brown casing that covers fern fiddleheads is not very pleasant to eat. I recommend using your fingers to separate the brown flakes from

the green fiddleheads as you harvest.

ID Trick: Ferns have leaves that look like skeletons. Each branch is constructed of many hundreds of tiny leaves.

Sergei Says: Fiddleheads can be eaten raw, but only in small quantities. They contain a chemical compound that can accumulate in your body to an unhealthy degree (and cause a stomachache) if you consume too much too often. Each person and body is different, but the general rule for ostrich ferns is that you don't want to eat them raw every day. If you eat raw ferns no more than twice a week, you shouldn't have any problems. Boiling fern fiddleheads or adding them to soups will destroy the chemical compound, which makes it not an issue.

Ox-Eye Daisy—*Leucanthemum vulgare*

Family Name: Asteraceae/Aster Family

Caution: Ox-eye daisies are absolutely safe to eat.

Edible: Leaves and flowers.

Flavor: Greens are slightly spicy and remind me of arugula. Flowers are bittersweet.

Description: Daisies have white flowers with splayed petals surrounding a bright yellow flower head. Dark green leaves generally grow near the base of the plant in a rosette, like that of a dandelion.

Small leaves grow up the stem of the plant, getting smaller as they near the top.

A. Daisy patch.

B. Ox-eye daisy close-up.

C. Leaf close-up.

Uses: Leaves and flowers can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant. The flowers make an awesome addition to salads and steamed vegetables.

Nutritional Highlight: Daisy greens are rich in protein, chlorophyll, and mineral content. Like all dark greens, they strengthen bones, reduce the risk of cancer, and benefit diabetics.

Helpful Tips: I love to add daisy greens into salads to make them taste more exotic. For faster harvesting, try pinching and holding the top part of the stem (just under the flower) with one hand, pinch the stem with your other hand and slide your hand down the length of the stem. Have a bowl situated at the base of the plant, as leaves will fall off in rapid succession.

ID Trick: All daisies have compound flowers with long petals growing around a flat, disc-like seed head. This makes them easy to spot.

Sergei Says: Daisies are in the sunflower family, which does not contain any poisonous plants. Sunflowers are the largest family of flowering plants, containing nearly twenty-four thousand species.

Pennycress—*Thlaspi arvense*

Family Name: Brassicaceae/Mustard Family

Caution: Pennycress is absolutely safe to eat.

Edible: Leaves, stems, flowers, and fruits.

Flavor: Spicy.

Description: Pennycress is a type of wild mustard. Its leaves are oval and dark green, and grow in a rosette near the base of the plant. Smaller leaves grow up the stem, getting smaller as they near the top. The most unique parts of pennycress are the seedpods, which look like flat, rounded pockets. The pockets are inflated with air and contain seeds that rattle in the wind.

Uses: Leaves, flowers, and seeds can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant.

Nutritional Highlight: All wild mustard greens have been revered throughout history as the number-one healthiest green. They are rich in vitamins A, B, C, E, and K, plus calcium, potassium, sulfur, copper, manganese, and fiber. Pennycress greens have high levels of antioxidants, which help to prevent cancer and heart disease.

Helpful Tips: The mustard family contains many plants. All mustards are spicy. I like to use them in recipes that require heat. I don't recommend using them in smoothies, as they will produce a drink that's too strongly flavored. On the other hand, adding such greens to salads or stir-fries will only add to the eater's experience. Because some mustards have broad leaves, I like to use them as a substitute for tortillas when making wraps.

A. Pennycress.

B. Leaves, flowers, and seedpods.

C. Seedpods and flowers close-up.

D. Seeds are stored in round discs.

Nutritional Data: See table 20, nutrient data for mustard greens, this page–this page.

ID Trick: The easiest way to identify a mustard species is by crushing a leaf and smelling it. If it smells like mustard, it's mustard. Pennycress has round, disc-like seedpods that make it easy to spot.

Sergei Says: Mustards represent a huge family of nearly two thousand edible plants (Schofield 2003). Wild mustard, pennycress, and shepherd's purse are all different varieties of wild-growing mustard. Cabbage, cauliflower, broccoli, kale, radish, and arugula are also members of the mustard family. This family is easily distinguishable by a rich, spicy aroma. Crush a leaf or flower of any mustard-family plant and see it if smells familiar.

According to John Kallas, wild mustard greens are one of the most nutrient-dense foods available to us. They contain high concentrations of beta-carotene, calcium, fiber, zinc, and vitamin A (2010).

Pine—*Pinus* spp.

Family Name: Pinaceae/Pine Family

Caution: Do not eat evergreens if you are pregnant or breast-feeding, as the oils in the needles have been known to negatively affect infants. Also, if you suffer from seasonal allergies, you may want to refrain from harvesting tree pollen, as it can affect your body negatively. For all other purposes, eating pine is absolutely safe.

Edible: Inner bark, sap, twigs, catkins, light green tips, needles, cones, pollen, and nuts.

Flavor: Slightly lemony, but the inner bark (cambium layer) is sweet.

Description: Coniferous tree with evergreen needles four to eight inches long. Needles grow in bundles of two, three, or five. Bark is orangey-brown in color and has a jigsaw-like pattern.

Uses: Steep green needles in boiling water for a wonderfully aromatic

tea. Harvest light green, tender needles (found at the tips of the branches in the spring) and eat raw in salads or smoothies, or as a trailside nibble. Collect pollen from the flowers at the tips of branches in early spring and add to smoothies for a protein boost.

Nutritional Highlight: Rich in vitamins A and C. Pine needle tea helps fight dandruff when applied to the scalp. Resin found in evergreen needles is beneficial for respiratory problems. Pine resin is great for removing sugars from teeth; therefore the needles can be used as a makeshift toothbrush. Pollen is rich in protein. Pine tinctures have been used to fight inflammation and sore throat, as well as to treat skin infections.

A. Pine tree trunk.

B. Pine bark close-up.

C. Pine catkins.

D. Pine needles and cones.

Helpful Tips: Pine trees have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

Pine pollen is incredibly rich in protein. You can use it in smoothies

in place of artificial protein supplements. You can easily collect it by placing a plastic bag around the tip of a pine branch during its pollination cycle (in spring) and shaking it vigorously.

The pollen will pour from the branch and fall into your bag with minimal effort.

ID Trick: Identifying a pine from a fir or spruce can be tricky. After all, most of them look like Christmas trees. The easiest method I have found to tell common conifers apart is by their needles. All pines have long needles that grow in groups of two, three, or five.

Sergei Says: Pines are a good natural source of vitamin C and historically have been used by travelers to prevent scurvy. It might be hard to imagine a meal made from a Christmas tree, but with the right preparation and know-how you can come to enjoy and even crave a recipe that incorporates pine.

My absolute favorite way to consume evergreens is to sip on tea made from freshly collected needles by a campfire after a long day of hiking. See the pine needle tea recipe on this page.

In early spring most coniferous evergreens produce light green new needles at the tips of branches that have a mild, lemony taste. I like to add these tender greens to salads and smoothies for zest.

Pineapple Weed (Wild Chamomile)—*Matricaria matricarioides*

Family Name: Asteraceae/Aster Family

Caution: Pineapple weed is absolutely safe to eat.

Edible: The entire plant.

Flavor: Sweet and fruity.

Description: Pineapple weed has tall, slender stems with an alternate leaf pattern. Leaves are made up of many small leaflets. Flowers look like daisy flower heads without petals.

Uses: Use leaves and flowers as herbs to season recipes or steep in boiling water for tea.

Nutritional Highlight: Pineapple weed, like traditional chamomile, is known as the calming herb. It has been used to calm anxiety, headaches, stomach cramps, and irritable bowel syndrome (Schofield 2003). Pineapple weed is beneficial for people suffering from insomnia. It is also good for skin conditions such as eczema and psoriasis.

A. Pineapple weed with green amaranth (*Amaranthus* spp.) seed heads in the backgroun

d. B. Pineapple weed flower.

C. Flowers look like tiny pineapples and smell sweet.

Helpful Tips: The plant is called "pineapple weed" because the flower caps can emit a pineapple-like odor when crushed.

ID Trick: The little seed heads look like tiny pineapples. Pineapple weed smells very sweet, like traditional chamomile.

Sergei Says: Pineapple weed is a calming herb that is particularly beneficial for women. It acts as a good remedy for urinary tract problems and soothes menstrual cramps. According to Janice Schofield, a weak tea made from pineapple weed calms colicky children and eases pain from teething (Schofield 2003).

During the Middle Ages, pineapple weed was a staple in soups and stews. It was also used as a household deodorizer, often scattered on the floor. When it was stepped on, it would release its fresh scent.

Teach your children how to recognize this mild, safe weed and watch as they nibble on it while creating natural jewelry from its pretty flowers.

Plantain—*Plantago* spp.

Family Name: Alismataceae/Water Plantain Family

Caution: There are two common plantain varieties: broad leafed (round, wide leaves) and narrow leafed (long, skinny leaves). Both are

considered edible. However, I have found the narrow-leafed variety to be much more potent and thus harder to digest. For best results, use broad-leafed plantain for food and narrow-leafed plantain for topical purposes.

Edible: Leaves, stems, shoots, flowers, and seeds.

Flavor: Slightly astringent, with a hint of bitterness. The flavor of plantain is most similar to dark collard greens.

Description: Plantain leaves can grow up to one foot in height. They range in shape from round to lance leafed. Leaves are solid green and have very defined parallel veins running up the underside. Plantain buds and flowers grow at the top of a long, narrow stem and bear a slight resemblance to baby corn.

Uses: Tender leaves can be used as salad greens. Buds and flowers can be marinated, stir-fried, baked, and so forth.

Nutritional Highlight: Plantain provides beta-carotene and calcium. Its richness in fiber reduces low-density lipoprotein (LDL) cholesterol and triglycerides. According to the California School of Herbal Studies, plantain juice and poultices treat and reverse blood poisoning. Plantain is also famous for aiding stings, burns, bites, abscesses, and infections.

Broadleaf plantain leaf, seedpod, and flower.
Photo © iStockphoto

A. Plantain roots.

B. All plantain varieties have leaves with visible veins.

C. Broadleaf plantain *(Plantago major)*.

D. Narrow-leaf plantain *(Plantago lanceolata)*.

E. Rip the leaf and look for fibrous threads.

F. Plantain threads are a good identifying characteristic.

G. Plantain masks are good for the skin. Please see skin smoothie recipes on this page.

Helpful Tips: Plantain has the ability to eliminate toxins through the skin. You can apply plantain paste (made from either chewing or blending the plant) topically onto the skin to treat rashes, bug bites, cuts, and bruises. Next time you get stung by a bee, chew some plantain, apply it to the sting, and you will instantly feel relief.

ID Trick: Plantain has two great identifying features. First, it has a tall, upright seedpod that contains thousands of seeds. Second, plantain leaves have very straight, parallel veins on the underside of the leaf. If you tear a plantain leaf perpendicular to the veins, you will expose

fibrous threads.

Sergei Says: Don't confuse plantains with bananas. Common plantain is a dark green plant that grows throughout North America and Europe.

If I were a wild edible superhero, I would have a tool belt full of useful wild edible remedies. Plantain would be a go-to ingredient. Common plantain has incredible healing properties that draw toxins out of the skin. I have used plantain to treat bee stings many times.

In her book *Discovering Wild Plants*, Janice Schofield gives several accounts of seriously wounded people being treated with plantain. She writes that her uncle successfully treated a gunshot wound with plantain when he didn't have the means to visit a hospital (2003).

Plantain also helps treat skin conditions, tightens skin, and even reverses wrinkles. One of my friends used to take what he called "green baths" with plantain to combat his eczema. He would blend plantain with some kind of oil—usually avocado, olive, or coconut—strip down in his backyard, and rub it into his skin. After letting the mixture soak in for fifteen to twenty minutes, he would rinse it off and go about his day. Doing this three times a week for two weeks cured the itching and redness on his skin. As a pleasant side effect, his wrinkles began to disappear. His experience inspired me to try making plantain masks, and I found that they do indeed help to tighten skin.

In addition to its topical applications, plantain also makes for a nutritious meal. It is extremely rich in essential amino acids and tastes great in soups.

Fun Fact: Did you know that psyllium husk, a powerful colon cleanser, comes from plantain? Each plantain plant can produce thousands of seeds. Each seed is covered by a fibrous husk, which is harvested, dried, and sold as psyllium (Duke 2001). Instead of this expensive powder, try eating fresh plantain to aid digestion and healthy bowel movements.

Prickly Pear Cactus—*Opuntia* spp.

Family Name: Cactaceae/Cactus Family

Table 15. Nutrient data for prickly pears, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 149g	1 fruit without refuse, 103g
Water	g	87.55	130.45	90.18
Energy	kcal	41	61	42
Protein	g	0.73	1.09	0.75
Total lipid (fat)	g	0.51	0.76	0.53
Carbohydrate, by difference	g	9.57	14.26	9.86
Fiber, total dietary	g	3.6	5.4	3.7
Minerals				
Calcium, Ca	mg	56	83	58
Iron, Fe	mg	0.3	0.45	0.31
Magnesium, Mg	mg	85	127	88
Phosphorus, P	mg	24	36	25
Potassium, K	mg	220	328	227

NUTRIENT	Unit	Value per 100.0g	1 cup 149g	1 fruit without refuse, 103g
Sodium, Na	mg	5	7	5
Zinc, Zn	mg	0.12	0.18	0.12
Vitamins				
Vitamin C, total ascorbic acid	mg	14	20.9	14.4
Thiamin	mg	0.014	0.021	0.014
Riboflavin	mg	0.06	0.089	0.062
Niacin	mg	0.46	0.685	0.474
Vitamin B6	mg	0.06	0.089	0.062
Folate, DFE	mcg	6	9	6
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	2	3	2
Vitamin A, IU	IU	43	64	44
Lipids				
Fatty acids, total saturated	g	0.067	0.1	0.069
Fatty acids, total monounsaturated	g	0.075	0.112	0.077
Fatty acids, total polyunsaturated	g	0.213	0.317	0.219
Cholesterol	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Cactus fruits come in many different colors.

They reduce brain swelling and thus are a good hangover cure. Photo © iStockphoto

A. Prickly pear cactus greens. Photo: Warren Lynn

B. Cactus has big and small thorns. Watch out for the little guys, as they can be hard to se

e. Photo: Warren Lynn C. Prickly pear flowers. Photo: Warren Lynn

D. Cactus fruits. Photo: Warren Lynn

E. Fruits and greens.

F. Fruits and greens close-up.

Caution: All cactus varieties are edible. Please double-check that the cacti you are about to harvest are not protected and/or endangered.

Edible: The entire plant.

Flavor: Fruits are juicy and sweet. The green leaves have a hint of sourness and are reminiscent of a cucumber.

Description: Spiny, round fruits that grow on spiky, flat cactus leaves. Thorns on the cactus fruit resemble tiny hairs and are much smaller than the thorns on the flat leaves. Flowers are large and showy. They come in many different colors.

Uses: Fleshy part of both the fruit and the cactus leaves are best eaten raw as a trailside nibble. You can also juice cactus to make a delicious drink.

Nutritional Highlight: Prickly pear cacti are a great source of vitamin C, calcium, magnesium, and copper. Cactus fruits have also been revered for their ability to stabilize blood sugar levels, thus making

them extremely desirable for diabetics. Prickly pears also reduce brain swelling and are incredibly effective for treating concussions and hangovers (Rodriguez 2012).

Helpful Tips: Harvesting cacti requires gloves and a knife. To avoid getting pricked when peeling a prickly pear, cut off the top and bottom of the fruit. Next, make a partial incision (approximately one-quarter inch deep) along the remaining cactus skin. Use your fingers to carefully peel back the skin, and enjoy!

ID Trick: Bright, multicolored, barrel-shaped cactus fruit.

Sergei Says: Cacti are a great source of hydration in dry climates, when no other fluids are available. When I hiked the Pacific Crest Trail with my family, it was an El Niño year, and the weather and climate were hard to predict. While our guidebook noted places where hikers could get water along the trail, the weather irregularities sometimes left us high and dry. On several occasions our situation would have been much more dire had we not known that cacti were rich in liquid.

Prickly pear cactus is my favorite type of desert edible. The fruits are very sweet and satiating on a hot summer day. The flat green leaves of the prickly pear cactus, known in Mexican cuisine as *nopales*, are also edible and make a delicious addition to tomato and cucumber salads.

Purslane—*Portulaca oleracea*

Family Name: Portulacaceae/Purslane Family

A. Purslane creeps along the ground.

B. Close-up of a purslane branch.

C. A handful of purslane makes a smoothie more nutritious. It tastes good too. Photo: NicoleSlaterPhotography.com

Table 16. Nutrient data for purslane, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 43g	1 plant 3g
Water	g	93.92	40.39	2.82
Energy	kcal	16	7	0
Protein	g	1.3	0.56	0.04
Total lipid (fat)	g	0.1	0.04	0
Carbohydrate, by difference	g	3.43	1.47	0.1
Minerals				
Calcium, Ca	mg	65	28	2
Iron, Fe	mg	1.99	0.86	0.06
Magnesium, Mg	mg	68	29	2
Phosphorus, P	mg	44	19	1
Potassium, K	mg	494	212	15
Sodium, Na	mg	45	19	1
Zinc, Zn	mg	0.17	0.07	0.01
Vitamins				
Vitamin C, total ascorbic acid	mg	21	9	0.6
Thiamin	mg	0.047	0.02	0.001
Riboflavin	mg	0.112	0.048	0.003
Niacin	mg	0.48	0.206	0.014
Vitamin B6	mg	0.073	0.031	0.002
Folate, DFE	mcg	12	5	0
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	66	28	2
Vitamin A, IU	IU	1,320	568	40
Vitamin D (D2 + D3)	µg	0	0	0
Vitamin D	IU	0	0	0
Lipids				
Cholesterol	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Purslane is absolutely safe to eat.

Edible: Leaves, stem, flowers, and seeds.

Flavor: Slightly sour, which is pleasant to the palate.

Description: Purslane leaves are green, paddle-shaped, and succulent, and have a reddish stem. The plant stem is smooth and succulent and will emit a slimy, okra-like juice when bent or broken. Hidden amidst the leaves of the plant are tiny yellow flowers with five petals.

Uses: The whole plant can be eaten raw as a trailside nibble. Bring purslane home and see how it tastes in salads, smoothies, and stir-

fries, or try it on sandwiches or pizza. Purslane has a slightly gelatinous consistency, which makes it more favorable for smoothies than salads. Because purslane can be used as a thickening agent, adding it to a smoothie will prevent the smoothie from separating.

Nutritional Highlight: Rich in beta-carotene, vitamins A and C, plus folate, iron, phosphorus, calcium, potassium, magnesium, sodium, and riboflavin. Purslane is a great source of omega-3 fatty acids, which prevent heart disease and improve the immune system.

Helpful Tips: The way purslane leaves are structured can make them tedious to harvest. I find it helpful to have a pair of scissors on hand so that I can cut the stem near the ground. I then take these "purslane branches" home and process them in the comfort of my kitchen.

ID Trick: Purslane has oval leaves and looks like a succulent. It has perfectly tubular stems that begin to turn reddish-purple.

Sergei Says: Purslane is a weed that has adapted to live with humans. It prefers soil that has been turned and aerated and commonly grows on organic farms. Because I've never seen purslane growing in the wild, I rely on friendly farmer connections to support my purslane habit. In my hometown of Ashland, Oregon, I've developed good rapport with several local farmers. They allow me to come to their farms and weed at my leisure. This is a mutually beneficial venture; it provides me with food and helps the farmers manage the weeds.

Because of my big mouth and persistent nature, several of my farmer friends have started selling purslane at their farmers' market booths because of high demand. I encourage you to connect with organic farmers in your area and ask them about harvesting weeds.

Another method to get purslane is to cultivate it. Several online seed companies, like Seeds of Change (www.seedsofchange.com), periodically sell purslane seeds. If you choose to go that route, check with your local seed companies before ordering from a national corporation. This will help boost your local economy and will ensure the wild edibles will thrive in your climate.

I have a friend in New Zealand who hosted me on a wild edible lecture tour in 2007. He attended my talk and took many of the things I said to heart. When I went back to visit Mark and his family in 2010,

I was shocked by how different his property looked. The backyard, which was once a manicured lawn, had been converted into a jungle of edible weeds and fruit trees. Mark intentionally seeded wild edibles under his fruit trees to add nitrogen into the soil and help it retain moisture. This kind of yard is Mark's way of ensuring that his family always has healthy food on hand. He calls his paradise "The Green Smoothie Garden." During my stay there, I woke up every morning to a green smoothie freshly made from homegrown fruit and weeds.

Raspberry—*Rubus idaeus*

Family Name: Rosaceae/Rose Family

Table 17. Nutrient data for raspberries, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 123g	1 pint 312g
Water	g	85.75	105.47	267.54
Energy	kcal	52	64	162
Protein	g	1.2	1.48	3.74
Total lipid (fat)	g	0.65	0.8	2.03
Carbohydrate, by difference	g	11.94	14.69	37.25

NUTRIENT	Unit	Value per 100.0g	1 cup 123g	1 pint 312g
Fiber, total dietary	g	6.5	8	20.3
Sugars, total	g	4.42	5.44	13.79
Minerals				
Calcium, Ca	mg	25	31	78
Iron, Fe	mg	0.69	0.85	2.15
Magnesium, Mg	mg	22	27	69
Phosphorus, P	mg	29	36	90
Potassium, K	mg	151	186	471
Sodium, Na	mg	1	1	3
Zinc, Zn	mg	0.42	0.52	1.31
Vitamins				
Vitamin C, total ascorbic acid	mg	26.2	32.2	81.7
Thiamin	mg	0.032	0.039	0.1
Riboflavin	mg	0.038	0.047	0.119
Niacin	mg	0.598	0.736	1.866
Vitamin B6	mg	0.055	0.068	0.172
Folate, DFE	mcg	21	26	66
Vitamin B12	µg	0	0	0
Vitamin A, RAE	mcg	2	2	6
Vitamin A, IU	IU	33	41	103
Vitamin E (alpha-tocopherol)	mg	0.87	1.07	2.71
Vitamin D (D2 + D3)	µg	0	0	0
Vitamin D	IU	0	0	0
Vitamin K (phylloquinone)	µg	7.8	9.6	24.3
Lipids				
Fatty acids, total saturated	g	0.019	0.023	0.059
Fatty acids, total monounsaturated	g	0.064	0.079	0.2

NUTRIENT	Unit	Value per 100.0g	1 cup 123g	1 pint 312g
Fatty acids, total polyunsaturated	g	0.375	0.461	1.17
Cholesterol	mg	0	0	0
Other				
Caffeine	mg	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

A. Raspberries from Sergei's garden.

B. Raspberries close-up.

C. Raspberry canes are red and covered with thorns.

D. Leaf close-up.

E. Raspberries on the cane. Photo: Warren Lynn

Caution: Please note that chemical changes occur to raspberry leaves during the wilting process that can cause stomach upset. Eating fresh, tender leaves or leaves that have been fully dried will prevent mishap.

Edible: Leaves, stems, berries, and flowers.

Flavor: Berries are sweet if harvested ripe. Greens are mild and slightly astringent.

Description: Raspberry bushes range in size from a single low-growing

cane to bountiful mounds. Canes are fibrous, with hearty thorns. Leaves are saw-toothed and grow in groups of three. Berries are pebbly and range in color from red to yellow to black.

Uses: Raspberry fruits and greens are edible and very delicious. Collect the greens when they are very young, before they have developed sharp thorns.

Nutritional Highlight: Raspberries are rich in vitamins A and C, magnesium, potassium, copper, and folate. They are full of antioxidants that help prevent and fight cancer. Raspberries contain fragrine, a substance that tones reproductive organs. Tea made from raspberry leaves is said to lessen morning sickness. Raspberries also help break fevers, relax sore muscles, and strengthen the heart, and they can act as a gentle sedative.

Helpful Tips: Raspberries, thimbleberries, blackberries, and salmonberries are all members of the rose family. This is a bountiful family with many edible relatives. Experts disagree on the actual number of varieties, but in the United States alone there are hundreds of species of each of these berries (Bradford 2002). If you can identify a raspberry or a blackberry, you will have no trouble spotting other rose family berries. All of these berries are made up of many tiny drupelets containing juice and seeds. Raspberries come in different shades of red, but can also be yellow and dark purple.

ID Trick: Red or dark purple berries made up of many drupelets containing juice and seeds.

Sergei Says: Raspberries taste phenomenal. They have a rich flavor that explodes in your mouth. They begin ripening in midsummer and are a wonderful treat for those who live near mountainous areas.

Raspberries, blackberries, thimbleberries, and salmonberries are great fever breakers. A couple of years back, I picked up some tropical germs in Thailand and got incredibly ill. I had a fever of over 104 degrees for eleven days. Because of the severity of my condition, I decided to take some ibuprofen, which for me is rare. While the pills did help, they provided only temporary relief. Once the medication wore off, my fever climbed back up above normal. I decided to look into natural remedies for reducing fever and read about the benefits of

raspberries and blackberries and their leaves. I asked my mom to pick up some fresh berries at the store and began eating them and drinking highly concentrated raspberry-leaf tea. Within twenty-four hours my fever was gone and never came back.

Salmonberry—*Rubus spectabilis*

Family Name: Rosaceae/Rose Family

Caution: Please note that chemical changes occur to salmonberry leaves during the wilting process that can cause stomach upset. Eating fresh, tender leaves or leaves that have been fully dried will prevent mishap.

Edible: Leaves, stems, berries, and flowers.

Flavor: Berries are sweet if harvested ripe. Greens are mild and slightly astringent.

Description: Salmonberry bushes range in size from a single low-growing cane to a bountiful mound. Canes are fibrous with hearty thorns. Leaves are saw-toothed and grow in groups of three. Berries are pebbly and range in color from yellow to orange to red. Long, tentacle-like hairs stick out from beneath the berry cap (the point where berry attaches to the cane).

Uses: Salmonberry fruits and greens are edible and very delicious. Collect the greens when they are very young, before they have developed their thorns.

A. A handful of freshly picked salmonberries. Photo © iStockphoto

B. Close-up of salmonberries on a bush. Photo: Sara Morris

C. Salmonberry, raspberry, and blackberry bushes all look very similar. Photo: Sara Morris

D. Salmonberry flowers.

Nutritional Highlight: Salmonberries are rich in vitamins A and C, magnesium, potassium, copper, and folate. They are full of antioxidants that help prevent cancer. Salmonberries contain fragrine, a substance that tones reproductive organs. Tea made from the leaves is said to lessen morning sickness. Salmonberries also help break fevers, relax sore muscles, and strengthen the heart, and can act as a

gentle sedative.

Helpful Tips: Salmonberries, thimbleberries, blackberries, and raspberries are all members of the rose family. This is a bountiful family with many edible relatives. Experts disagree on the actual number of varieties, but in the United States alone there are hundreds of species of each of these berries (Bradford 2002). If you can identify a raspberry or a blackberry, you will have no trouble spotting thimbleberries and salmonberries. All of these berries are made up of many tiny drupelets containing juice and seeds. Salmonberries are generally orange, but can also be yellow and red.

ID Trick: Orange, yellow, or red berries made up of many drupelets containing juice and seeds.

Sergei Says: Salmonberries taste incredible. They have a rich flavor that explodes in your mouth. They begin ripening in midsummer and are a wonderful treat for those who live near mountainous areas.

To break a fever, eat salmonberries fresh, or drink tea made from salmonberry leaves.

Salsify—*Tragopogon* spp.

Family Name: Asteraceae/Aster Family

Table 18. Nutrient data for salsify, raw

NUTRIENT	Unit	Value per 100.0g	1 cup greens 133g
Water	g	77	102.41
Energy	kcal	82	109
Protein	g	3.3	4.39
Total lipid (fat)	g	0.2	0.27
Carbohydrate, by difference	g	18.6	24.74
Fiber, total dietary	g	3.3	4.4

Minerals			
Calcium, Ca	mg	60	80
Iron, Fe	mg	0.7	0.93
Magnesium, Mg	mg	23	31
Phosphorus, P	mg	75	100
Potassium, K	mg	380	505
Sodium, Na	mg	20	27
Zinc, Zn	mg	0.38	0.51
Vitamins			
Vitamin C, total ascorbic acid	mg	8	10.6
Thiamin	mg	0.08	0.106
Riboflavin	mg	0.22	0.293
Niacin	mg	0.5	0.665
Vitamin B6	mg	0.277	0.368
Folate, DFE	mcg	26	35
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	0	0
Vitamin A, IU	IU	0	0
Vitamin D (D2 + D3)	µg	0	0
Vitamin D	IU	0	0
Lipids			
Cholesterol	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Salsify is absolutely safe to eat.

Edible: Leaves, young shoots, buds, flowers, roots, and any other parts that are tender.

A. Young salsify flower.

B. Salsify greens.

C. Salsify has milky stems. The sap is also edible and good for internal organs.

D. Any part that is tender is edible.

E. Freshly picked salsify flowers make a great addition to any salad or stir-fry.

F. Purple salsify *(Tragopogon porrifolius)* and yellow salsify *(Tragopogon dubius)*.

G. Salsify flowers have pointed green sepals (under the flower petals).

Flavor: All parts are sweet.

Description: Salsify has long, slender leaves that wrap around the stem. The stem is hollow and tubular. When the stem is broken, white, sticky sap oozes from inside. Flowers are generally yellow or purple and grow in a compound pattern like that of a daisy. Salsify also has

long green sepals growing from under the petals. Salsify ranges in color from yellow to deep purple. When salsify goes to seed, it displays a huge, dandelion-like puffball.

Uses: Cook roots like carrots in soups, stir-fries, or vegetable roasts. Eat young, tender leaves, shoots, buds, and flowers raw as a trailside nibble and in salads.

Nutritional Highlight: Salsify is said to contain a natural insulin and thus is beneficial for diabetics. It is also rich in vitamins A, C, D, and E, plus calcium, iron, phosphorus, and protein. Salsify also has abundant antioxidants, which improve immune-system health and reduce the risk of cancer.

Helpful Tips: Salsify is the only member of the dandelion family that is not bitter. You will be amazed at how sweet and delicious salsify flowers are. I love harvesting the most tender parts of this plant (shoots, buds, stems, and flowers) and adding them to salad mixes. Salsify is a delicate plant that does not preserve well. It is best when used fresh, within an hour of harvesting.

ID Trick: Pointy, daisy-like flowers with green sepals (green leaves under flower petals).

Sergei Says: Salsify has almost alien-like yellow and purple flowers that make it very easy to identify. Though its appearance doesn't look particularly edible, grab a flower and give it a nibble. You will find it to be very sweet and scrumptious. Every part of the salsify plant is edible, but the tender parts taste best. Feel the long, thin stems to find the soft, meristematic parts. More often than not, I eat salsify as a trailside snack. Because it tastes so good, it rarely makes it to my house to be used in a recipe.

Keep in mind that salsify is a biennial plant, which means it takes two seasons for salsify to complete its growing cycle. When harvesting this plant, take no more than a third of the flowers so that you don't decrease later generations.

Serviceberry—*Amelanchier* spp.

Family Name: Rosaceae/Rose Family

A. Serviceberries grow on tree-like shrubs.

B. Leaves and green berries.

C. Serviceberry blossom.

D. Ripe serviceberries. Photo: Warren Lynn

Caution: Serviceberries are absolutely safe to eat.

Edible: Berries, young, tender leaves, and flowers.

Flavor: Berries are sweet. All other parts are mellow and taste similar to

blueberries.

Description: Serviceberries resemble blueberries, though they are typically rounder in shape. Berries grow on branching shrubs that are taller than blueberry bushes. Leaves are oval in shape with serrations along the edges from the middle to the tip. Serviceberry flowers are white, grow in clusters, and have very long petals. With five petals per flower, they look similar to apple blossoms.

Uses: Eat berries raw as a trailside nibble. Use them in jams, jellies, syrups, salads, and wines. Add young leaves and flowers to salads.

Nutritional Highlight: Very rich source of flavonoids. Serviceberries have one of the highest recorded antioxidant levels of fruits and vegetables. They are loaded with vitamins and minerals, including calcium, potassium, iron, magnesium, and vitamin E. Serviceberries also contain pectin, a soluble fiber that reduces cholesterol and lowers blood sugar levels.

Helpful Tips: Serviceberry leaves contain small amounts of a cyanide-like compound. But don't worry, you would need to eat a five-gallon bucket of serviceberry leaves repeatedly to experience any ill effect. In small quantities, this compound destroys cancer cells. Cooking or drying the leaves completely destroys any toxic qualities.

ID Trick: Serviceberries look like blueberries. They grow on tall, tree-like shrubs. Like blueberries and huckleberries, they also have an eye that makes them easy to identify.

Sergei Says: Serviceberries are also commonly called "Saskatoon berries." Native American tribes from the north traditionally used the juice of serviceberries to heal snow blindness. They would take it internally and use the juice as eye drops.

Sheep Sorrel—*Rumex acetosella*

Family Name: Polygonaceae/Buckwheat Family

A. Sheep sorrel leaves and flowers.

B Leaves cluster near the bottom of the plant.

C. Sheep sorrel in the wild.

D. Flowers turn red as they mature.

Caution: Sheep sorrel is absolutely safe to eat.

Edible: Leaves, stems, flowers, and seeds.

Flavor: Sour and lemony.

Description: Sheep sorrel can vary from six inches to two feet in height. Leaves are lance-shaped with two lobes. Many people who identify sheep sorrel for the first time notice that the plant's leaves resemble a fish or a sword. The flowers grow on an elongated stock and range in color from white to red.

Uses: Leaves and flowers can be eaten raw in salads or as a trailside nibble. The tender leaves are sour to the taste and make a lovely addition to smoothies and salad dressings. When crushed, mixed with water, and sweetened, sorrel leaves make a mouth-watering lemonade substitute. I call this concoction "Sorrelade." Check out my recipe for Sorrelade on this page.

Nutritional Highlight: Sheep sorrel is rich in iron and is great for

treating constipation, blood disorders, skin disease, rheumatism, and indigestion. Sorrel is also great for cleansing the system of heavy metals such as lead, arsenic, and mercury. Sorrel leaves are particularly beneficial for women who are pregnant or breast-feeding.

Helpful Tips: If you are unsure that the lobed leaf you are holding is sheep sorrel, take a tiny nibble. If it has a pleasant sour taste, congratulations! Sheep sorrel it is!

Sheep sorrel seeds are incredibly labor intensive to hull, but if you manage to harvest enough to make a meal, it will be rich in omega-3 fatty acids, which are good for the heart. Sometimes I add sheep sorrel seeds to my crackers (husks and all) for extra fiber and omega-3s.

ID Trick: Sorrel seeds turn red in mid-to late summer and can be easily spotted from afar. Sheep sorrel leaves are fish-shaped and taste sour. All of these characteristics make it easy to identify.

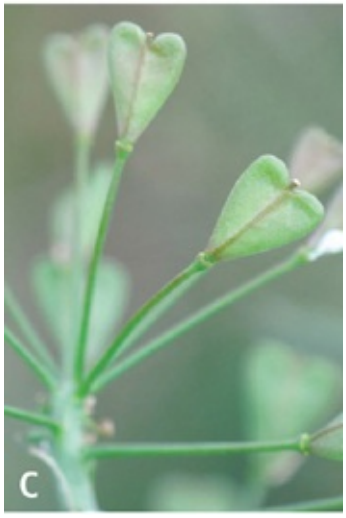
Sergei Says: Because wild edibles also happen to be dark, leafy greens, people rarely think that they can taste good without preparation or dressing. Sheep sorrel is perfect evidence that some wild edibles taste incredible raw and by themselves. Give a little nibble of sheep sorrel to your children and watch as they get hooked on its sweet and sour taste.

Shepherd's Purse—*Capsella bursa-pastoris*

Family Name: Brassicaceae/Mustard Family

A. Pennycress *(Thlaspi arvense)* on the left, shepherd's purse on the right.

B. Shepherd's purse seedpods up close.



C. Seedpods are heart shaped.

D. Can you spot shepherd's purse among the other plants?

E. Leaves look like other wild mustard varieties.

Caution: Shepherd's purse is absolutely safe to eat.

Edible: Leaves, stems, flowers, and fruits.

Flavor: Spicy.

Description: Shepherd's purse is in the mustard family and thus has big green leaves growing in a rosette near the base of the plant. Leaves are dark green in color and are toothed, like dandelion leaves. Flowers are white, with four petals. After flowering, heart-shaped seedpods appear on the upper part of the plant.

Uses: Leaves, flowers, and seeds can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant.

Nutritional Highlight: All wild mustard greens have been revered throughout history as the number-one healthiest green. They are rich in vitamins A, B, C, E, and K, plus calcium, potassium, sulfur, copper, manganese, and fiber. Shepherd's purse has high levels of antioxidants, which help to prevent cancer and heart disease.

For nutritional data, see table 20, nutrient data for mustard greens, this page–this page.

Helpful Tips: The mustard family contains many plants. All mustards are spicy. I like to use them in recipes that require heat. I don't recommend using them in smoothies, as they will produce a drink that's strong flavored. On the other hand, adding such greens to salads or stir-fries will only add to the eater's experience. Because mustards often have broad leaves, I like to use them as a substitute for tortillas

when making wraps.

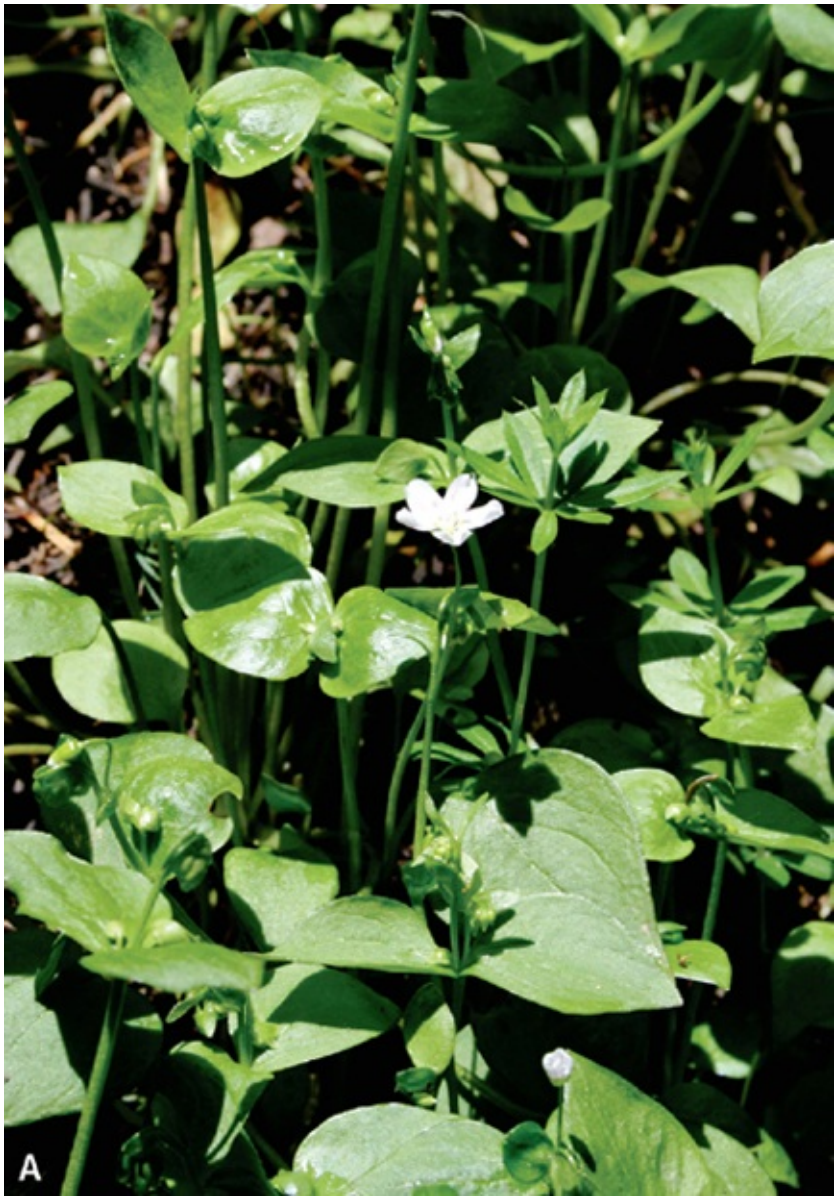
ID Trick: The easiest way to identify a mustard plant is by crushing a leaf and smelling it. If it smells like mustard, it's mustard. Shepherd's purse also has tiny, heart-shaped seedpods that are very unique.

Sergei Says: Mustards represent a huge family of nearly two thousand edible plants (Schofield 2003). Wild mustard, pennycress, and shepherd's purse are all different varieties of wild-growing mustard. Cabbage, cauliflower, broccoli, kale, radish, and arugula are also members of the mustard family. This family is easily distinguishable by a rich, spicy aroma. Crush a leaf or flower of any mustard-family plant and see it if smells familiar.

According to John Kallas, wild mustard greens are one of the most nutrient-dense foods available to us. They contain high concentrations of beta-carotene, calcium, fiber, zinc, and vitamin A (2010).

Siberian Miner's Lettuce—*Claytonia sibirica*

Family Name: Portulacaceae/Purslane Family



A. Siberian miner's lettuce has oval leaves growing in an opposite pattern.

B. Siberian miner's lettuce flowers are similar to those of miner's lettuce *(Claytonia perfoliata)*, but are much bigger.

C. Siberian miner's lettuce.

Caution: Siberian miner's lettuce is absolutely safe to eat.

Edible: The whole plant can be eaten raw. Siberian miner's lettuce is mild, tender, and—most of all—delicious.

Flavor: Greens and flowers are mildly sweet and juicy.

Description: Siberian miner's lettuce is an annual that usually pops up

in early spring. It is light green in color and has smooth oval leaves and tender stems. Siberian miner's lettuce has bigger flowers than its sibling (miner's lettuce). The flowers are its key identifying feature. Flowers are white, with five petals that have faint purple markings. Each petal has a deep cleft at the top.

Uses: Like miner's lettuce, Siberian miner's lettuce can be used in salads or smoothies, or eaten raw as a trailside nibble.

Nutritional Highlight: Miner's lettuce is renowned for its high vitamin C content. It has more than citrus, strawberries, currants, cherries, or kiwis. Early settlers ate miner's lettuce to prevent scurvy.

Helpful Tips: Siberian miner's lettuce is most abundant in the spring. However, this tasty edible can be found late into summer if you know where to look. Siberian miner's lettuce prefers the shade, so don't forget to check under trees and other shady places.

ID Trick: Siberian miner's lettuce has ovate leaves. It has a distinct white flower with five petals. Each petal has a deep cleft.

Sergei Says: Freeze miner's lettuce flowers in water in ice-cube trays to create flower-infused ice. This is a beautiful addition to any drink.

Sow Thistle—*Sonchus* spp.

Family Name: Asteraceae/Aster Family

Caution: Sow thistle is absolutely safe to eat.

Edible: Leaves, young stems, buds, and flowers.

Flavor: Mild to bitter.

Description: Sow thistles have dark green, toothy leaves that resemble dandelion leaves. Leaves are lobed. Early-growing leaves form a basal rosette on the ground. As the main stem shoots upward, leaves grow on the stem as well. The base of each wraps around the stem, and the leaves grow in an alternate pattern. Stems produce white, milky sap. Flowers are yellow and dandelion-like. But while dandelions only have one yellow flower per stem, sow thistles have several.

A. Young sow thistle flowers.

B. Sow thistle leaf close-up.

C. The flower will eventually turn into a white puffball.

D. Sow thistle leaves clasp the stem.

E. The underside of a sow thistle leaf

F. The flower looks like a dandelion.

G. White puffball is cottony soft.

H. Sow thistle stems.

I. Stems close-up.

J. Stems contain white, milky sap.

Uses: Leaves, buds, flowers, and seeds can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant.

Nutritional Highlight: Rich in vitamins A, B, and C, plus copper, phosphorus, potassium, iron, calcium, and magnesium (Kallas 2010). Sow thistles are beneficial for the liver, kidneys, gallbladder, pancreas, and spleen.

Helpful Tips: There are several varieties of sow thistle. Some are spiny and others are not. All varieties are edible.

ID Trick: Dandelion-like leaves that have a sharp, well-defined triangular lobe.

Sergei Says: Sow thistle is another great mildly bitter green. It has dandelion-like properties that stimulate digestive juices and cleanse organs. I love adding sow thistle to soups and stir-fries. There is a common misconception circulating that the sap of sow thistle is poisonous; this is not true. All parts are edible.

Spruce—*Picea* spp.

Family Name: Pinaceae/Pine Family

Caution: Brewing tea from any plant concentrates its chemical compounds. Do not eat evergreens if you are pregnant or breast-feeding, as the oils in the needles have been known to negatively affect infants. Also, if you suffer from seasonal allergies, you may want to refrain from harvesting tree pollen, as it can affect your body negatively. For all other purposes, eating spruce is absolutely safe.

Edible: Inner bark, sap, twigs, catkins, light green tips, needles, cones, pollen, and nuts.

Flavor: Slightly lemony, but the inner bark (cambium layer) is sweet.

Description: Coniferous evergreen tree with delicate, scaly bark. Pointy, four-sided needles are typically between one and three inches long. Pinecones grow in little clusters near branch tips.

Uses: Steep green needles in boiling water and drink the wonderfully aromatic tea. Harvest light green, tender needles (found at the tips of the branches in the spring) and eat raw in salads or smoothies, or as a trailside nibble. Collect pollen from the flowers at the tips of branches in early spring and add to smoothies for a protein boost.

Nutritional Highlight: Rich in vitamins A and C. Spruce-needle tea helps fight dandruff when applied to the scalp. Resin found in evergreen needles is beneficial for respiratory problems. Spruce resin is great for removing sugars from teeth; the needles can be used as a makeshift toothbrush. The pollen is rich in protein.

A. Spruce cones. Photo: David R. Tyner

B. Spruce needles. Photo: Keir Morse, keiriosity.com

Helpful Tips: Spruce trees have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

When the tree is blooming and the buds are full of pollen (in the spring), you can cover the tip of a branch with a plastic bag and give it a vigorous shake. Pollen will accumulate quickly in the bag. Transfer the collected pollen into a glass jar and store in a cool, dry place. Add as a supplement to smoothies.

ID Trick: Differentiating a spruce from a fir can be tricky. After all, most of them look like Christmas trees. The easiest method I have found to tell common conifers apart is by their needles. Fir and spruce trees have short needles all around the twig, so that the twigs resemble pipe cleaners. Fir needles are flat, while spruce needles are four-sided. If you are unsure whether you are looking at a fir or spruce, pick a few needles and roll them between your fingers. Since fir needles are flat, they will not roll easily. Spruce needles have four sides and roll in your fingers with ease.

Sergei Says: Spruce are a good natural source of vitamin C and historically have been used by travelers to prevent scurvy. My absolute favorite way to consume evergreens is to sip on tea made from freshly collected needles by a campfire after a long day of hiking. See the pine needle tea recipe on this page.

Stinging Nettle—*Urtica dioica*

Family Name: Urticaceae/Nettle Family

Caution: Be careful of the stingers. Read my nettles notes carefully to learn how to eat nettles without getting stung.

Edible: Leaves, stems, flowers, and seeds.

Flavor: Mild and nutty.

Description: Stinging nettles have finely serrated heart-shaped leaves. Small greenish flowers grow in clusters and hang below the leaves. Nettles can grow to be seven feet tall. Nettles have tiny spines that

contain formic acid and histamine compounds and will sting upon contact. These spines are primarily located on the stems and the underside of the leaves.

Uses: The whole plant is edible, but it tastes best before it reaches two feet in height. Traditionally, nettles have been steamed, which destroys the spines, but blending the plant also destroys its needles and enables consumption in raw form. While nettles are best harvested when the plant is fairly small, you can also use the tops of a mature plant. The bottom leaves will be fibrous, but the tops will remain tender.

Nutritional Highlight: Nettles have been used for hundreds of years to treat arthritis and other joint problems. They have been shown to have anti-inflammatory properties, to lower blood sugar, to calm allergies, and to relax sore muscles. Nettles are particularly high in iron, making them extremely beneficial for people suffering from anemia. Tea made from nettles makes a great hair rinse and has been said to eliminate dandruff (Schofield 2003).

A

A. Stinging nettles. Photo © iStockphoto

B. Stinging nettle tops.

C. Close-up of stinging nettle stem.

Helpful Tips: The chemical compound that causes stinging irritation when you brush up against the plant also soothes the skin. If you are stung by nettles, apply fresh stinging-nettle juice on the irritated area, and in seconds the itch will be completely neutralized. You can also neutralize the sting with dock or plantain juice.

ID Trick: Nettles are pretty easy to spot, because they grow in dense, tall thickets. Their leaves are serrated, like a saw blade, and they have droopy flowers and seeds that hang under their leaves.

Sergei Says: Stinging nettles are becoming increasingly popular these days because of the attention their nutritional benefits have received.

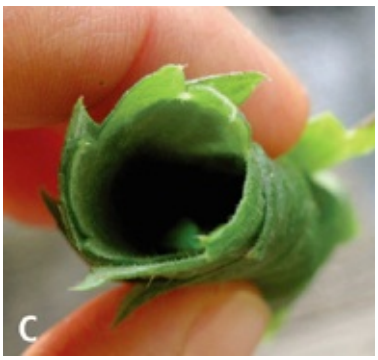
On a recent trip to Canada, I saw fresh nettle greens being sold by the pound in several major health food stores. I was overjoyed to see that the Canadian health food movement was embracing such a wonderful wild green. Out of all the plants I have studied, nettles seem to be among the top in terms of nutritional content. Unfortunately, many people have been stung by nettles and know it simply as another plant to avoid. The itchy, burning sensation of a nettle sting is not life threatening, but it's uncomfortable enough to deter most people from experimenting with this wonderful green.

The best way to avoid getting stung is to crush the leaves. If you blend, boil, or pulverize nettles, the juice within their leaves and stem will neutralize the sting. You can then enjoy their delicious taste and healthy benefits without fear of pain. Some wild edible teachers recommend foragers bring gloves when they harvest nettles. Wearing protection on exposed skin is a great way to prevent being stung. My favorite way of harvesting nettles is with scissors, which allows me to painlessly snip the leaves directly into a blender container for a smoothie. Then all I have to do is take the container home, add fruit, and press blend. No fuss, no muss!

If you are super-adventurous, you can try eating nettles raw, straight from the plant. If you look closely at the stingers under the leaf, you will notice that they lean to one side. If you can press them down against the leaf in the direction they are leaning, you can prevent them from stinging your mouth. The easiest way to do this is to roll the leaf up on itself. Start at the wide end closest to the stem, and roll up the underside of the leaf.

A. Start rolling leaf (bottom facing up) into a tight tube.

B. Continue rolling until the leaf is fully rolled.



C. Once you have a tightly rolled leaf, all of the stingers on the bottom will be flattened, and it is safe to eat without processing.

Thimbleberry—*Rubus parviflorus*

Family Name: Rosaceae/Rose Family

Caution: Please note that chemical changes occur to thimbleberry leaves during the wilting process that can cause a stomachache. Eating fresh, tender leaves or leaves that have been fully dried will prevent mishap.

Edible: Leaves, stems, berries, and flowers.

Flavor: Thimbleberries are sweet if harvested ripe. Greens are mild and slightly astringent.

Description: Grow in shrubs ranging from two to eight feet tall. Thimbleberries form dense thickets. Leaves have between three and five lobes and closely resemble maple leaves. Thimbleberries have white flowers with five petals. The berries are red and look a lot like

raspberries, except that their overall shape is flatter (like a raspberry that has been smooshed).

Uses: Thimbleberries are edible and very delicious. They each have a unique flavor and fragrance. Thimbleberry greens tend to get velvety as they mature, so young greens are preferred.

Nutritional Highlight: Throughout history, thimbleberries have been used to treat intestinal ailments and upset stomachs. When roots are dried and prepared in tea form, they are great for diarrhea and dysentery.

Helpful Tips: Thimbleberries, blackberries, raspberries, and salmonberries are all members of the rose family. This is a bountiful family with many edible relatives. Experts disagree on the actual number of varieties, but in the United States alone there are hundreds of species of each of these berries (Bradford 2002). If you can identify a raspberry or a blackberry, you will have no trouble recognizing thimbleberries. All of these berries are made up of many tiny drupelets containing juice and seeds. Berries are red. Thimbleberries do not have thorns.

Thimbleberries can be particularly difficult to spot, as the berries like to hide under the big, broad leaves. Next time you see a thicket of soft, maple-like leaves, poke around and try to find some hidden berries.

A. Berries are sparse amongst the dense thicket of leaves.

B. Thimbleberries.

C. Berry close-up.

D. Thimbleberry flowers.

E. Underside of leaf.

F. Leaves look like maple leaves.

ID Trick: Red berries growing amidst shrubs with maple-shaped leaves.

Sergei Says: Thimbleberries have a rich, nutty flavor that explodes in your mouth. They begin ripening in midsummer and are a wonderful treat for those who live near mountainous areas. When I go on long runs, I always keep my eyes open for thimbleberries, as they provide extra energy and nourishment. During one such run, I lost my way and accidentally added seven miles to an already long outing. I wasn't worried or in danger, but my energy was draining fast. Luckily,

moments after I had “hit the wall,” as runners say, I came upon a huge patch of wild thimbleberries. Because this patch was in the middle of nowhere, it was well preserved and unusually bountiful. I stuffed myself with the sweet berries until I felt good enough to continue running. I made it home safe, with energy to spare.

Thistle—*Cirsium* spp.

Family Name: Asteraceae/Aster Family

Caution: Thistles have sharp spines. Please handle them with care.

Edible: Tender leaves, shoots, stems, and roots.

Flavor: Shoots and stems are tender and cool, like a cucumber.

Description: There are many different types of thistles. All thistle varieties are edible. Plant is slender and upright. Leaves follow an alternate growth pattern and have sharp, woody thorns at the tips. Base leaves grow in a basal rosette and can look dandelion-like. Flowers can be white, yellow, pink, red, or purple.

A. Common thistle *(Cirsium vulgare)*. Photo: Sandra Dawn

B. Gloves are a must when going after the rootstock.

C. Common thistle flower *(Cirsium vulgare)*. Photo: Warren Lynn

D. Canadian thistle *(Cirsium arvense)* leaves are spiky.

Uses: Peel rootstocks and enjoy raw as a trailside nibble. Use tender shoots and leaves in stir-fries, soups, teas, and vegetable roasts.

Nutritional Highlight: Thistles are widely used to treat obstructions of the liver, kidneys, gallbladder, pancreas, and spleen. They are also rich in vitamins A and C, plus copper, phosphorus, potassium, iron, calcium, and magnesium.

Helpful Tips: Sharp, hardy thorns can make harvesting thistles very

unpleasant. It is a good idea to wear thick gloves when working with any thistle. I recommend using a knife to cut and peel the bottom three inches of the thistle stem. This section is tender, sweet, and juicy, and reminds me of a cucumber.

ID Trick: Thistles look like small artichokes. They have purple or yellow flowers surrounded by sharp thorns.

Sergei Says: Many thistles are considered invasive, so you can eat them without fear of overharvesting. They have a high water content and help you replenish bodily fluids. I've had to rely on thistles several times when I've been hiking without water. When no other fluids are available, thistles' water-rich stems are a godsend.

Watercress—*Nasturtium officinale*

Family Name: Brassicaceae/Mustard Family

A. Watercress.

B. Watercress likes wet soil.

C. Leaf close-up.

Table 19. Nutrient data for watercress, raw

NUTRIENT	Unit	Value per 100.0g	1 cup 34g	1 sprig 2.5g	10 sprigs 25g
Water	g	95.11	32.34	2.38	23.78
Energy	kcal	11	4	0	3
Protein	g	2.3	0.78	0.06	0.58
Total lipid (fat)	g	0.1	0.03	0	0.02
Carbohydrate, by difference	g	1.29	0.44	0.03	0.32
Fiber, total dietary	g	0.5	0.2	0	0.1
Sugars, total	g	0.2	0.07	0	0.05
Minerals					
Calcium, Ca	mg	120	41	3	30
Iron, Fe	mg	0.2	0.07	0	0.05
Magnesium, Mg	mg	21	7	1	5
Phosphorus, P	mg	60	20	2	15
Potassium, K	mg	330	112	8	82
Sodium, Na	mg	41	14	1	10
Zinc, Zn	mg	0.11	0.04	0	0.03
Vitamins					
Vitamin C, total ascorbic acid	mg	43	14.6	1.1	10.8
Thiamin	mg	0.09	0.031	0.002	0.022
Riboflavin	mg	0.12	0.041	0.003	0.03
Niacin	mg	0.2	0.068	0.005	0.05
Vitamin B6	mg	0.129	0.044	0.003	0.032
Folate, DFE	mcg	9	3	0	2
Vitamin B12	µg	0	0	0	0
Vitamin A, RAE	mcg	160	54	4	40
Vitamin A, IU	IU	3,191	1,085	80	798
Vitamin E (alpha-tocopherol)	mg	1	0.34	0.02	0.25
Vitamin D (D2 + D3)	µg	0	0	0	0

NUTRIENT	Unit	Value per 100.0g	1 cup 34g	1 sprig 2.5g	10 sprigs 25g
Vitamin D	IU	0	0	0	0
Vitamin K (phylloquinone)	µg	250	85	6.2	62.5
Lipids					
Fatty acids, total saturated	g	0.027	0.009	0.001	0.007
Fatty acids, total monounsaturated	g	0.008	0.003	0	0.002
Fatty acids, total polyunsaturated	g	0.035	0.012	0.001	0.009
Cholesterol	mg	0	0	0	0
Other					
Caffeine	mg	0	0	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Caution: Because watercress is a water-loving plant, take extra precautions to make sure that the water it grows in is not contaminated. Check with your local department of forestry and/or city government about water quality. Watercress has received a bad reputation for containing parasites called liver flukes. These parasites originate in the intestines of livestock (particularly sheep) and are excreted with their fecal matter. There is a lot of fear-based criticism of watercress in the foraging community because of a few cases of people getting liver flukes after eating it. These cases are very rare and can be easily avoided by not picking watercress where livestock are present. Cooking watercress also kills any parasites that may be present.

Edible: Leaves, stems, and flowers.

Flavor: Spicy.

Description: Watercress is a creeping aquatic plant often found near rivers and streams. Watercress likes to grow submerged or partially submerged in water. Leaves range from light to dark green and are round or oval in shape. Flowers are typically white and grow in clusters.

Uses: Eat raw in salads, wraps, and sandwiches. Watercress is spicy, like wild mustard, and is a great addition to recipes that require heat.

Nutritional Highlight: Watercress is high in protein content. It contains vitamins A, B1, B6, C, E, and K, plus folate, iodine, magnesium, calcium, potassium, selenium, and iron.

Helpful Tips: Because watercress grows in crowded thickets, it can be easily harvested with a pair of scissors. Simply grab a handful of watercress in one hand and use your other hand to cut it near the base.

ID Trick: Round, lobed leaves that resemble arugula.

Sergei Says: Watercress is a popular green sold in most health food stores. It has a slightly peppery taste that improves any sandwich or wrap. Though it is cultivated and sold, watercress does grow wild. It is a water-loving plant that can be found near streams and in areas that experience spring flooding.

Wild Ginger—*Asarum canadense*

Family Name: Aristolochiaceae/Birthwort Family

Caution: Wild ginger is absolutely safe to eat.

Edible: Leaves, flowers, and roots.

Flavor: Bitter, spicy, and very fragrant.

Description: Wild ginger has big heart-shaped leaves that grow near the ground. Flowers have three triangular petals and are a dull purple color.

Uses: Use in the same way you would use any herb. Add ginger to recipes to give them more volume and zest.

Nutritional Highlight: Wild ginger is a great remedy for stomach upset. It has antiviral, anti-inflammatory, and antifungal properties. It is also said to stimulate sweating, and it increases secretions from tear ducts, sinuses, mouth, and stomach lining, and thus acts as a natural cleanser.

A. Wild ginger flower and leaf.

B. Leaf is heart shaped.

C. Wild ginger grows in shady, cool areas.

D. Leaf has square crease.

Helpful Tips: Despite its similar smell, wild ginger is not related to common, store-bought ginger, but the qualities and health benefits of both plants have many similarities.

ID Trick: The easiest way to identify wild ginger is by the smell. If you crush a large heart shaped leaf and it smells gingery, you've found it. Wild ginger also has three-petaled dull purple flowers. If you unravel the lobes of the heart-shaped leaf, you will notice a square crease.

Special Harvesting Note: Wild ginger is a very delicate plant. Harvest it in small amounts to ensure the plant can survive.

Sergei Says: Wild ginger stimulates appetite and aids digestion. Chewing on fresh wild ginger leaves has helped me conquer several backpacking stomachaches. Adding a small amount of wild ginger to your meal will also give it more flavor. Wild ginger is a strong-tasting green, and thus I advise against using it for the bulk of your meal. For best results, use it like any herb—in small quantities.

Wild Lettuce—*Lactuca virosa*

Family Name: Asteraceae/Aster Family

Caution: Wild lettuce is absolutely safe to eat.

Edible: Leaves, flowers, young shoots, and roots.

Flavor: Bitter.

Description: Wild lettuce has dandelion-like leaves that grow up a slender stem. Wild lettuce stems are covered with fibrous spikes. The main vein on the bottom of each leaf contains a row of Mohawk spikes. Stem contains rich, milky sap.

Uses: Cook roots like carrots in soups, stir-fries, or vegetable roasts. Mature leaves have tough thorns that make them unsuitable to eat in their raw form. Young, tender leaves, shoots, buds, and flowers can be eaten raw. If you choose this option, please take extra care in checking for thorns. I think the best way to consume wild lettuce is to blend it in a green smoothie. Blending this green in a heavy-duty blender, such as a Vitamix, pulverizes all the spikes.

Nutritional Highlight: Rich in vitamins A, B, and C, plus copper, phosphorus, potassium, iron, calcium, and magnesium. Wild lettuce is widely used to treat obstructions of the liver, kidneys, gallbladder, pancreas, and spleen (Mars 2007).

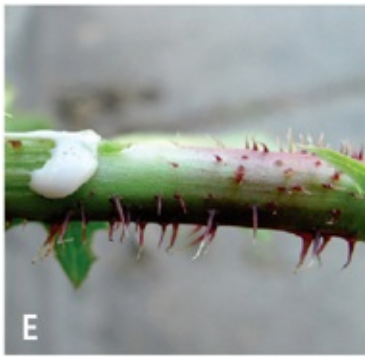
Helpful Tips: Use gloves and scissors when harvesting to avoid getting pricked.

A. Wild lettuce likes dry, disturbed soil.

B. Leaves look like dandelion leaves; stems are often reddish/purple.

C. Close-up of leaf.

D. Wild lettuce has white, milky sap inside the stem. This sap is cleansing for internal organs.



E. Stem close-up.

F. Leaf is covered in tiny thorns. Young thorns are tender and can be eaten.

G. Mature stems have big, fibrous thorns that should not be eaten.

H. Stem side view.

ID Trick: Wild lettuce has dandelion-shaped leaves with woody spikes that grow in a Mohawk on the main vein of the leaf.

Sergei Says: Have you ever wondered what food looked or tasted like thousands of years ago? Well, wonder no more, because wild lettuce is the origin of all lettuces. Thousands of years before the cultivation of romaine and red leaf lettuce, people knew lettuce as the wild lettuce that still grows today.

While wild lettuce tastes quite a bit more bitter than its store-bought relatives, this bitterness is hugely beneficial. Bitter flavors stimulate digestive juices and help process the food you eat. Additionally, the bitterness in wild lettuces helps cleanse organs of toxic matter or impurities.

Wild lettuce comes with woody spines and is therefore not a good addition to salads. If you insist on eating it raw, look for small, young leaves that have not developed tough thorns. I prefer to blend, steam, or boil wild lettuce, as this destroys the thorns—as well as the fear of getting pricked mid-bite.

Wild Mustard—*Brassica* spp.

Family Name: Brassicaceae/Mustard Family

Caution: Wild mustard is absolutely safe to eat.

Edible: Leaves, stems, flowers, and fruits.

Flavor: Spicy.

Description: Wild mustard leaves are large and dark green, and grow in a rosette near the base of the plant. Leaves are toothed like those of a dandelion. Flowers come in white, pink, and yellow. All mustard varieties have similar flower structures. Flowers consist of four petals and six stamens.

Uses: Leaves, flowers, and seeds can be eaten raw. You can also steam, sauté, boil, and marinate all parts of this plant.

Nutritional Highlight: Wild mustard greens have been revered throughout history as the number-one healthiest green. They are rich in vitamins A, B, C, E, and K, plus calcium, potassium, sulfur, copper, manganese, and fiber. Mustard greens have high levels of antioxidants, which help to prevent cancer and heart disease.

Helpful Tips: The mustard family contains many plants. All mustards are spicy. I like to use them in recipes that require heat. I don't recommend using them in smoothies as they will produce a drink that's strongly flavored. On the other hand, adding such greens to salads or stir-fries will only add to the eater's experience. Because wild mustard has broad leaves, I like to use them as a substitute for tortillas when making wraps.

ID Trick: The easiest way to identify a mustard plant is by crushing a leaf and smelling it. If it smells like mustard, it's mustard. All mustards have a unique flower structure. Flowers have four petals and six stamens. Four of the stamens are long and two are short.

A. Wild mustard flowers are bright yellow.

B. Crush a leaf, and you will recognize the familiar smell of mustard.

C. All mustards have a unique flower structure. Flowers have four petals and six stamens. Four of the stamens are long and two are short.

Sergei Says: Mustards represent a huge family of nearly two thousand edible plants (Schofield 2003). Wild mustard, pennycress, and shepherd's purse are all different varieties of wild-growing mustard. Cabbage, cauliflower, broccoli, kale, radish, and arugula are also members of the mustard family. According to John Kallas, wild mustard greens are one of the most nutrient-dense foods available to us. They contain high concentrations of beta-carotene, calcium, fiber, zinc, and vitamin A (2010).

Table 20. Nutrient data for mustard greens, raw

NUTRIENT	Unit	Value per 100.0g	1 cup, chopped 56g
Water	g	90.8	50.85
Energy	kcal	26	15
Protein	g	2.7	1.51
Total lipid (fat)	g	0.2	0.11
Carbohydrate, by difference	g	4.9	2.74
Fiber, total dietary	g	3.3	1.8
Sugars, total	g	1.6	0.9
Minerals			
Calcium, Ca	mg	103	58
Iron, Fe	mg	1.46	0.82
Magnesium, Mg	mg	32	18
Phosphorus, P	mg	43	24
Potassium, K	mg	354	198
Sodium, Na	mg	25	14
Zinc, Zn	mg	0.2	0.11

Vitamins			
Vitamin C, total ascorbic acid	mg	70	39.2
Thiamin	mg	0.08	0.045
Riboflavin	mg	0.11	0.062
Niacin	mg	0.8	0.448
Vitamin B6	mg	0.18	0.101
Folate, DFE	mcg	187	105
Vitamin B12	µg	0	0
Vitamin A, RAE	mcg	525	294
Vitamin A, IU	IU	10,500	5,880
Vitamin E (alpha-tocopherol)	mg	2.01	1.13
Vitamin D (D2 + D3)	µg	0	0
Vitamin D	IU	0	0
Vitamin K (phylloquinone)	µg	497.3	278.5
Lipids			
Fatty acids, total saturated	g	0.01	0.006
Fatty acids, total monounsaturated	g	0.092	0.052
Fatty acids, total polyunsaturated	g	0.038	0.021
Cholesterol	mg	0	0
Other			
Caffeine	mg	0	0

Source: USDA website, http://ndb.nal.usda.gov/ndb/foods/list

Wild Onion—*Allium* spp.

Family Name: Liliaceae/Lily Family

A. Wild onion.

B. Looks and smells like an onion.

C. Flowers range from white, to pink, to purple.

Caution: Wild onions are part of the lily family, which contains many members. Some lily varieties are not fit for consumption. Wild onions are the only lily variety that has a distinct onion smell. If you harvest a lily that smells like an onion, you can eat it without fear.

Edible: Leaves, stems, flowers, and roots.

Flavor: Like an onion.

Description: Looks, smells, and tastes like an onion. Leaves may be tubular or flat. Flowers grow in clusters and range in color from white to pink to purple.

Uses: The entire plant is edible and can be used in the same way as a store-bought onion. It can be consumed raw or cooked, in salads, sandwiches, soups, stir-fries, and so forth.

Nutritional Highlight: Onions are rich in iron, calcium, folate, phosphorus, choline, magnesium, potassium, and vitamins A and C. They are said to aid digestion and have anti-inflammatory properties. Onions also help to eliminate parasites.

Helpful Tips: Wild onions have a reproductive safety mechanism making bulb harvesting difficult. If you tug on a stem, hoping to unearth the bulb, you will get a clean break every time. In order to harvest the bulb, you must physically dig into the ground about six to eight inches. I recommend leaving the bulb in the ground and harvesting the leaves. Not only is this easier, but it allows the plant to keep growing.

ID Trick: Smells like an onion.

Sergei Says: At the very beginning of my exploration with wild edibles, my family and I met a man who was sitting off to the side of the Pacific Crest Trail eating purple flowers from a mountain meadow. We had already started incorporating wild edibles into our diet at that point, and we were extremely intrigued by this fellow who was eating a plant that was unfamiliar to us. He turned out to be very friendly and was eager to share his knowledge. He explained to us that wild onions were members of the lily family and that this family was very broad and contained both edible and toxic species. He cautioned us to familiarize ourselves with "death camas" before attempting to consume any lilies other than wild onions. Then he taught us that a sure way to identify a wild onion was by the smell.

Wild Rose—*Rosa* spp.

Family Name: Rosaceae/Rose Family

Caution: Wild roses are absolutely safe to eat.

Edible: Tender young leaves, flowers, and rose hips.

Flavor: Flowers are fruity and faintly sweet. Young leaves remind me of Granny Smith apples.

A. Wild rose flower.

B. Leaves are serrated.

C. Stems have tough, prickly thorns.

D. All roses are edible. Rose leaves are rich in iron.

E. Rose hips are one of the few wild edibles that are available during the cold winter months.

F. Rose hips contain lots of vitamin C.

Description: Similar to domesticated roses, wild roses grow on bushes and range from three to five feet in height. Stems are hardy, fibrous, and thorny. Flowers have five petals and are found in various colors. After the blooms die, bright red fruits called “rose hips” develop. These hang on the bush through the winter.

Uses: Tender leaves can be eaten raw in salads. Rose hips can also be eaten raw as a trailside nibble. They are often dried and made into tea or processed into jam.

Nutritional Highlight: Rich in iron and vitamin C. Roses have been used to treat ulcerous skin, headaches, inflammation, and anemia.

Helpful Tips: Rose petals make an awesome substitute for Band-Aids. If you ever cut yourself while on a hike, pick a rose petal and apply it to your wound.

ID Trick: Brilliantly colored, large-petaled flowers that grow on woody bushes with sharp thorns. Flowers smell sweet, like a less potent garden rose.

Sergei Says: A rose is a rose is a rose … meaning that all roses are more or less the same (Schofield 2003). Whether they are wild or domestic, all roses are edible as long as they have not been sprayed with pesticides.

A rose has many edible parts. The tender shoots, leaves, rosebuds, petals, bark, roots, and rose hips can be eaten raw or cooked. Roses have a high iron content. When I chew on rose leaves, their flavor

reminds me of a sweet-and-sour Granny Smith apple. This is likely due to the fact that roses and apples are in the same family (the rose family).

During the winter months, when other wild edibles are scarce, rose hips are available in vast abundance. These delicious fruits are a wonderful, fresh wintertime treat that's packed full of vitamin C. Last winter I taught my dog, Bella, how to find them on the bush, and she can't get enough of them. Bella prefers rose hips to conventional dog treats. I have noticed that when she eats fresh rose hips, her digestion is improved and her coat maintains a healthier shine.

Rose petals are my favorite trailside Band-Aid. Rose petals are very thin and malleable. Unlike a regular bandage, they allow the skin to breathe. They also have natural oils that help heal cuts. If you ever get cut or scratched near a rose bush, try licking a few petals and sticking them onto your wound.

Wild Strawberry—*Fragaria* spp.

Family Name: Rosaceae/Rose Family

Caution: Please note that chemical changes occur in strawberry leaves during the wilting process that can cause stomach upset. Eating fresh, tender leaves or leaves that have been fully dried will prevent mishap.

Edible: Leaves, stems, flowers, and berries.

Flavor: Berries are unbelievably sweet. Greens and flowers are mild and slightly bitter.

Description: Wild strawberries grow close to the ground in quaint patches. Each plant has one stem with three green leaves. Leaves are serrated with well-defined, straight veins. Wild strawberries grow two to eight inches in height. Flowers are white and have five wide petals.

Uses: The red berries are delicious and can be eaten in a plethora of different ways. Strawberry greens are best when young. They can be used in salads or added to smoothies.

Nutritional Highlight: Rich in vitamins A, C, and K, as well as sulfur, calcium, potassium, and iron. Strawberries have been used to treat

stomach upsets, diarrhea, urinary tract infections, and intestinal disorders. They are also beneficial in cosmetics for tightening the skin and closing pores.

Helpful Tips: Wild strawberries are best savored fresh off the plant. Next time you find a patch of sweet strawberries, take a few moments to sit, enjoy the sunshine, and devour the berries in front of you.

ID Trick: Wild strawberries are easily recognized, because they look like miniature versions of the berries we are all familiar with. Because of their size, they can be quite a pain to harvest, but I wouldn't trade a hundred conventional strawberries for a single wild berry. Don't bother collecting them for a pie; eat them on the spot, like the delicious dessert that they are.

A. Wild strawberry leaves and flowers.

B. Small berry ripening on the vine.

C. Flower close-up.

D. Wild strawberries turn bright red when they ripen. Photo: 907Britt

E. Wild strawberries are much smaller than store-bought varieties. Photo: 907Britt

Sergei Says: During the summer of 1996, I worked as a sprout grower for Creative Health Institute in Coldwater, Michigan. On special occasions, Don Haughey, the founder, let me tag along on his visits to an all-you-can-eat organic strawberry u-pick. Before I had visited a real strawberry patch, I thought that all strawberries tasted the same. I was wrong. Eating freshly picked heirloom strawberries is a memorable, life-changing event. The little red berries, which are significantly smaller than any that come from a store, have an intense, divine flavor. They are so tender they practically melt in your mouth. Unfortunately, such strawberries don't keep for more than an hour after they've been picked. They begin losing their water and turn into a gooey slop. This makes it almost impossible to package and sell them, which is why you'll never see such strawberries in a supermarket. Luckily, wild strawberries taste just as good as their heirloom relatives and are available in many places around the globe.

Strawberry greens and flowers are also edible and should be used along with the berries. When I make a green smoothie with strawberries, whether they are wild or organically grown, I make a conscious effort to blend their tops and leaves.

Wild Sweet Pea—*Lathyrus latifolius*

Family Name: Fabaceae/Pea Family

Caution: Because of the book *Into the Wild*, by Jon Krakauer, and the movie by the same name, wild sweet pea is commonly thought to be poisonous. In the book, Krakauer hypothesized that wild sweet peas contributed to the death of Chris McCandless, but this is completely inaccurate. In the aftermath of McCandless's death, wild sweet pea was put though extensive laboratory tests. It was concluded that no part of the plant contained toxins of any kind. I have enjoyed wild sweet peas in huge amounts countless times, without the slightest ill effect. If you are interested to learn more about what happened to Chris McCandless, you can find a thorough account in Samuel Thayer's book *Nature's Garden*.

A. Wild sweet pea flowers. Photo © iStockphoto

B. Stems are grasslike with a round middle.

C. Wild sweet pea stems are long and kinky. All parts that are tender are good to eat.

D. Hearty pea greens are easy to spot.

E. Sweet pea tips are a salad lover's dream!

F. I typically harvest 2–3 cups of greens for my salads.

Edible: Tender leaves, young shoots, tendrils, and flowers.

Flavor: Slightly sweet, similar to pea sprouts.

Description: Wild sweet pea grows as a creeping vine. Its curly tendrils (located at the base of the leaves, where they join the stem) help the

plant sprawl across the ground and climb anything in its path. Wild sweet pea can grow to be over six feet tall. It is a frost-hardy plant, and its foliage becomes rather ragged and yellowish by late summer. Wild sweet pea also has brilliantly colored pinkish-purple flowers. Like all pea varieties, wild sweet pea develops peapods that store seeds.

Uses: Any parts that are tender can be eaten. I love to add sweet pea tendrils, young leaves, and flowers to fresh garden salads. Steamed or sautéed greens also make a great addition to Asian cuisine.

Nutritional Highlight: Rich in vitamins A, C, and folic acid. Wild sweet pea greens help lower blood sugar levels and improve cardiovascular health. They contain an excellent nutrient-to-calorie ratio and high amounts of dietary fiber, which helps regulate the metabolism and control healthy weight levels. Pea greens also contain powerful antioxidants and phytonutrients, which reduce inflammation in the body.

Helpful Tips: All members of the pea family are considered organ cleansers and blood purifiers. There is significant evidence that pea greens are especially beneficial for people with cancer.

ID Trick: Look for small bright pink or purple flowers (that are shaped similar to snapdragon flowers) growing on long, flat-leafed vines. Wild sweet peas also have curly, stringy tendrils that sprout from their stems. Like all peas, wild peas have peapods. Unlike conventional peas, these pods are long and narrow.

Sergei Says: It's funny that wild sweet peas have peapods, but these pods are not very tasty. Unlike store-bought peas, wild peapods are tough and relatively tasteless. After much experimentation, I now consciously leave the peapods alone and go after the leaves, tendrils, and flowers. These tender parts are an absolute treat.

Wild Violet—*Viola* spp.

Family Name: Violaceae/Violet Family

Caution: Violets are known to have laxative properties. Before consuming a large quantity, eat a small amount to see how they affect

your body.

Edible: Leaves, stems, and flowers.

Flavor: Greens and flowers taste mildly sweet and salty.

Description: In the northwestern United States, violet flowers typically come in two colors, purple and yellow. The yellow variety has distinct heart-shaped leaves, while purple violet leaves are more elongated. Flowers have five petals with longitudinal stripes.

Uses: Eat the flowers and greens raw, steamed, boiled, and sautéed. Violets are great in salads.

Nutritional Highlight: Rich in vitamin C. Used to treat abrasions, inflammation, sore throats, and coughs (Mars 2007).

Helpful Tips: Violets are most abundant in the spring. However, this tasty edible can be found late into summer if you know where to look. Next time you find yourself looking for violets, you might have better luck if you explore the heavily shaded areas on mountain slopes, under trees, along riverbanks, and so forth.

ID Trick: Violets have five colorful petals with black, lateral, eyelash-like markings. Leaves are heart shaped.

Sergei Says: Don't be fooled by the name violet. While it implies a purple flower, violets come in many different colors. Out of all of the varieties I've sampled, I've concluded that the purple and yellow varieties taste the best.

A. Yellow wood violet *(Viola glabella)* close-up.

B. Yellow wood violets like to grow in shady environments.

C. Purple violets do better in sunny areas.

D. Purple violet *(Viola adunca)* close-up.

Many wild edible books say that violets have strong laxative properties. I have never found this to be particularly true. Violets, like all green plants, contain fiber, which aids in elimination. That said, if you've never experimented with violets, you might want to approach them with extra caution to avoid mishap. This mostly pertains to the violet greens, as they are more concentrated than the flowers. The flowers are mild and are a colorful addition to any recipe.

I like freezing violet flowers in water in ice-cube trays. These colorful ice cubes are a hit at every potluck.

Willow—*Salix* spp.

Family Name: Salicaceae/Willow Family

A. Willow shrub *(Salix purpurea)* near a river.

B. Thin leaves, waxy-looking bark.

C. Most willow species are water loving.

D. Willow leaves (Salix *purpurea)* close-up.

E. Tender young leaves are quite delicious.

Caution: Willow is absolutely safe for consumption. Willow parts are strongly flavored, and thus it is not recommended to use it as a bulk food.

Edible: Inner bark, twigs, sap, young leaves, and catkins.

Flavor: Bitter, but the young leaves and inner bark (cambium layer) are sweet.

Description: Willows range from small shrubs to trees thirty feet tall. Leaves are long and thin, and follow an alternate pattern. Willows like to grow in wet soil and are often found near riverbanks and lakeshores.

Uses: Willows contain salicylic acid, which is the active ingredient in aspirin and is used as a painkiller. Making a strong tea from willow

leaves, bark, and twigs can have a numbing effect on the body. For this reason, willow is often considered to be a medicinal plant that is rarely consumed in large quantities.

Nutritional Highlight: Prevents swelling and alleviates pain.

Helpful Tips: Willows have an inner bark (cambium layer) that is sweet and delicious. However, the improper harvesting of this layer can kill the whole tree. Instead of peeling away bark from the trunk of the tree, harvest individual branches for their inner bark.

ID Trick: Willows generally have long oval leaves with smooth edges. Willows love water and are easily spotted near rivers and streams.

Sergei Says: I don't generally harvest willow leaves for food, because they are bitter and often have an undesirable texture. However, willow leaves still contain nutrients that benefit the body. I think there is value in knowing that common trees are edible, so that if circumstances ever call for it, the know-how is there. I invite you to experiment with willows to see how you like their flavor.

Wood Sorrel—*Oxalis* spp.

Family Name: Oxalidaceae/Wood Sorrel Family

A. Wood sorrel has three heart-shaped leaves.

B. Wood sorrel prefers shady, wooded environments.

Caution: Wood sorrel is absolutely safe to eat.

Edible: Leaves, stems, flowers, and seeds.

Flavor: Sour and lemony.

Description: Wood sorrel leaves consist of three heart-shaped leaves at the top of a slender stem. Wood sorrel is often confused with clover, because both plants have similar leaf arrangements. One easy way to distinguish clover from sorrel is by the shape of the leaves. Clover has three oval leaves, while wood sorrel has three heart-shaped leaves. Wood sorrel leaves come in green, purple, and red varieties. Sorrel flowers are usually pink or yellow in color.

Uses: Leaves and flowers can be eaten raw in salads or as a trailside nibble. The tender leaves are sour and make a lovely addition to smoothies and salad dressings. When crushed, mixed with water, and sweetened, sorrel leaves make a mouth-watering lemonade substitute. I call this concoction “Sorrelade.” Check out my recipe for Sorrelade on this page.

Nutritional Highlight: Wood sorrel is great for treating constipation,

blood disorders, skin disease, rheumatism, and indigestion. Sorrel is also great for cleansing the system of heavy metals such as lead, arsenic, and mercury. Wood sorrel is an incredible source of iron that has been enjoyed by humans for thousands of years. In his book *Handbook of Edible Weeds*, James Duke describes how some Native American tribes viewed sorrel. The Potawatomi Indians traditionally cooked sorrel with sugar and made decadent desserts, while other tribes considered sorrel to be a powerful remedy for sore throats, coughs, cramps, and fever. Some even claimed it had aphrodisiac properties (Duke 2001). I love eating sorrel because it tastes amazing. As far as I'm concerned, all the other benefits are just a huge bonus!

Helpful Tips: Wood sorrel likes to grow in heavily shaded areas and probably gets its name for this reason. Next time you hike through a wooded area, try to spot a patch of heart-shaped leaves.

ID Trick: Wood sorrel never grows more than three leaves per stem. Leaves can range in color from purple to green. They are heart-shaped. If you find a plant that meets all of these characteristics, you can take a mini-nibble on one of the leaves. If it is sour, sorrel it is!

Sergei Says: Wood sorrel is almost always confused with clover and vice versa. Do an internet search for wood sorrel, and you will find countless images of clover that have been mislabeled. Perhaps the confusion stems from Saint Patrick's Day and shamrocks. Saint Patrick, Ireland's patron saint, used three-leafed clovers (shamrocks) to explain the Holy Trinity. According to Patrick, each leaf of a clover represented God, who is comprised of three parts: the Father, the Son, and the Holy Spirit. This is why shamrocks (clovers) are considered lucky. Since wood sorrel also has three leaves and grows near the ground like clover, people often confuse the two plants. When you know what to look for, differentiating between the two plants is actually very easy. Wood sorrel has three heart-shaped leaves, while clover has three oval leaves. Sorrel flowers have five wide petals, whereas clover flowers are round with many compound petals.

Yarrow—*Achillea millefolium*

Family Name: Asteraceae/Aster Family

A. Young yarrow plants.

B. Stems are covered in felt.

C. Yarrow leaves close-up.

D. Mature yarrow flowers. Photo: Larkin Carey

Caution: Yarrow is absolutely safe to eat.

Edible: Leaves, flowers, and stems.

Flavor: Bittersweet and fruity.

Description: Yarrow grows slender and upright. Leaves follow an alternate pattern and are made up of many small, fuzzy leaflets. Yarrow flowers grow in wide clusters at the top of the plant in an umbel shape. Yarrow has a pleasant, sweet smell that is reminiscent of herbal tea.

Uses: Use leaves and flowers as herbs to season recipes, or steep them in

boiling water for tea.

Nutritional Highlight: Yarrow has styptic properties, which enable it to stop bleeding. It also has antibacterial, anti-inflammatory, and painkilling properties.

Helpful Tips: A little goes a long way. To reap the benefit from yarrow, you only need to consume a small amount.

ID Trick: Yarrow smells a lot like chamomile. If you've smelled it once, you will remember it forever.

Sergei Says: Yarrow is a great antifungal, antibacterial, anti-inflammatory herb. It is in the sunflower family, which contains no poisonous plants. Though it is edible, it is not meant to be consumed in large amounts. Yarrow is very potent and can lead to an upset stomach if you overindulge. Tea brewed from yarrow leaves and flowers is a good remedy for fevers. It also purifies the blood and can be used to disinfect wounds. Young leaves can be eaten raw in salads, but use them sparingly, as the flavor can crowd the mix.

Wild Edible Recipes 

Wild edibles are culinary gifts that bring new flavors and textures into the kitchen. I pack weeds into my meals whenever possible, and I hope that, after reading this book, you will be inspired to do the same. If you're cooking an omelet, try adding some lamb's quarters and sheep sorrel. If you're making a pie, throw in a handful of freshly picked huckleberries. Use the recipes that I have provided as a starting point for your own exploration. Tweak, change, and alter them to suit your needs. Relying on yourself can be scary, but it can also be rewarding. The more I experiment with my food, the more masterful I become.

I have noticed most people who take my cooking classes are unsure about their ability to create delicious recipes. My students like to cling to exact proportions and instructions that are tried and true. Even though many of my recipes are structured for flexibility, and many delicious variations are possible, students hesitate to play with their food. When I demonstrate how to make a green smoothie in my classes, I often use a combination of spinach, mango, and water, because these ingredients are delicious and readily available. During one workshop, however, I was unable to find them and had to substitute bananas and kale. People loved the banana/kale smoothie and asked me for the recipe. I made a point to mention that there are tastier recipes for green smoothies, yet my words seemed to go unnoticed. A month later, I was still receiving emails from people who were exclusively making the banana/kale smoothie every morning, because they were afraid to try something new. While I can understand the fear behind experimenting (wasting time and ingredients), it's fun to be bold and try new things. I dare you to risk complete failure and create your own recipe.

Smoothies

Beginner Green Smoothie

1–2 cups freshly picked raspberries
1 cup spinach
1 banana, peeled
1 apple, chopped
1½ cups water
½ cup ice cubes

Blend all ingredients in a blender until the ice has been crushed to a desirable consistency. Decorate with raspberry flowers.

Serves 1–2

Marsh Mallow Smoothie

2 cups freshly harvested mallow leaves
½ of a honeydew melon, peeled, seeded, and chopped
1 cup frozen raspberries

Blend all ingredients in a blender until smooth.

Serves 3–4

Green smoothie decorated with seasonal fruit.
Photo: Robert Petetit Wild Amaranth Smoothie

3 cups freshly picked green amaranth

large apple, chopped

medium orange, peeled

ripe pear, chopped

ripe banana, peeled

cup water

cup frozen blueberries

Blend all ingredients in a blender until smooth. Pour into fancy glasses and decorate with a slice of orange.

Serves 3–4

Spring Beauty Smoothie

2 cups freshly harvested Siberian miner's lettuce leaves 2 cups watermelon cubes

1 cup frozen raspberries

1 ripe banana, peeled

Blend all ingredients in a blender until smooth.

Serves 2–3

Berries and Sprouts Smoothie

3 cups sunflower sprouts

2 cups freshly harvested blackberries

1 ripe pear, chopped

2 cups water

½ cup ice cubes

Blend all ingredients in a blender until the ice has been crushed to a desirable consistency. Decorate with blackberry flowers.

Serves 2–3

Dark Blue Green

1 cup freshly harvested huckleberries
1 cup kale, chopped
¼ to ½ bunch parsley
1 large pear, chopped
1 banana, peeled
2 cups water

Blend all ingredients in a blender until smooth.

Serves 2–3

Grape Leaf Elixir

3 cups freshly picked grape leaves
1 cup freshly picked grapes
1 mango, peeled, pitted, and chopped
1 cup water

Blend all ingredients in a blender until smooth.

Serves 3–4

Prickly Pear Slushy

3–4 prickly pears, skin removed
juice of ½ lime
1–2 tablespoons honey
½ cup ice cubes
a few leaves of lemon balm or mint

Blend all ingredients in a blender until the ice has been crushed to a desirable consistency. Pour into fancy glasses and decorate with fresh lemon balm or mint.

Serves 2–3

Costa Rica Night

BOTTOM LAYER:

1 cup sheep sorrel or wood sorrel
2–3 kale leaves
1 cup blueberries
1 cup cantaloupe cubes
juice of ½ lemon
2–4 tablespoons psyllium husk (a digestive aid)
1 tablespoon chia seeds
1 cup water

TOP LAYER:

½ cup coconut milk, from a fresh coconut
1 cup coconut meat, from a fresh coconut
½–1 cup dates, pitted
¼ cup lemon juice
2–4 tablespoons psyllium husk (a digestive aid)
1 tablespoon chia seeds

Blend all ingredients for bottom layer in a blender until smooth. Fill glasses halfway. Then blend all ingredients for top layer until smooth. Pour over first layer. Decorate and enjoy.

Serves 3–5

Super Green Wild Soup (a savory smoothie)

cup freshly picked purslane
cup freshly picked sheep sorrel
bunch cilantro
3 stalks celery, chopped
large tomato, chopped

large avocado, peeled and pitted
–½ cup lemon juice
cup water
Blend all ingredients in a blender until smooth.

Serves 2–3

Cream of Celery Smoothie (a savory smoothie)

4 stalks celery, chopped
bunch parsley
cup freshly harvested chickweed
large tomato, chopped
large cucumber, peeled and chopped
–½ cup lemon juice
cup water
Blend all ingredients in a blender until smooth.

Serves 2–3

Pink-Chick-Delight

1–2 cups freshly harvested chickweed
½ cup dates, pitted
1 cup fresh or frozen raspberries
1–2 fresh persimmons, chopped
2–3 fresh apricots, pitted and halved
2 tablespoons psyllium husk (a digestive aid) 1 cup water

Blend all ingredients in a blender until smooth.

Serves 2

Omega-3 Smoothie

1 cup freshly harvested purslane
1 small head romaine lettuce, chopped
1 cup blueberries
1 cup grapes
2–3 sprigs mint
1 cup water

Blend all ingredients in a blender until smooth.

Serves 2

Morning Rainbow

½ bunch parsley
½ bunch chard, chopped
1 cup apricots, pitted and halved
1 cup red currants
1 large pear, chopped
1 large mango, peeled, pitted, and chopped
1 cup water

Blend all ingredients in a blender until smooth.

Serves 2

Briana's Wild Dream

2 cups freshly harvested lamb's quarters
mangos, peeled, pitted, and chopped
large Fuji apple, chopped
cup frozen strawberries
cup water
Blend all ingredients in a blender until smooth.

Serves 2

Peachy Herbs

1 cup freshly picked lamb's quarters
½ cup fresh basil leaves
3–4 large peaches, halved and pitted
2 ripe bananas, peeled
½–1 cup water

Blend all ingredients in a blender until smooth.

Serves 2

Dandi-Strawberry Peach

½ cup freshly harvested dandelion greens
3–4 beet leaves
3 large peaches, halved and pitted
1–1½ cups fresh or frozen strawberries
½–1 cup water

Blend all ingredients in a blender until smooth.

Serves 2

Mike's Banandelion Smoothie

–1 cup freshly harvested dandelion greens
large mango, peeled, pitted, and chopped
2 ripe bananas, peeled
cup water
Blend all ingredients in a blender until smooth.

Serves 1

Green Ambrosia

1–2 cups freshly harvested green amaranth leaves

2 cups watermelon cubes
5–7 apricots, pitted and halved
1–2 ripe bananas, peeled
3–4 sprigs mint
½ cup water

Blend all ingredients in a blender until smooth.

Serves 2

Soup-er Green (a savory smoothie)

1 cup freshly harvested mustard leaves
2–3 kale leaves, chopped
2–3 stalks celery, chopped
1 avocado, peeled and pitted
½ cup lemon juice
1 cup water
dulse sea vegetable flakes

Blend all ingredients in a blender until smooth. Sprinkle with dulse sea vegetable flakes and enjoy.

Serves 2–3

Summer Splash

1 cup freshly harvested green amaranth leaves
1 cup freshly harvested lamb's quarters greens
5 large peaches, halved and pitted
2 ripe bananas, peeled
1 large apple, chopped
1 cup water
ice cubes (optional)

Blend all ingredients in a blender until the ice has been crushed to a desirable consistency.

Serves 3–4

Skin Smoothies

Dock Plantain Skin Smoothiexy

1–2 cups freshly picked dock and/or plantain leaves

¼ of an avocado, peeled and pitted

½ cup water

Blend all ingredients in a blender until smooth. Apply to any area of skin that is experiencing discomfort. Let it dry, then rinse off.

Green Aloe Skin Cream

1 medium leaf aloe vera

½–1 cup freshly picked plantain leaves

½ cup rolled oats

2 tablespoons honey

enough water to blend the mixture

Blend all ingredients in blender until smooth. Apply to face or another area of skin and let it dry (about 10 to 15 minutes), then rinse off.

Salads and Salad Dressings

Miner's Lettuce Salad

4 cups miner's lettuce

½ cup fresh basil, chopped

¼ cup dried tomatoes (left dry or soaked in water

for 15 minutes to reconstitute)

¼ cup pine nuts

Mix all ingredients in a bowl.

DRESSING:

1 tablespoon balsamic vinegar

1 tablespoon olive oil

½ teaspoon sea salt

Thoroughly mix ingredients in a small container and pour over salad. Decorate with edible flowers and enjoy.

Serves 3

Endive Cattail Salad served in a purple cabbage leaf. Photo: Robert Petetit Endive Cattail Salad

cup freshly harvested, tender cattail rootstocks, chopped 1–2 small heads endive, chopped

cup ripe cherry tomatoes, halved

Mix all ingredients in a bowl.

DRESSING:

1–2 tablespoons olive oil
Sea salt to taste
Lemon juice to taste
Pinch of fresh rosemary, minced

Thoroughly mix ingredients in a small container and pour over salad.

Serves 2

Thimbleberry Salad

1 head romaine lettuce, chopped
1 navel orange, peeled, seeded, and sliced
1 pint freshly picked thimbleberries
¼ cup pine nuts

Mix all ingredients in a bowl. Decorate with edible flowers or colorful fruit.

DRESSING:

2 tablespoons olive oil
1 tablespoon balsamic vinegar
1 teaspoon agave syrup
½ teaspoon sea salt

Thoroughly mix ingredients in a small container and pour over salad.

Serves 2

Wild Daisy Salad

2 cups freshly harvested daisy leaves
2 cups baby spinach leaves
1 medium tangerine, peeled and sliced

pinch of freshly grated ginger

¼ cup dried cranberries

¼ cup roasted sunflower seeds

Mix all ingredients in a bowl.

DRESSING:

¼ cup olive oil

juice of ½ lemon

salt to taste

Thoroughly mix ingredients in a small container and pour over salad. Decorate with daisy flowers and serve.

Serves 2–3

Simple Cattail Salad

2 cups tender cattail shoots, thinly sliced

1 cup of your favorite baby greens mix

1 cup cherry tomatoes, halved

½ bunch basil leaves, chopped or whole

¼ of a small red onion, thinly sliced

Mix all ingredients in a bowl.

DRESSING:

¼ cup olive oil

juice of ½ lime

2 tablespoons nutritional yeast

salt to taste

Thoroughly mix ingredients in a small container and pour over salad. Decorate with edible flowers.

Serves 2–3

Spicy Pennycress Salad

2 cups fresh pennycress greens, chopped

1 cup fresh baby arugula

5–7 mini sweet peppers, thinly sliced

1 cup cherry tomatoes, cut in half

Mix all ingredients in a bowl.

DRESSING:

¼ cup olive oil

juice of ½ lemon

¼ cup tamari

¼ cup chives, minced

Thoroughly mix ingredients in a small container and pour over salad. Enjoy this salad as a traditional salad or use it as the filling for a wrap, rolled inside a collard leaf or whole-wheat tortilla.

Serves 3–4

Melon Mint Summer Salad

2 cups honeydew melon, seeded, then cubed or balled

2 cups cantaloupe, seeded, then cubed or balled

2 cups watermelon, seeded, then cubed or balled

1 cup freshly picked mint leaves and flowers, whole or thinly sliced 1 pint blueberries

Chill melons in the refrigerator for 30 minutes beforehand. Mix all ingredients in a bowl. Decorate with edible flowers.

Serves 4–5

Chickweed Cranberry Salad

cups freshly picked chickweed greens
cucumber, peeled and sliced
cup cranberries, chopped
cup cherry tomatoes, cut in half
cup chives, minced
tablespoon tamari sunflower seeds
Mix all ingredients in a bowl.

DRESSING:

1–2 tablespoons olive oil
1 teaspoon nutritional yeast
juice of ½ lime
salt to taste

Thoroughly mix ingredients in a small container and pour over salad. Enjoy this salad as a traditional salad, or use it as the filling for a wrap, rolled inside a collard leaf or whole-wheat tortilla.

Serves 3–4

Salad Dressings

Salmonberry Vinaigrette

1 cup freshly harvested salmonberries
juice of 1 orange
¼ cup olive oil
¼ cup red wine vinegar
1–2 tablespoons honey
pinch of sea salt

Blend all ingredients in a blender until smooth. Serve on your favorite

salad. Store extra dressing in refrigerator.

Blue Serviceberry Dressing

cup freshly harvested serviceberries
ice of 1 orange
cup cilantro
cup olive oil
cup balsamic vinegar
2 tablespoons honey
nch of sea salt
3 cloves garlic (optional)

Blend all ingredients in a blender until smooth. Serve on your favorite salad. Store extra dressing in refrigerator.

Huckleberry Salad Dressing

½ cup freshly picked huckleberries
½ cup freshly squeezed orange juice
¼ cup olive oil
¼ cup balsamic vinegar
salt to taste

Blend all ingredients in a blender until smooth. Pour over your favorite salad. Store extra dressing in refrigerator.

Super Basic, Super Delicious Dressing

cup olive oil
cup apple cider vinegar
cup freshly squeezed orange juice
3 cloves garlic, minced
teaspoon nutritional yeast

lt to taste

Mix all ingredients in a jar. Pour over your favorite salad. Store extra dressing in refrigerator.

Spreads and Crackers

Dandelion and Sun-Dried Tomato Pesto

bunch freshly harvested dandelions

s big or as little as you like)

cup pine nuts

cup sun-dried tomatoes, soaked in water

r 15 minutes to reconstitute

5 cloves garlic

tablespoons olive oil

tablespoons lemon juice

teaspoon salt (or to taste)

Blend all ingredients in food processor until thoroughly mixed. Serve with crackers, breads, pasta, veggies, and so forth. Store extra pesto in refrigerator or freezer.

Sow Thistle Pesto

2 cups freshly harvested sow thistle leaves

½ cup pine nuts

½ cup walnuts

4–5 cloves garlic

2 tablespoons olive oil

2 tablespoons lemon juice

1 teaspoon salt (or to taste)

Blend all ingredients in a food processor until thoroughly mixed. Serve

with crackers, breads, pasta, veggies, and so forth. Store extra pesto in refrigerator or freezer.

Stinging Nettle Walnut Pesto

cup stinging nettle leaves

cup walnuts

5 cloves garlic

tablespoon olive oil

tablespoon lemon juice

teaspoon sea salt

cup sun-dried tomatoes (optional), soaked in water for 15 minutes to reconstitute

Blend nettles in blender to destroy spines. Add remaining ingredients and blend thoroughly. Add more oil or lemon juice if necessary. Serve like regular pesto, on crackers, bread, pasta, and so forth. Store extra pesto in refrigerator or freezer.

The World's Best Hummus

2–3 cups soaked chickpeas (you can also used cooked) 4–5 cloves garlic

¼–½ cup tahini (sesame seed butter)

¼ cup lemon juice

½ cup water

2 tablespoons wheat-free tamari

2 tablespoons extra-virgin olive oil

1 teaspoon ground cumin

salt to taste

fresh herbs, like cilantro or parsley, for additional flavor (optional)

Blend all ingredients in a food processor until texture is creamy. Enjoy as a dip or add to sandwiches and wraps.

HOW TO SOAK CHICKPEAS:

Place chickpeas in a bowl and cover with 2 to 3 times as much water, as they will expand. Soak for at least 8 hours. Drain the soaking water. Rinse thoroughly with water. Repeat rinsing process if you like.

Chia Flax Crackers with Weeds

cups chia seeds, soaked 8 hours

cup golden flaxseed

cup dried tomatoes, chopped

bunch fresh basil, chopped

cup sheep sorrel leaves

2 cups common mallow leaves

cloves garlic

ice of 1 lemon

teaspoon sea salt

cup raw agave nectar

Blend ingredients in food processor. Spread onto dehydrator trays (about ¼ inch thick) and dry for 10 to 12 hours at 110°. Once crackers are fully dried, you can cut them into desired size and shape.

Yields 25–30 crackers.

Nori Crackers

3 cups sunflower seeds, soaked 8 hours

4–6 stalks of celery, chopped

1 large white onion, chopped

½ bunch fresh cilantro

3 cloves garlic

2–3 tablespoons olive oil

juice of ½ lemon

1 teaspoon sea salt

10–12 nori sheets

Blend all ingredients except nori sheets in food processor until finely chopped. Spread mixture about ¼ inch thick on crispy sheets of nori and place in dehydrator. Dry for 16 to 18 hours at 110°. Once crackers are fully dried, you can cut them into desired size and shape.

Yields 18 crackers.

Garden Crackers with Lamb's Quarters

cups sunflower seeds, soaked 8 hours

cup flaxseed, ground

cup freshly harvested lamb's quarters

carrots, grated

stalks of celery, chopped

large white onion, chopped

5 cloves garlic

3 tablespoons olive oil

teaspoon sea salt

teaspoon fresh or dried oregano

teaspoon thyme

–12 nori sheets

Blend all ingredients except nori sheets in food processor until finely chopped. Spread mixture about ¼ inch thick on crispy sheets of nori and place in food dehydrator. Dry for 16 to 18 hours at 110°. Once crackers are fully dried, you can cut them into desired size and shape.

Yields 18 crackers.

Garden Crackers with Lamb's Quarters.

Soups

Cashew Celery Soup (a cold soup)

1 medium bunch of celery, chopped
1½ cups raw cashews
¼ cup olive oil
¼ cup lemon juice
1½–2 cups water
1–2 tablespoons honey or agave syrup
1 teaspoon sea salt
cayenne pepper to taste

Blend all ingredients in a blender for 3 minutes or until creamy. Decorate with fresh thyme and seasonal vegetables.

Serves 2–3

Cashew Celery Soup with Chia Flax Crackers.
Photo: Robert Petetit Sergei's Favorite Quick Soup

-4 cups water
medium yam
-3 stalks celery, chopped
-5 shitake mushrooms, chopped
heads baby bok choy, chopped
onion, chopped
jalapeño, seeds and ribs removed, minced
tablespoons olive oil
tablespoon nutritional yeast
a salt or tamari to taste

Boil 3–4 cups of water. Add all vegetables and cook for 12 to 15 minutes on medium heat. Do not overcook. Ingredients should be colorful and maintain some crispness when served. Add remaining ingredients to soup and serve.
Note: This is a great soup to add wild greens or your favorite herbs to.

Serves 3–4

Purslane Summer Soup (a cold soup)

1–2 cups freshly picked purslane leaves
2 cups ripe tomatoes, chopped
½ bunch fresh basil
½ habanero pepper, seeds and ribs removed
1 tablespoon olive oil
juice of ½ lemon
1½–2 cups water
1 teaspoon honey
½ teaspoon sea salt

Blend all ingredients in blender until smooth. Add the following ingredients for texture:

cup freshly picked purslane leaves
medium carrot, grated
cup walnuts, chopped, soaked in water for 15 minutes

Garnish with chopped olives and sun-dried tomatoes.

Serves 2–3

Stinging Nettle Soup

1 quart water
3 medium potatoes, peeled and chopped
1 carrot, chopped
½ pound fresh stinging nettles, chopped
1 teaspoon salt (or to taste)
½ teaspoon cayenne (or to taste)
2 tablespoons olive oil
2 tablespoons lemon juice

Bring water to boil. Add potatoes. When potatoes start boiling, turn the heat down and add carrots. Simmer for 10 minutes. Add stinging nettles. Simmer 1 more minute. Add salt and cayenne.

Add a drizzle of oil and lemon juice to individual bowls when serving.

Serves 2–3

Lamb's Quarters Soup (a cold soup)

cup cashews

ripe tomato, chopped

½–2 cups water

3 cloves garlic

teaspoon onion powder

ice of ½ lime

tablespoon olive oil

teaspoon agave syrup

½ teaspoon sea salt

Blend all ingredients in blender until smooth. Add the following ingredients for texture:

cup freshly picked lamb's quarters, chopped

medium avocado, peeled, pitted, and chopped

red bell pepper, sliced into strips

Decorate with edible flowers and serve.

Serves 2–3

The Ever-Changing Dried Soup with Weeds (a hot or cold soup)

pound carrots, grated

–15 stalks celery, chopped

red bell peppers, cored and chopped

pound mushrooms, sliced

large red or yellow onion, chopped

large tomatoes, chopped

bunch parsley, chopped

cups sheep sorrel, chopped

cup chickweed, chopped

cup dandelion flowers, chopped

Note: You can add any other wild edibles that are in season.

Spread chopped ingredients on dehydrator trays and dry at 110° until bone dry.

Once dry, mix all veggies together and place in resealable bag. This is your dried soup mix. To reconstitute, sprinkle ½–1 cup of dried soup mix into warm or hot water. Add your choice of oil, salt, onion powder, and/or lemon juice for flavor. Allow soup to sit for 10 minutes before serving.

Yields 1½–2 pounds of dry soup.

Sheep Sorrel Soup

1 quart water

2 medium potatoes, peeled and chopped

1 carrot, grated

1 stalk celery, chopped

1 bunch parsley

¼ pound fresh sheep sorrel, chopped

1 teaspoon salt (or to taste)

½ teaspoon cayenne (or to taste)

2 tablespoons olive oil

lemon juice (to taste)

Bring water to boil. Add potatoes. When potatoes start boiling, turn the heat down and add carrot and celery. Simmer for 10 minutes. Add

parsley and sheep sorrel and simmer for a few more minutes.

Add salt, cayenne, olive oil, and lemon juice to individual bowls when serving.

Serves 2–3

Light Main Courses

Quinoa Magic

1 cup uncooked quinoa

½ cup fresh or frozen peas

½ bunch fresh cilantro, diced

2–3 cloves garlic, minced

2 green onions, minced

2 tablespoons olive oil

1 tablespoon nutritional yeast

sea salt or tamari to taste

your favorite wild edible greens (optional)

Boil 3 cups of water. Add 1 cup of quinoa and cook for 15 to 20 minutes on medium heat, until quinoa tails are completely unraveled. Pour off any excess water and add remaining ingredients. Mix and serve.

Cashew Garden Burger with Weeds served as pâté with endive and vine-ripened tomato. Photo: Robert Petetit Note: You can experiment with other ingredients. As long as you have salt, nutritional yeast, and some kind of herb in this dish, it will taste great with just about any vegetables.

Serves 3–5

Cashew Garden Burgers with Weeds

2 cups cashews

1 cup dried tomatoes, rehydrated in water for 5 to 10 minutes and drained (reserve tomato water, as it might be needed) ½–1 cup seasonal weeds (lamb's quarters, green amaranth, purslane, common mallow, and wild mustard are delicious in this recipe)

½ bunch cilantro

2 tablespoons olive oil

3–5 cloves garlic

½–1 teaspoon sea salt

Lemon juice to taste

Ground pepper to taste

Blend all ingredients in food processor. If mixture is too dry to blend properly, add some of the water from the soaked dried tomatoes. Serve fresh as a pâté or dry into garden burger patties in food dehydrator. If drying, scoop processed mixture onto dehydrator trays and flatten into patties that are ½ to ¾ of an inch thick. Dry for 10 to 12 hours at 110°, then flip the patties and continue drying for 4 to 6 hours.

Yields 5–7 patties.

Quick Salsify Wraps

3 large collard leaves with stems cut off

out ½ cup of your favorite hummus (check out my hummus recipe on this page) 1 cup freshly harvested salsify leaves and flowers

Spread out desired amount of hummus on each collard leaf. Add a generous amount of salsify greens and flowers.

DRESSING:

2 tablespoons olive oil

juice of ½ lemon

1 tablespoon nutritional yeast

½ teaspoon cayenne (or to taste)

salt to taste

Mix remaining ingredients in a small container, sprinkle over greens, and roll up into individual wraps.

Serves 3

Sautéed Wild Greens

3–5 cups of your favorite wild greens, such as chicory leaves, wild mustard, shepherd's purse, or lamb's quarters ¼ cup extra-virgin olive oil

4 large garlic cloves, minced

¼ fresh jalapeño pepper, minced

small piece of fresh ginger, minced

salt or soy sauce to taste

bean sprouts (optional)

Cook greens in a pot of boiling, salted water until tender. Drain well. In a separate pan, heat oil over medium heat until it shimmers. Cook garlic, jalapeño, and ginger for about 2 minutes or until golden. Stir as necessary. Add cooked greens and increase heat to medium-high. Stir occasionally, until most of the liquid has evaporated (3 to 5 minutes). Stir in desired amount of salt and/or soy sauce. Mix in bean sprouts for added texture (optional).

Serve as a side dish by itself or on top of rice or quinoa.

Serves 4–5

Steamed Wild Lettuce

3–4 cups wild lettuce leaves and stalks

½ cup olive oil

juice of ½ lemon

½ habanero pepper, seeds and ribs removed, minced

3–4 cloves garlic, minced

1 tablespoon nutritional yeast

salt to taste

Steam wild lettuce for 5 to 7 minutes. Mix the remaining ingredients in a small container, pour over lettuce, and serve. Wild lettuce tastes delicious on its own, as well as in wraps and sandwiches.

Serves 2–3

Roasted Veggies with Burdock

small butternut squash, peeled, seeded, and cubed

garnet yam, peeled and cubed

-4 medium burdock roots, washed and chopped

large parsnips, chopped

red onion, chopped

potatoes, cubed

tablespoon fresh thyme, chopped

tablespoons fresh rosemary, chopped

–½ cup olive oil

tablespoons balsamic vinegar

tablespoons nutritional yeast

lt and freshly ground black pepper

Preheat oven to 475˚. In a large bowl, combine squash, yam, burdock, parsnips, onion, and potatoes. In a small bowl, stir together thyme, rosemary, olive oil, vinegar, yeast, salt, and pepper. Toss with vegetables until they are coated. Spread evenly on a large roasting pan.

Roast veggies for 35 to 40 minutes, stirring every 10 minutes, or until fully cooked.

Serves 3–5

Marinated Fiddleheads

5 cups freshly harvested fiddleheads, brown fuzz removed 1 cup molasses

½ cup olive oil

½ cup balsamic vinegar

5–8 cloves garlic, minced

Small piece fresh ginger, minced

¼ cup soy sauce

1 teaspoon sea salt

Steam fiddleheads for 4 to 6 minutes. Drain and transfer into a deep bowl. Mix all remaining ingredients, combine with fiddleheads, and let marinate for 15 to 20 minutes. Strain and serve.

Serves 4–6

Steamed Cat's Ears

3–4 cups freshly picked cat's ears leaves and stalks, chopped
½ cup olive oil
juice of ½ lemon
1 tablespoon nutritional yeast
salt to taste

Steam cat's ears for 5 to 7 minutes. Transfer to a bowl. Mix the rest of the ingredients in a small container and pour over cat's ears. Steamed cat's ears taste delicious on their own, as well as in wraps and sandwiches.

Serves 2–3

Simple Mallow Wraps

2–3 cups freshly harvested common mallow leaves
1 avocado, peeled, pitted, and thinly sliced
lemon or lime juice to taste
sea salt (optional)

Wrap avocado inside greens. Sprinkle with lemon or lime juice and salt.

Juices and Drinks

Carrot Clover Cleanser

1 pound organic carrots
4–5 celery stalks
1 cup freshly harvested clover greens
1–2 apples
juice of ½ lemon

Juice all ingredients in a juicer and enjoy.

Serves 3–4

Carrot Clover Cleanser

Easy Joint Lubricator Carrot Clover Cleanser.

1 bunch celery
1–2 cups freshly harvested common mallow greens, stems, and fruits
2–3 apples
Fresh ginger to taste
Lemon juice to taste, optional

Juice all ingredients in a juicer and enjoy.

Serves 2–3

Sorrelade

1 cup sheep sorrel or wood sorrel leaves

2–3 cups water

2 tablespoons honey

½ cup ice cubes

a few mint leaves (optional)

Blend all ingredients in a blender until the ice has been crushed to a desirable consistency.

Serves 3

Wild Strawberry Sun Tea

1 pint freshly picked wild strawberries

1 bunch fresh mint

1 thumb-sized piece of ginger, minced

2–4 tablespoons honey

1 lime, cut in half

Put all ingredients in a gallon jar and fill with water. Cover jar with a lid and place in a sunny spot. Let water absorb the flavors for 8 to 12 hours. Strain mixture before serving.

Serve chilled or with ice.

Serves 4–6

Pine Needle Tea

½ cup freshly picked pine needles, finely chopped

Add needles to 2 cups of boiling water, turn down temperature, and let simmer for 15 to 20 minutes.

Turn off heat and let steep for 10 to 20 minutes, depending on how strong you like your tea. The result will be a yellow-colored tea with a mild taste. Enjoy hot or cold. It can also be stored in the refrigerator after brewing.

Note: You can use any evergreens for this tea: fir, spruce, or cedar.

Yarrow Tea

½ cup freshly picked yarrow leaves

Add leaves to 2 cups of boiling water, turn down temperature, and simmer for about 15 to 20 minutes.

Turn off heat and let steep for 10 to 20 minutes, depending on how strong you like your tea. Enjoy hot or cold. It can also be stored in the refrigerator after brewing.

Pineapple Weed Tea

½ cup freshly picked pineapple weed (wild chamomile) leaves

Add leaves to 2 cups of boiling water, turn down temperature, and let simmer for 15 to 20 minutes.

Turn off heat and let steep for 10 to 20 minutes, depending on how strong you like your tea. Enjoy hot or cold. It can also be stored in the refrigerator after brewing.

Plantain Cocktail

1–2 cups fresh plantain leaves

3 apples, chopped

½ lime with peel

1 thumb-sized piece of fresh ginger

Juice ingredients in juicer. Add ice cubes or chill before serving. Decorate with edible flowers.

Serves 2

LOWERY ICE CUBES

Harvest any edible flowers, such as chickweed, violet, or dandelion flowers, and freeze them in water in ice-cube trays. Add the flowery ice cubes to any drink.

Sweets

Raw Chocolate Energy Nuggets with Huckleberries

cups almonds

cups rolled oats

cup dried huckleberries

cup almond butter

cup dates, pitted

3 tablespoons honey, agave, or maple syrup

4 tablespoons raw cocoa powder

asonal fruit

Blend almonds and rolled oats in a food processor until finely chopped and transfer them to a bowl. Then mix huckleberries, almond butter, dates, and honey or syrup in the food processor. Combine all ingredients in a bowl and mix thoroughly with hands. Roll mixture into small nuggets and dust with raw cocoa powder. Decorate with seasonal fruit.

Serves 5–7

Raw Chocolate Energy Nuggets with Huckleberries.
Photo: Robert Petetit Rose Hip Syrup

3 pounds ripe rose hips

1 cup water

1 cup honey

Wash rose hips and remove any stems and ends. Simmer rose hips in water in a stainless steel saucepan for 15 minutes or until tender. Mash with potato masher. Simmer another 5 minutes.

Pour through several layers of cheesecloth or a nut milk bag and allow liquid to drip overnight into a large bowl. Return juice to saucepan, add honey, and stir well. Bring mixture to a boil and boil for 1 minute. Pour into sterilized pint or half-pint jars and seal. Process for 10 minutes in a boiling water bath or freeze.

Traditional Berry Jam

6 cups freshly harvested berries, such as salmonberries, blackberries, raspberries, currants, gooseberries,

serviceberries, strawberries, or huckleberries

½ cup water

4 cups raw cane sugar

Boil water and berries for 15 minutes or until softened. Use a potato masher to crush. Stir in sugar and simmer, stirring often, for 20 minutes. Remove from heat; skim off any foam that may have formed on top. Pour berry mixture into sterilized pint or half-pint jars and seal. Process for 15 minutes in a boiling water bath or freeze.

Afterword

While working on this book, I received the following email from one of my readers: "Sergei, with all of the information you put out about wild edibles, are you trying to create a new fad diet?"

This was not the first time I had been approached with this kind of inquiry. Foraging is not a new practice that I—or anyone else in the last two hundred years—have invented. If wild food is gaining popularity in today's world, it is out of necessity, not gimmick. People have been eating wild foods since the dawn of existence. Before stores and farmers' markets, there were fields and meadows full of edible, wild vegetation. Even America's Founding Fathers promoted foraging. In June of 1777, George Washington issued this general order to his soldiers:

> As there is a plenty of common and French sorrel, lamb's quarters, and watercress, growing about camp, and as these vegetables are very conducive to health, and tend to prevent scurvy and all putrid disorders.… The General recommends to the soldiers the constant use of them, as they make an agreeable salad, and have the most salutary effect. The regimental officer of the day is to send to gather them every morning, and have them distributed among the men.

While Washington was not a doctor or trained in medicine, he observed that his soldiers would suffer from health problems due to lack of nutrients and a repetitive diet. Through observation, Washington deduced that adding fresh, wild greens into his soldiers' diets improved their health, reduced infection, and prevented scurvy (Grivetti *et al.* 2007).

Since I began promoting wild edibles in the early 2000s, I have witnessed a huge increase in the public's awareness of them. Today, it is not uncommon to walk into a grocery store and find bunches of dandelions and watercress neatly stacked in the produce section. My local food co-op regularly sells purslane, nettles, and lamb's quarters. Years ago, when I approached a local farmer at the Ashland, Oregon,

farmers' market and asked him to sell me some weeds, he looked at me as though I were totally insane. Now, in 2013, that same farmer does sell weeds—and he sells out of his weeds within the first two hours of vending.

Many worldwide have already noticed the colossal advantages associated with eating wild foods. Weeds are incredible, healthy, and edible. That is why they have been eaten for thousands of years and why people will likely continue eating them for thousands more. I predict that as we continue manipulating what we eat and suffering from health problems, the demand for pure food will increase. Therefore, the wild edible movement will not die out as a fad, but will continue to grow indefinitely. I hope that the popularity of foraging continues snowballing until, one day, it is considered just as normal to throw chickweed and mallow into your salad as it is to eat potato chips from a bag.

For additional information about foraging, check out my videos on YouTube and subscribe to my channel, "BoutenkoFilms." If you would like to help popularize wild food, share my videos with your friends. You can also like my wild edible page on Facebook (Wild Edibles with Sergei Boutenko).

Glossary

Alternate: Growing from opposite sides of a stalk at different points along its length. (Compare an opposite leaf pattern, in which leaves grow on opposite sides of the stalk at the same point.) **Basal rosette:** Leaves that are grouped from a central point in a circular shape (growing from the base of the plant, at ground level).

Biennial: A plant that normally has a two-year life cycle, spending the first year as a stalkless basal rosette storing energy, and using that energy to produce a flower stalk in the second year, after which the plant dies.

Bloom: A thin waxy or powdery coating that can be rubbed off. Often found on fruit and smooth herb stems; bloom gives the surface a lighter hue.

Bract: A small, modified leaf found directly beneath a flower or flower cluster.

Bulb: A modified bud, such as an onion, in which the leaves are enlarged and thickened to store energy.

Calyx: The sepals of a flower considered as a group.

Cambium: The layer of dividing cells that lies between the wood and bark of a tree. Sometimes called the “inner bark.”

Cane: The slender woody stem of a bramble fruit, like raspberries. Canes often grow in clumps, giving them a bush-like appearance.

Chaff: The unwanted, inedible dried flower and fruit parts that are separated from a grain by rubbing and then removed by winnowing.

Channeled: Having a groove or depression running lengthwise; usually said of petioles.

Common name: The local name given to a plant or animal species.

Composite: A flower cluster that appears as one flower (such as a daisy) in which many tiny florets are clustered on a receptacle.

Compound leaf: A leaf that consists of multiple leaflets.

Corm: A short, thick, solid, food-storing stem that grows underground.

Cyme: A broad, flat-topped, or convex cluster of flowers that is not an umbel.

Entire: Having no divisions, lobes, or teeth; said of a leaf or leaflet.

Fiddlehead: The young shoot of a fern, upon which the end parts are coiled or drooping rather than pointed.

Floret: One of the many tiny flowers of a composite flower.

Flower bud: A flower that is not ready to open.

Flower stalk: A stalk that bears a flower or flowers.

Frond: The leaf or aboveground stem of a fern; a large compound leaf of a palm.

Fruitarian: A person whose diet consists solely of fruit.

Globose: Spherical or roughly spherical.

Green smoothie: A blended drink made from fresh fruits and green leafy vegetables.

Kernel: An edible seed, or the edible portion of a seed.

Lanceolate: Lance-shaped.

Latin name: A name used within scientific communities around the world to convey the genus and species of a plant or animal.

Leaflet: One of the smaller leaves or blades within a compound leaf.

Lobe: An extension of a leaf blade; a division of a leaf that is broadly attached rather than constricted or stalked at the base, as on the leaves of white and red oak.

Margin: The outer edge of a leaf.

Midvein: The main vein of a leaf.

Mucilage: A sticky or slimy substance, usually indicating the presence of dissolved starches. *Mucilaginous* refers to plants or plant parts that contain mucilage or produce mucilage when chewed.

Node: The point on a stem where one or more leaves are borne.

Nori: A type of seaweed sold in paper-like sheets at the supermarket. Commonly used in Asian cuisine.

Opposite: Growing from the same point along a stalk but on opposite sides of it; paired. (Compare an alternate pattern, in which leaves grow on opposite sides but at different points along the stalk.) **Ovate:** Roughly egg-shaped; somewhat longer than broad, with the widest part near the base.

Palmate: Hand-shaped, having several finger-like lobes.

Palmately compound: Having several leaflets radiate from the same point.

Panicle: A flower cluster with a compound branching pattern, the branches growing from an elongated central stalk. Grapes are a well-known example.

Pedicel: The stem of an individual flower or fruit within a cluster.

Perennial: Any plant that typically lives for more than two years.

Petal: One of the innermost set of modified leaves of a flower, usually brightly colored.

Petiole: The stem or stalk of a leaf.

Pinnate: Feather-like; with leaflets, branches, or veins arranged in two rows along opposite sides of a midvein or midrib; the most common form for ferns, also seen in most legume leaves and compound tree leaves such as walnut, hickory, and ash.

Pistil: The central female part of the flower, which receives the pollen. It is usually much larger than the stamens (if both present).

Pith: The soft, spongy material found in the center of many stems.

Poisonous plant: A plant that contains harmful elements and can cause pain or discomfort to those that consume it.

Potherb: A green eaten after boiling or steaming.

Quinoa: A protein-rich, South American grain that is available for purchase at most health food stores around the world.

Raceme: A flower cluster in which each flower is borne on a stem emanating from an elongated central stem.

Rhizome: An underground stem that sends out roots and shoots from its nodes.

Rib: A pronounced vein in a leaf.

Root: The part of a plant that anchors it in the ground. The root also absorbs water and nutrients.

Rootstock: A root or part of a root used as a stock for plant propagation.

Sagittate: Arrow or arrowhead-shaped, with two sharp lobes at the base of the leaf.

Search image: A picture that your brain creates about a certain object that helps you identify that object.

Sepal: One of the separate, usually green parts forming the calyx of a flower. Sepals usually form directly under a flower.

Serrated: With sharp teeth of somewhat uniform size.

Shoot: Rapidly growing stem or stalk of a plant, like asparagus. Leaves may be present, but are not fully formed and comprise a small portion of the shoot's volume.

Simple leaf: A leaf that is not compound; a single-leaf unit.

Stamen: The male, pollen-bearing part of a flower. Usually multiple.

Succulent: Thick, fleshy, and juicy.

Taproot: A primary, central root that grows downward rather than laterally or horizontally.

Tendril: A twisting, threadlike structure by which a twining plant, such as a grape or cucumber, grasps an object or a plant for support.

Tuber: An enlargement of a stem in which energy is stored, such as a potato. Tubers are often very starchy.

Umbel: A flat-topped or rounded flower cluster in which the individual flower stalks arise from about the same point.

Winnowing: To separate the chaff from grain by means of a current of air.

Recommended Readings

Kallas, John. *Edible Wild Plants: Wild Foods from Dirt to Plate*. Layton, UT: Gibbs Smith, 2010.

Kershaw, Linda. *Edible and Medicinal Plants of the Rockies*. Edmonton, AB: Lone Pine, 2000.

Louv, Richard. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books of Chapel Hill, 2008.

Schofield, Janice. *Discovering Wild Plants: Alaska, Western Canada, the Northwest*. Anchorage: Alaska Northwest Books, 2003.

Thayer, Samuel. *The Forager's Harvest: A Guide to Identifying, Harvesting, and Preparing Edible Wild Plants*. Birchwood, WI: Forager's Harvest Press, 2006.

———. *Nature's Garden: A Guide to Identifying, Harvesting, and Preparing Edible Wild Plants*. Birchwood, WI: Forager's Harvest Press, 2010.

References

Angier, Bradford. 1972. *Feasting Free on Wild Edibles*. Mechanicsburg, PA: Stackpole Books.

Binetti, Marianne, and Laura Peters. 2008. *Herb Gardening for Washington and Oregon*. Auburn, WA: Lone Pine.

Boutenko, Victoria. 2005. *Green for Life: The Updated Classic on Green Smoothie Nutrition*. Berkeley, CA: North Atlantic Books.

———. 2009. *Green Smoothie Revolution: The Radical Leap Towards Natural Health*. Berkeley, CA: North Atlantic Books.

Brown, Stephen L., and Ulrich F. Pilz. 1969. US *Agriculture: Potential Vulnerabilities*. Menlo Park, CA: Stanford Research Institute.

Campbell, N. A. 1996. *Biology*. Menlo Park, CA: Benjamin/Cummings.

Charles, Cheryl, Richard Louv, Lee Bodner, and Bill Guns. 2008. "Children and Nature 2008." *Children and Nature Network*. January 2008. corpslakes.usace.army.mil/partners/pdfs/appl08/Child-NatureMovement.pdf.

Clay, Rebecca. 2001. "Green Is Good for You." *American Psychological Association* 32, no. 4 (April 2001): 40. www.apa.org/monitor/apr01/greengood.aspx.

Drenowski, Adam, and Carmen Gomez-Carnero. 2000. "Bitter Taste, Phytonutrients, and the Consumer: A Review." *American Journal of Clinical Nutrition* 72, no. 6 Dec. 2000: 1424–35.

Duke, James. 2001. *Handbook of Edible Weeds*. Ann Arbor, MI: CRC Press.

Foster, Steven, and Roger Caras. 1994. *Venomous Animals and Poisonous Plants*. New York: Houghton Mifflin Company.

Franklin, Jerry F., and John Farrand, Jr. 1986. *Familiar Trees of North America: West*. New York: Borzoi Books.

Gibbons, Euell. 1962. *Stalking the Wild Asparagus*. New York: David McKay.

———. 1966. *Stalking the Healthful Herbs*. New York: David McKay.

Gold, Matea. 2009. “Kids Watch More Than a Day of TV Each Week.” Los *Angeles Times*. October 27, 2009. http://articles.latimes.com/2009/oct/27/entertainment/et-kids-tv27.

Grivetti, Louis E., Jan L. Corlett, Bertram M. Gordon, and Cassius T. Lockett. 2007. “Food in American History: Part 10. Greens: Part 1. Vegetable Greens in a Historical Context.” *Nutrition Today* 42, no. 2: 88–94.

Halweil, Brian. 2002. “Home Grown: The Case for Local Food in a Global Market.” *Worldwatch Paper* no. 163 Nov. 2002: 19–20.

Jenkins, Beverly. 2011. “10 Incredibly Bizarre Death Statistics.” *Oddee*. December 12, 2011. www.oddee.com/item_98002.aspx.

Johnson, Derek, Linda Kershaw, Andy MacKinnon, and Jim Pojar. 1995. *Plants of the Western Boreal Forest and Aspen Parkland*. Edmonton, AB: Lone Pine.

Kallas, John. 2010. *Edible Wild Plants: Wild Foods from Dirt to Plate*. Layton, UT: Gibbs Smith.

Keefe, Sandy. 2011. “The USDA Recommended Fiber Intake.” Livestrong. May 5, 2011. www.livestrong.com/article/400993-the-usda-recommended-fiber-intake.

Kershaw, Linda. 2000. *Edible and Medicinal Plants of the Rockies*. Edmonton, AB: Lone Pine.

Kershaw, Linda, Andy MacKinnon, and Jim Pojar. 1998. *Plants of the Rocky Mountains*. Edmonton, AB: Lone Pine.

Louv, Richard. 2008. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books of Chapel Hill.

Mabey, Richard. 2007. *Food for Free: A Life-Enhancing Classic*. London: HarperCollins.

Mars, Brigitte. 2007. *The Desktop Guide to Herbal Medicine*. Long Beach, CA: Basic Health.

Mint. 2011. “Eat, Drink and Be Thrifty: How Much Do You Spend on Food and Dining?” *Mint*. April 7, 2011.

www.mint.com/blog/trends/food-and-dining-04072011.

Moerman, Daniel. 1998. *Native American Ethnobotany*. Portland, OR: Timber Press.

Nelson, Lewis, Richard Shih, and Michael Balick. 2007. *The Handbook of Poisonous and Injurious Plants*. Bronx, NY: New York Botanical Garden.

Peterson, Lee Allen. 1977. *Edible Wild Plants: Eastern/Central North America*. New York: Houghton Mifflin.

Pojar, Jim, and Andy MacKinnon. 1994. *Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia and Alaska*. Vancouver: Lone Pine.

Pollan, Michael. 2006. The *Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin.

———. 2008. In *Defense of Food*. New York: Penguin.

Rodriguez, Liliana. 2012. "Plant by Plant: Your Gateway to Traditional Food and Healing Plants." Accessed April 21, 2012. www.plantbyplant.com/pages/opuntia77.htm.

Schofield, Janice. 2003. *Discovering Wild Plants: Alaska, Western Canada, the Northwest*. Anchorage: Alaska Northwest Books.

Thayer, Samuel. 2006. *The Forager's Harvest: A Guide to Identifying, Harvesting, and Preparing Edible Wild Plants*. Birchwood, WI: Forager's Harvest Press.

———. 2010. *Nature's Garden: A Guide to Identifying, Harvesting, and Preparing Edible Wild Plants*. Birchwood, WI: Forager's Harvest Press.

Tierra, Michael. 1988. *Planetary Herbology*. Twin Lakes, WI: Lotus Press.

Turner, Mark, and Phyllis Gustafson. 2006. *Wildflowers of the Pacific Northwest*. Portland, OR: Timber Press.

Turner, Nancy, and Adam Szczawinski. 1991. *Common Poisonous Plants and Mushrooms of North America*. Portland, OR: Timber Press.

Ulrich, Roger S. 2002. "Health Benefits of Gardens in Hospitals." *Paper for Conference, Plants for People*. PDF file.

United States Department of Agriculture. 2012a. "Consumer Price Index." Accessed March 13, 2012. www.ers.usda.gov/Briefing/CPIFoodAndExpenditures.

United States Department of Agriculture. 2012b. “Natural Resources Conservation Services Plants Database.” Accessed August 31, 2012. http://plants.usda.gov/java.

University of California Museum of Paleontology. 2007. “The World’s Biomes.” *University of California Museum of Paleontology*. March 2007. www.ucmp.berkeley.edu/exhibits/biomes.

Wildflower Finder. 2012. “Dandelion.” *Wildflower Finder*. Accessed January 15, 2012. htttp://wildflowerfinder.org.uk/Flowers/D/Dandelion/Dandelion.htm.

Winick, Myron. 1992. *The Fiber Prescription*. New York: Ballantine Books.

About the Author

In 1998, when Sergei Boutenko was thirteen years old, his parents took him and his sister to hike the entire Pacific Crest Trail, spanning 2,650 miles from Mexico to Canada. During their hike, the Boutenkos ran into food shortages and were compelled to learn how to harvest edible plants from the wild in order to sustain themselves. Eating a diet rich in wild edibles for six months greatly improved their health and helped them to successfully complete their adventure. The skills acquired on the Pacific Crest Trail inspired Sergei to continue implementing weeds into his daily diet. He is eager to share his knowledge and actively travels around the globe conducting seminars on foraging and healthy living. He also maintains a website, a YouTube channel, and a Facebook page dedicated to wild edibles (these sources and others are listed below). Sergei is also responsible for creating the first wild edibles iPhone application to help new and experienced wild crafters hone their skills.

iPhone Application

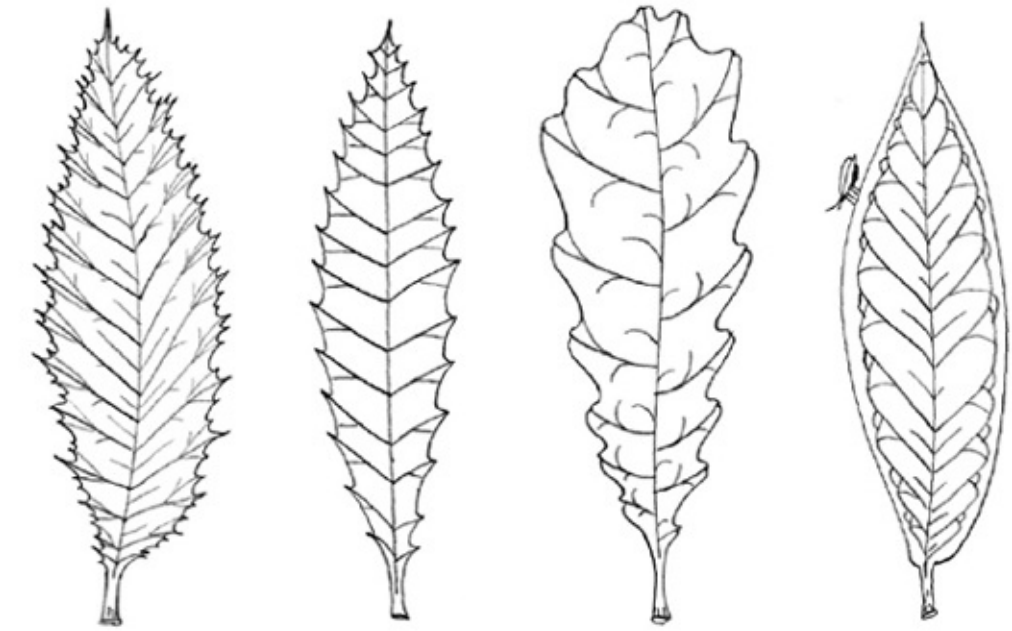
Wild Edibles is available for purchase through the iTunes store.

Web

www.SergeiBoutenko.com (Sergei Boutenko's own website) www.GreenSmoothiesBlog.com (a website run by Sergei Boutenko and Victoria Boutenko) On YouTube: BoutenkoFilms

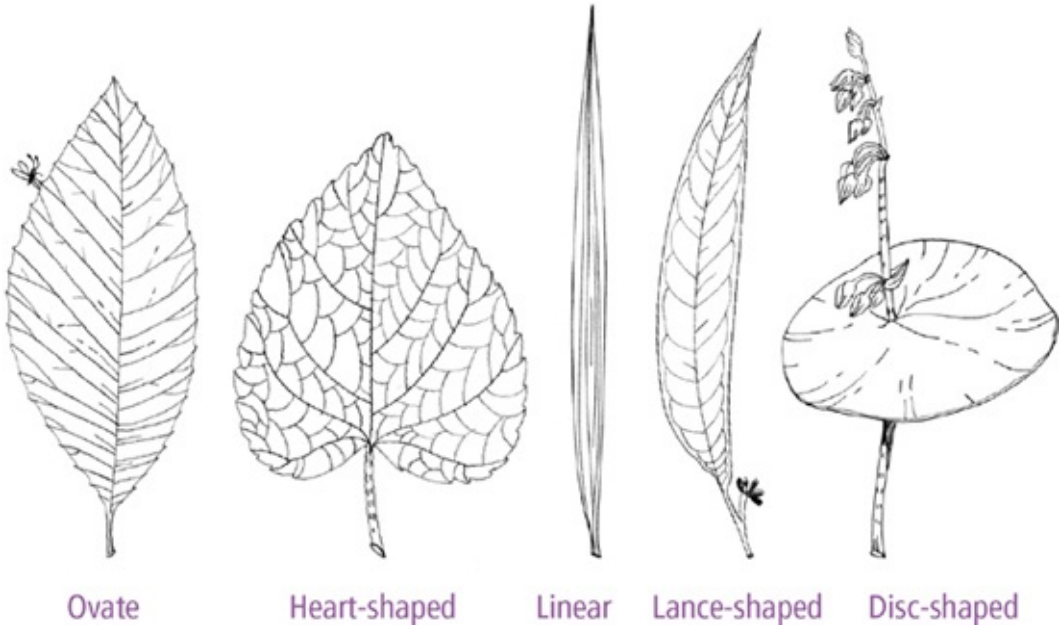
On Facebook: Wild Edibles with Sergei Boutenko

Leaf Margins

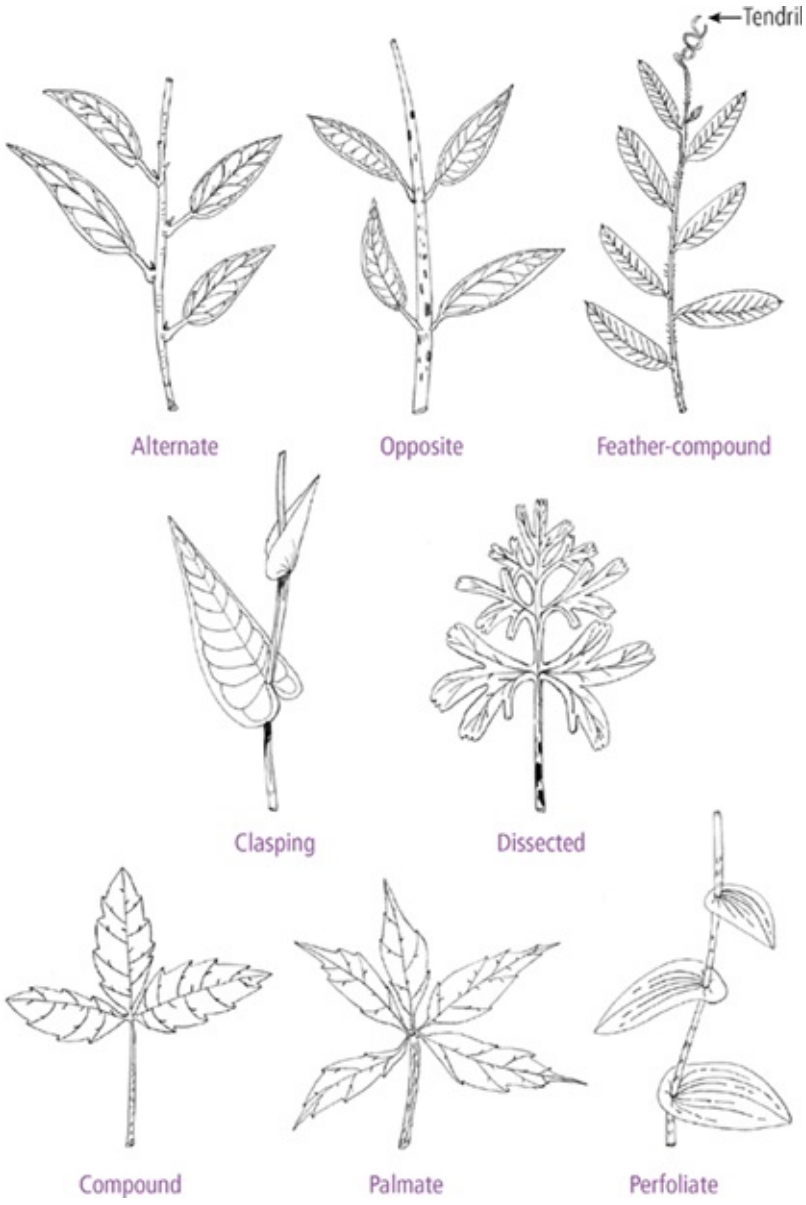


Double-toothed Toothed Lobed Smooth

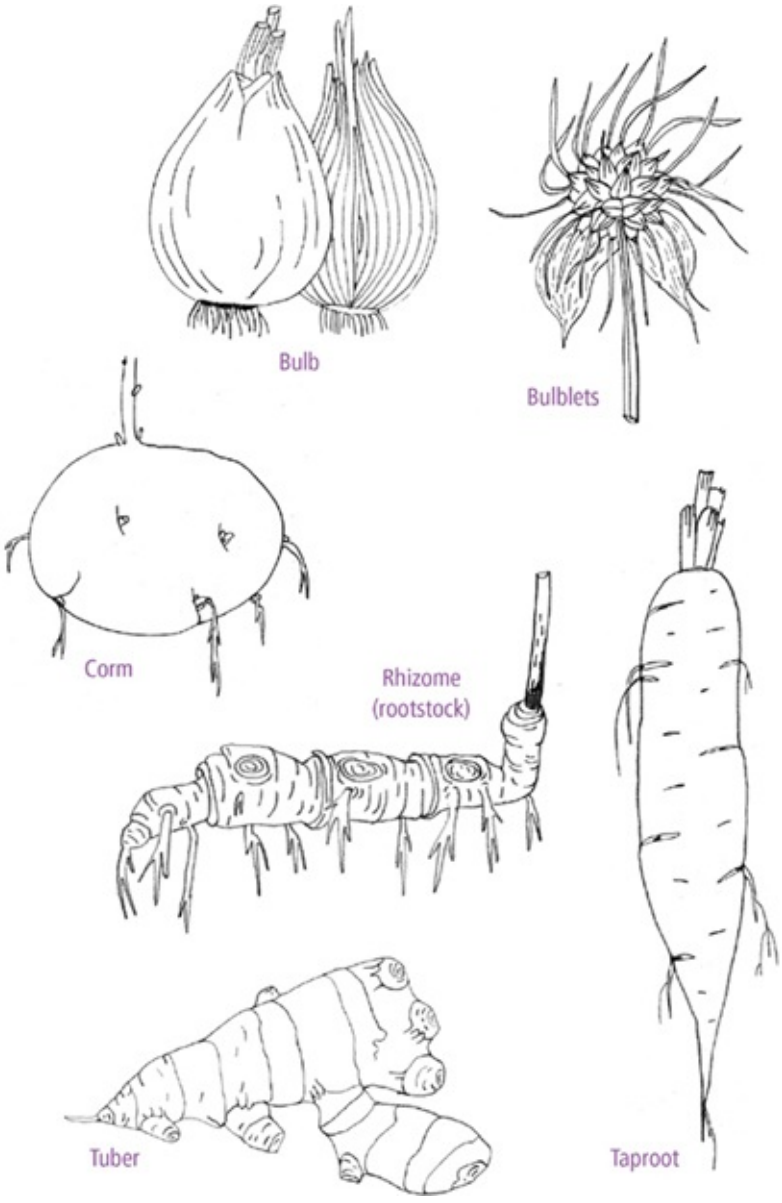
Leaf Shapes



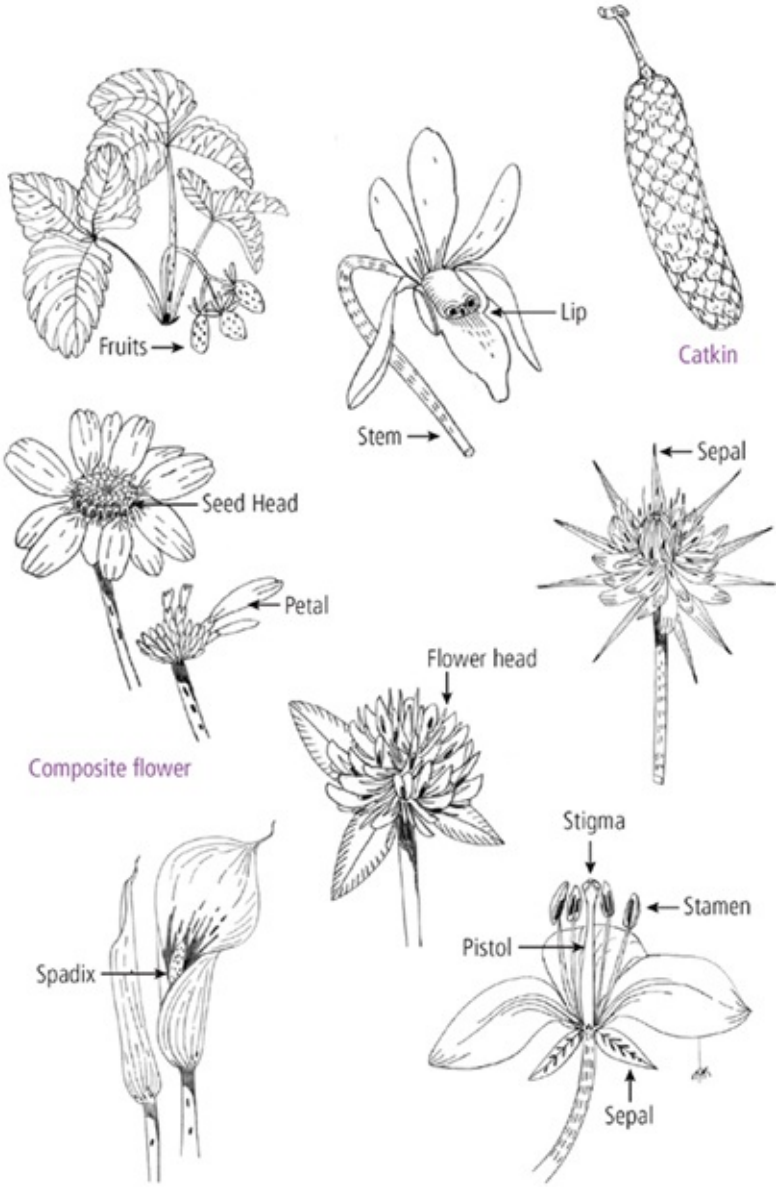
Leaf Patterns


Tendril
Alternate
Opposite
Feather-compound
Clasping
Dissected
Compound
Palmate
Perfoliate

Roots



Flowers


Fruits
Lip
Stem
Catkin
Seed Head
Petal
Composite flower
Sepal
Flower head
Stigma
Stamen
Pistol
Spadix
Sepal

North Atlantic Books
Berkeley, California

Personal, spiritual, and planetary transformation

North Atlantic Books, a nonprofit publisher established in 1974, is dedicated to fostering community, education, and constructive dialogue. NABCommunities.com is a meeting place for an evergrowing membership of readers and authors to engage in the discussion of books and topics from North Atlantic's core publishing categories.

NAB Communities offer interactive social networks in these genres:
NOURISH: Raw Foods, Healthy Eating and Nutrition, All-Natural Recipes WELLNESS: Holistic Health, Bodywork, Healing Therapies WISDOM: New Consciousness, Spirituality, Self-Improvement CULTURE: Literary Arts, Social Sciences, Lifestyle BLUE SNAKE: Martial Arts History, Fighting Philosophy, Technique
Your free membership gives you access to:
Advance notice about new titles and exclusive giveaways Podcasts, webinars, and events
Discussion forums
Polls, quizzes, and more!

Go to www.NABCommunities.com and join today.