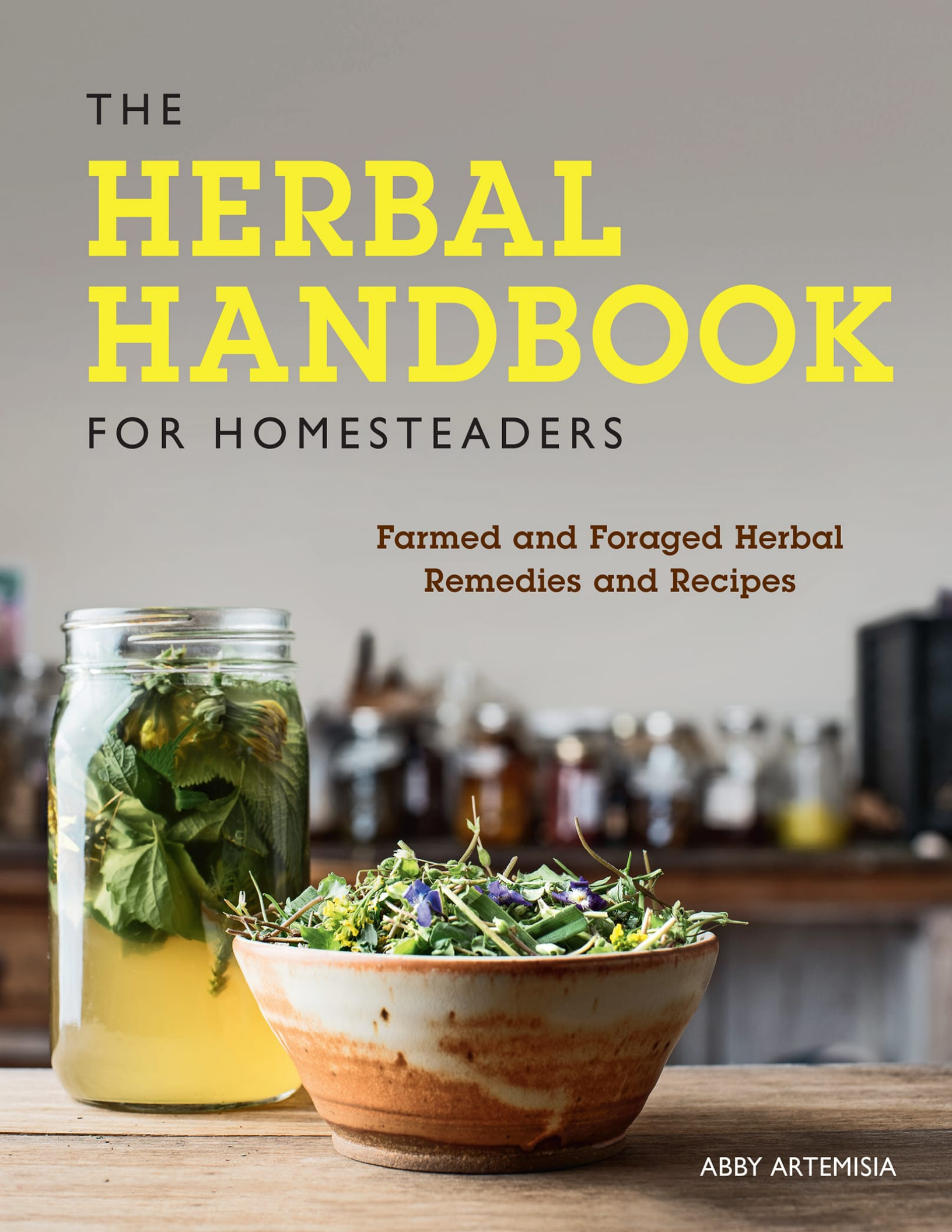
THE HERBAL HANDBOOK FOR HOMESTEADERS

Farmed and Foraged Herbal Remedies and Recipes



ABBY ARTEMISIA

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Content

Introduction

Let's take an herbal journey. You are welcome here whether you have your own homestead, want to feel comfortable foraging wild plants, have an interest in making herbal remedies for yourself, or are looking to assist your family, animals, or community.

My interest in plants began at an early age, as I was always allowed to run free. I have fond memories of exploring the creek and woods behind my house and climbing trees to my heart's content. As a parent, I have tried to pass this gift on to my daughter; I think encouraging outdoor exploration is one of the best things we can do for our kids and ourselves. It seems every day there's more research that shows the mental, emotional, and physical benefits of spending time outside, breathing fresh air, and sticking our hands in the soil.

As you begin to explore the world of herbs, you will likely start with their physical properties. I encourage you to slow down and appreciate the plants. After harvesting, take a big whiff and revel in sensory delight. I believe herbalism should include emotional and spiritual exploration as well. (For me, it's hard to delineate where one ends and the other begins.) With any herbal formulas you make, consider adding a little ritual to make it special. Make a nice cup of tea as a treat. As you enjoy it, give thanks to the plants for giving themselves for your wellness. Give thanks to the water—that you have a clean plentiful source of it. Sit down for a few minutes, taste your tea, and breathe deeply.

Once you know what you're looking for, foraging may not take you far from home. This patch of plantain is just steps from my porch.

In this spirit of cooperation, throughout these pages you'll notice I do not say "use" when referring to plants. I believe it causes us to objectify the plants and forget they're giving a piece of themselves—

or their whole lives—for our food or health. Instead of “use,” I like to instead say we “utilize,” “employ,” or “work with” the herbs. After all, we are working together, like a team.

My hope in writing this book is that you will learn how to partner with herbs to develop your own herbal apothecary. Maybe you’ll create a first aid kit with all kinds of helpful remedies, such as tinctures, poultices, and bug sprays. Or perhaps you’ll dive deeper into infusions, oils, and salves, learning both what nourishes you and what herbs you enjoy the most. Some of you may take your newfound favorites to the garden, planting and tending so you can restock your apothecary. No matter what calls to you, you will feel empowered to support your health and the health of others.

You’ll find each chapter in this book has a specific focus. Aside from the first chapter, each one has a featured set of plants as well as techniques to work with those plants. My recommendation is to read the first two chapters before jumping around to what interests you. Together, chapters 1 and 2 will get you up to speed on terminology and processes, gently laying the foundation for the chapters that follow. Chapters 3 through 6 can be read in any order depending on what interests you. Perhaps you’re most interested in tinctures, or maybe you discovered your property has an abundance of plantain. By all means, skip around. Just keep in mind that while certain techniques and plants are grouped within these chapters, your exploration should not be confined by these artificial borders. The techniques you’ll learn, from infusions and tinctures to oils and salves, all work with a wide variety of herbs. My goal with the groupings and the recipes was to provide a launching point for your own exploration and recipe creation.

So, settle into a comfy seat with a view—and a good cup of herbal tea, of course. Then join me in chapter 1 to get foraging.

CHAPTER 1

Getting Started

WHEN YOU IMMERSE YOURSELF in the world of herbs, it's easy to feel overwhelmed. Don't worry—we'll take it slow. There's a lot you need to know: how to properly identify plants in the wild, how to sustainably and ethically harvest them, how to process those wild (or cultivated) plants, and how to store them properly. In this chapter, you'll get an introduction to all of that. So take a deep breath and feel the excitement of this new journey.

As someone who has been foraging and in the herbal world for most of my life, people often ask me what they should learn first. I suggest starting with just one plant. Pick a plant that grows right outside your front or back door, or somewhere you go every day. Observe what it looks like through all parts of the year. Research it and get to know it so well that you can't not know it. Make medicine from it; drink the tea made from it (if you can) until you intimately know the effect of that plant on your body. Then move on to the next plant.

There's a lot of variability in plants, and even the same plant can look different depending on the season and other environmental factors. This makes positive plant identification, or being 100 percent positive you know what plant you're looking at, very important. Soon you'll see why botany is so important for a farmer, gardener, or forager.

It's easy to get excited about free food and medicine and forget that not every plant is prolific, or that there are certain ways to harvest them that do the least damage. It's up to each one of us to protect and respect the plants. In addition to ethical and sustainable harvesting, we'll talk about the best season to harvest each part of the plant to make sure we're getting the most vitality in our herbs.

This chapter also wouldn't be complete without a discussion of how to process herbs, meaning cleaning, drying, and storing them. If

you’re worried you immediately need to buy an expensive dehydrator, hundreds of jars, or custom storage shelves, worry not. As with so much of herbalism, you have many options—and ample opportunity to learn, explore, experiment, and see which solutions are perfect for you.

In this chapter, you'll learn about some of the tools that make foraging easier, such as the hori hori used to dig burdock roots.

Harvesting Herbs

Growing your own herbs is empowering, and it gives you control over how they are grown. Harvesting wild herbs can be just as empowering, but it's easy to be put off by the uncertainty. If you've never gone foraging, you might be scared about poisoning yourself or others. That's a healthy fear! Yet that fear can prevent you from discovering all that's good about foraging.

While I'm a cautious optimist when it comes to foraging, *I do believe in 100 percent positive identification before harvesting any herb*. In most populated places in the world, there are very few deadly poisonous plants. However, if you happen to find and ingest one of them, you could be out of luck. Foraging is a practice where you're better safe than sorry.

While most herbs in this book are accompanied by photographs, this book is not meant to be a definitive source for identifying herbs. As a foraging workshop instructor, I recommend taking a class with a foraging expert in your region. It is really the best way to learn which herbs grow in your part of the world, where to find them, and how to ID them with confidence. If that is not an option, purchase at least three reputable books that deal exclusively with plant identification. While it may be tempting to use a plant identification app, at the time of this writing there was not a reliable app to recommend.

For identification, the book most people turn to first is *Newcomb's Wildflower Guide*. There are pros and cons to this book. Many people (myself included) don't find it to be user friendly. Also, the latest edition was published in 1989. The plants haven't changed much since then, but their names have. Rather than using this book—or any one book—as a resource, browse the options in the Resources section (shown here), and investigate what regional guides are available for your area.

Harvesting wild herbs can be perfectly safe, but you must be certain of their identification.

As herbalists, we are not legally allowed to use the words “treat,” “prescribe,” “diagnose,” or “cure,” so I won’t be including these terms in this book. This is important to know as you continue your journey. Also, please remember that the medicinal benefits of the plants listed in this book are just guidelines. They are based on years of

ethnobotanical history, herbal practice, and others' previous research. We are all individuals with different bodies and needs. When in doubt, contact your local herbalist or other health practitioner to guide you.

FORAGING TOOLS

While foraging can be as simple as picking by hand, there are a few tools that will make your foraging easier, more efficient, and more enjoyable. Here are some of my favorites for the field.

❶ ❸ **Fixed blade knife or pocketknife:** Everyone seems to have a preference for one or the other. I own both, but prefer the fixed blade knife (one that doesn't fold) because I feel it's sturdier. Either way, this knife should be in an easily accessible place, such as in a sheath on your belt on your dominant-hand side for the fixed blade. Keep the pocketknife in your pocket. And, no matter which you carry, keep it sharpened!

❷ **Hori hori (Japanese digging knife):** This is my favorite foraging tool! It's so handy, like a trowel and knife in one, though I mostly use it for digging. For shallower roots that only descend a few inches (about 7.5 cm) into the ground, this is a fantastic tool. Usually, I prefer natural materials over manmade, but in this case I recommend bright plastic. I did start off with a wooden-handled hori hori. However, it had a seam down the middle of the handle that started to split open with all the digging and prying. Also, a bright plastic handle is much easier to spot after laying it down in the grass or soil. I recommend spending a few dollars more and purchasing a double sheath for this so you can put your pruners in it too.

❹ **Pruners:** A decent pair of pruners is one of the best investments you'll make! The better brands have multiple sizes to fit different hands. Try out several pairs to ensure they fit your hands and are easy to use. Keep these well oiled and sharpened.

Digging fork or spade: This is sometimes called a potato fork, as farmers use it to dig potatoes. It is smaller than a pitchfork and has four flat tines. It's handy for digging deeper roots, such as burdock. Some people prefer a spade over a digging fork. You may find it easier to dig with and avoid cutting through roots.

❺ **Gloves:** I have a pair of gardening gloves that I hardly ever use because I love the feel of my hands in the soil. Still, they are good to have for general digging and weeding tasks as needed. I also recommend a pair of leather gloves for thorny tasks, such as harvesting rose hips.

Bags: For collecting all your foraged goodies, you're going to need a bunch of bags. I prefer cloth bags, such as thin tote bags, or mesh bags such as onion bags. You want whatever you forage to be able to breathe and not wilt too much before you make it home.

Cooler and ice packs: This is for those times when you're foraging on a hot day and/or are far from home. You'll need to preserve your foraged goods until you get them into the refrigerator.

QUALITY AND SAFETY

When foraging, always harvest from the cleanest sources possible. That means you must be observant of your surroundings. Foraging or wildcrafting is all about using as many of your senses as you can. One reason is to find what you're looking for more easily. For example: If you are looking for wild mint, you'd want to look in a partially shady, moist woodland habitat. Your sight may guide you at first, but other senses could tell you when you're getting close—the sound of flowing water or frogs, the decreasing temperature as you transition into the shade, and the smell of moist earth.

When looking for a safe place to harvest, be observant of your surroundings as well. If there is a road nearby or a hill above where chemical runoff from cars or chemical sprays could flow down to the plants you're considering, it's best not to harvest there. If you're near a cemetery, conventional farm, business, or "power cut" (where brush is cut to keep it out of the way of power lines), there's a high possibility there could be herbicides or pesticides being sprayed that could travel to your collectible plants as well.

Once you're sure the area is safe, your next priority is to find the plants with the highest nutrient content. Make sure the plants you harvest look vibrant and healthy. The goal is to harvest each plant part at its time of highest vitality.

Take a look at the chart below. If you think about it, these guidelines make sense. Most plants are dormant in the winter—not the ideal time to harvest. Next, the energy goes from the storage center, the roots, up through the plants to create leaves. Early spring, before all the plant's energy is focused on leaf growth, is a great time to harvest roots. The early stages of leaf growth, while they still look bright and shiny green, is the ideal time for leaf harvest. This is also a perfect time to harvest bark or twigs, while the sap and energy are flowing. Flowers and fruits can only be harvested while available, but they should look fresh (no wilted petals and only mature fruit). Later, when everything starts to die, the energy will go back down the plant to be stored in the root, so it is, again, a good time for root harvesting.

The calendar shown here covers the wild plants included at the end of each chapter in this book. It's organized loosely by season because regions can vary drastically by location and date. Use this

as a basic guide, then make your own calendar reflecting the dates you forage the plants in your area. While these are the ideal recommended seasons of vitality for harvesting these plants, you can still harvest them during other seasons, but expect lower vitality in the plant.

Plant Part	Harvest Time
Leaf 	Spring into early summer
Bark or twig 	Spring
Flower 	Whenever available and in good shape
Fruit 	Whenever available, ripe, and in good shape
Root 	Spring (until leaves are fully emerged) or fall (once leaves start to die)

Pay attention to where plants are growing. A healthy-looking plant may be hiding undesirable chemicals or pesticides depending on its location.

Seasonal Plant Harvesting Guide

Herb	*Spring*	*Summer*	*Fall*	*Winter*
Astragalus	Root 		Root 	
Bee balm	Leaf, flower 	Flower 	Leaf 	
Bergamot	Leaf, flower 	Flower 	Leaf 	
Birch	Twigs, bark 			
Black walnut		Nut 	Nut 	
Burdock	Root 		Root 	
Calendula	Flower 	Flower 	Flower 	
Chickweed	Leaf 		Leaf 	Leaf 
Chicory	Root 	Flower 	Root 	
Comfrey	Root, leaf 	Leaf 	Root, leaf 	

Dandelion	Root, leaf, flower 		Root, leaf 	
Echinacea	Root, flower 	Flower 	Root, seed 	
Elderberry	Flower 	Flower, fruit 	Fruit 	
Ground ivy	Leaf, flower 	Leaf, flower 	Leaf 	
Jewelweed	Leaf, stem 	Leaf, stem 	Leaf, stem 	
Lemon balm	Leaf 	Leaf 	Leaf 	
Motherwort	Leaf 	Leaf, flower 	Leaf 	
Mountain mint	Leaf 	Leaf 	Leaf 	
Mullein	Leaf, root 	Leaf, flower 	Leaf, root 	
Nettle	Leaf 		Leaf 	
Peppermint	Leaf 	Leaf 	Leaf 	
Plantain	Leaf 	Leaf, seed 	Leaf, seed 	

Red clover	Flower (and top leaves) 	Flower (and top leaves) 		
Sage	Leaf 	Leaf 	Leaf 	
Spanish needles	Leaf, flower 	Leaf, flower 	Leaf 	
Spearmint	Leaf 	Leaf 	Leaf 	
Thyme	Leaf 	Leaf, flower 	Leaf 	
Violet	Leaf, flower 	Leaf 	Leaf (rarely flowers again) 	
Willow	Twigs, bark 			
Witch hazel	Twigs 			
Yarrow	Leaf, flower 	Leaf, flower 	Leaf 	

KEEPING A FORAGING AND GARDEN LOG

Foraging and gardening should build on themselves in a natural way. Each year, you'll learn a little more about which plants are the happiest in your garden and which need a little soil amending. You'll figure out which seed companies you like best and which species

are easiest to grow in your habitat. Similarly, with foraging, you'll start to notice which plants grow in which habitats or specific places and when they're ready for harvest in your area. Saving and recording these details takes a little more time in the moment but saves time year after year.

In a garden log, I recommend keeping track of where you buy or acquire your seeds, when you sow them, where you sow them, and if there's a soil mix or amendment you're using. It's helpful to make a map of your garden, because garden markers can often break, wash away, or fade.

Then record how long it takes the seeds to germinate as well as an estimate of the percentage of germination. Write down how long it takes the plants to mature to harvest and any other pertinent details, such as what you like or dislike about the species or variety or how those particular seeds perform. You can even note what you might want to do differently next time.

In a foraging log, first record where you find the plants you're harvesting. It's helpful to draw or print a map of the area and mark the spot where the plant is growing. Make a note of the date you foraged it too. This date may change from year to year, but eventually you can create a foraging calendar based on these notes. Because the dates will change slightly, it's a good idea to look ahead at your calendar every year to remind yourself what you should start looking for in case it appears early.

BASIC BOTANY

When it comes to identifying plants, you need to know something about the *taxonomy*, or the system of classification, used. Plants once were categorized by what their different (often reproductive) parts looked like. It was believed that similar parts signaled relationships, so plants with similar parts were grouped together in the same genus or family (for more on this, see here).

However, plants now are grouped by DNA, because we have the technology to do the testing. While it drives botanists crazy, this is a good reason to get the most recent information rather than relying on very old books. My favorite resource for up-to-date taxonomical info is the most recent edition of *Botany in a Day* (see here).

You may wonder why you need to learn the botanical names and families of plants. I understand it may not be easy to remember the Latin or Greek terms. (It might, literally, all be Greek to you!) Yet I do think it's worth the trouble—the botanical names can tell us how to identify the plant or give us hints about how to work with them.

A botanical name can help you know you have the right species for your herbal goals with the plant. For example, one plant we'll talk about later is plantain, *Plantago* spp., an herb that's helpful for almost any skin ailment. One species is *Plantago major*. The word *major* means "greater" or "large." This is the name for broadleaf plantain, which has a larger, wider leaf than *Plantago lanceolata*. The word *lanceolate*, which *lanceolata* comes from, means lance-shaped or, in other words, narrow with parallel sides. So we can tell one species from the other by name and appearance. We also know this plant is not the same as nor related to the banana-like plantain (*Musa paradisiaca*).

We'll discuss botany in more detail starting shown here.

ETHICS AND SUSTAINABILITY

There are many different guidelines and schools of thought on how to harvest wild plants sustainably. The most common one I hear from other foragers is the **20 Percent Rule**, which states you should only harvest 20 percent of the plants in any harvestable area. However, these days I'd recommend harvesting only 10 percent to be truly sustainable. There are, of course, exceptions. The plant must be prolific and not threatened. If there's a stand of ten plants, it's not okay to harvest even one of them! However, if there are several stands of ten plants, and you know the plant isn't threatened, it's okay to harvest one of each stand.

A participant in one of my classes raised a good question: "What if I harvest 10 percent, and you harvest 10 percent, and the next person harvests 10 percent?" Good point! This is where doing your research comes in handy. The more you're out in nature, observing local plants, the more familiar you'll be with the prevalence of a particular plant. There's also a resource for this: United Plant Savers (see Resources, shown here). On their website, you can find their "At Risk" and "To Watch" plant lists, identifying those plants they feel are currently most sensitive to human impact. They're good about keeping the lists updated, as well. If you find or have a suspicion that the plant may be threatened, it's better to find a more common plant to substitute that has similar actions.

Other important sustainability practices include:

- Cover your holes after digging roots.
- Leave a little piece of root with new green growth attached in the ground when digging roots. This ensures the future continuation of the plant's growth if it is a perennial.
- Spread out your leaf harvest over multiple trees. The leaves are the solar panels of the tree, creating its food. It's best not to remove too many from any one tree.
- Try not to trample the habitat of other plants and animals while harvesting.
- Spread seeds of the herbs you harvest in wild places.

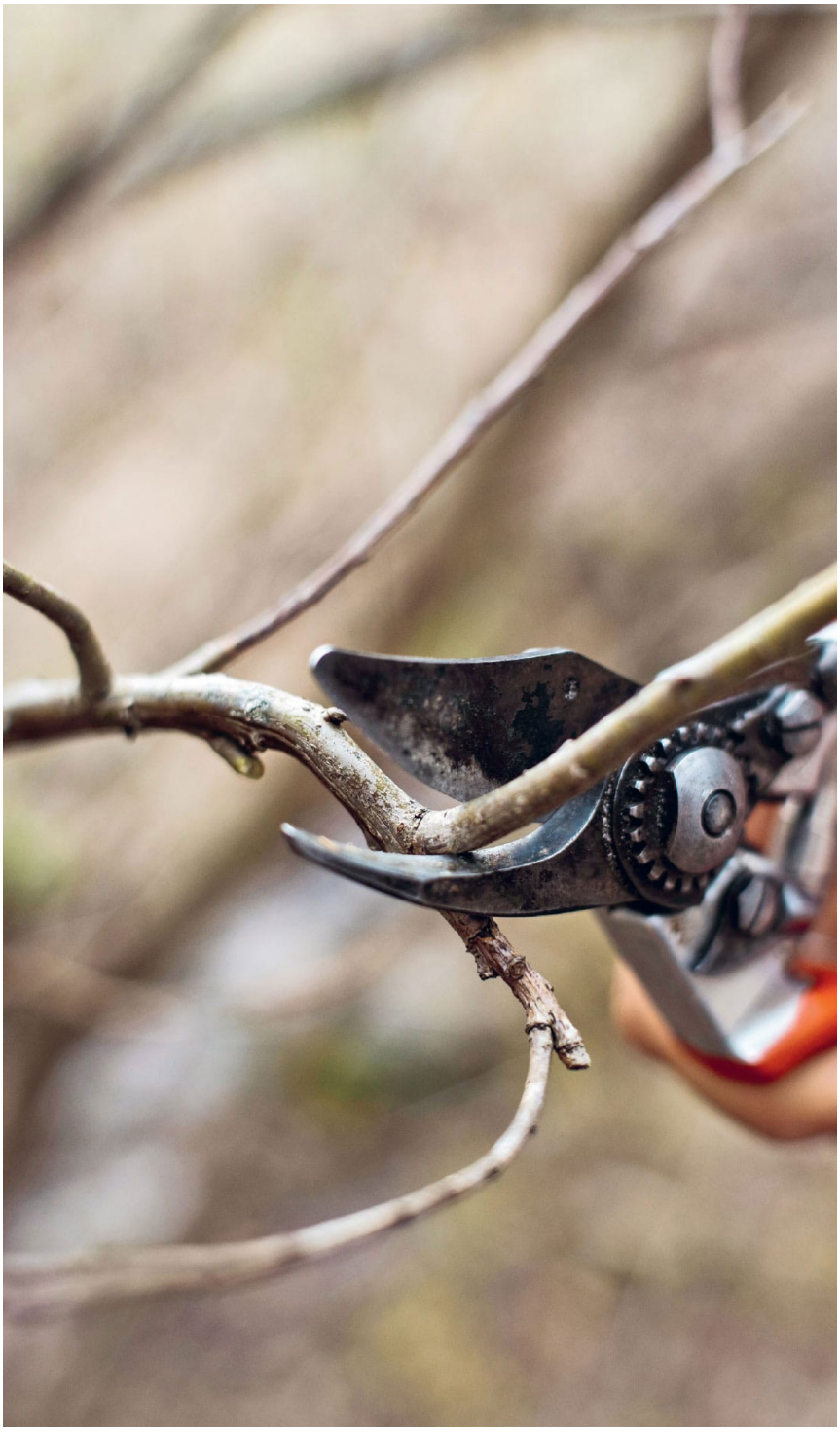
Digging the roots of some plants, such as burdock, *Arctium* spp., will result in holes you should fill after the dig.

While on the topic of sustainability, we should address harvesting bark. Remember back in high school, when you learned about xylem and phloem? They are the transport systems of the tree. Xylem transports water up the tree from the roots. Phloem transports sugars (a product of photosynthesis) down the tree from the leaves. This all happens in the inner bark, called the cambium layer, right

under the outer bark. That's why this is the most medicinal part of the bark.

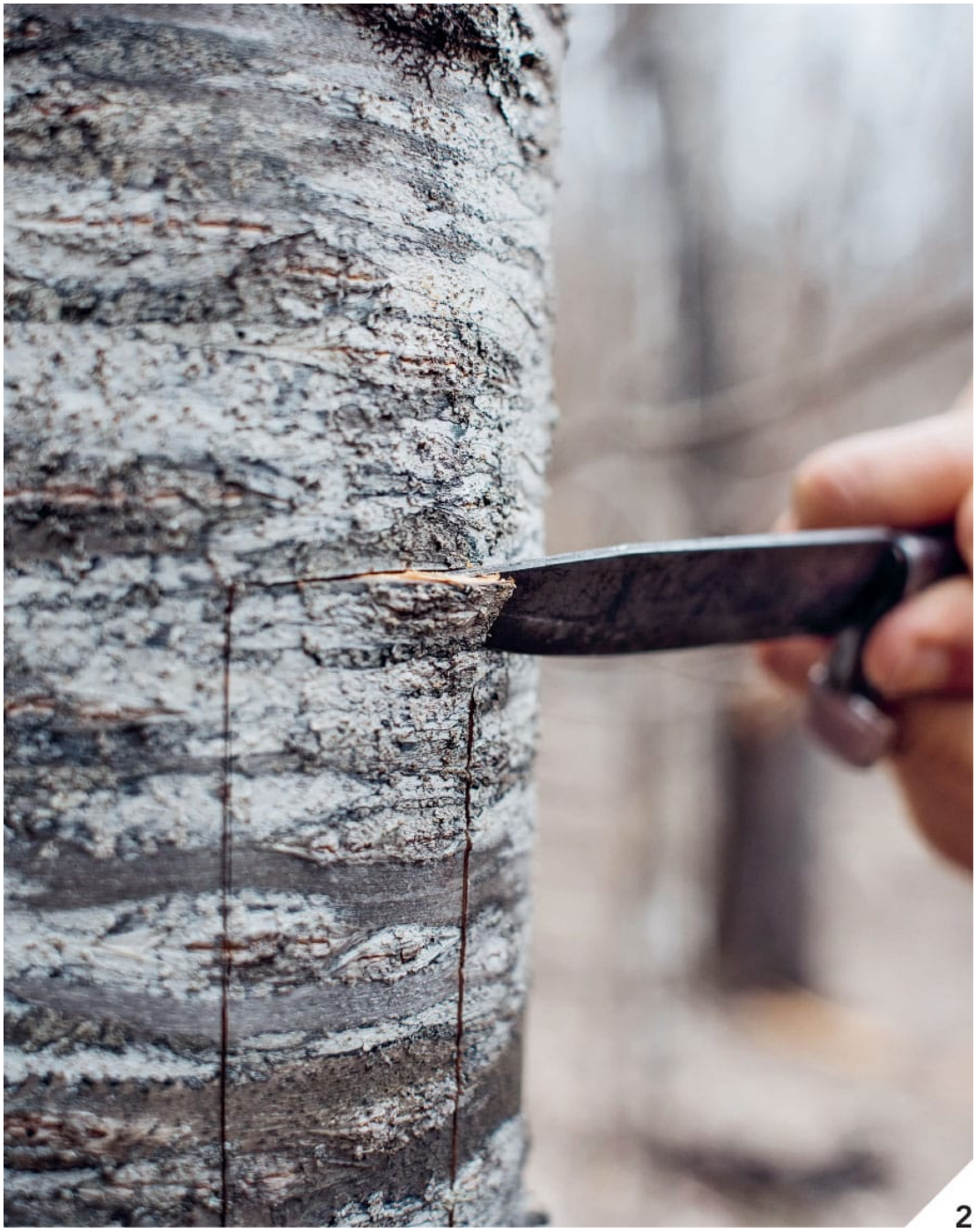
Because bark is so important to the tree, the most sustainable way to harvest bark is to harvest twigs instead of stripping bark from a trunk. (Small twigs, the diameter of your pinky finger or smaller, are entirely made of cambium layer.) This technique is much easier than harvesting bark, assuming the twigs are easy to reach. Using pruners, trim each twig near a joint. This actually stimulates regrowth and makes the tree much less vulnerable to damage than harvesting bark.

If you do need to harvest bark, *always* harvest in a long, narrow vertical strip going down the tree. You can do this with a fixed blade knife (one that doesn't fold) or a pocketknife. You'll have to peel the outer, hard bark from the inner, tender bark. *Never* harvest bark in a ring horizontally around the tree. This is called *girdling* and will cut off that important transport system, starving the tree. However, if you find a newly (within a week or so) fallen tree, it's an opportunity to harvest as much bark as you want! You can use a woodworking tool called a drawknife, carefully drawing it toward you.



Harvest twigs by cutting them near their joints.

Using a fixed blade knife to harvest bark. **1** Trace the section you want to cut.



2–3 Carefully slip the knife under the bark and pry it loose.

3

4 Always cut a vertical strip rather than going horizontally around the tree.

Herb Processing

The most important thing when processing herbs is timing—plan to process your herbs very soon after harvest. It's disappointing to have a productive harvest, only to find the plants collecting mold because you ran out of time to process them. My solution is to schedule time to process along with my harvesting time.

The good news is, the immediate processing I'm referring to is not complicated. You do not need to make an oil or tincture right away, unless you're making a fresh herb tincture (see here). Roots need to be washed thoroughly. However, for other parts of the plant, I don't recommend washing or rinsing, as this increases the water content of the plant—consequently increasing the drying time and increasing the possibility of mold.

There are many ways to dry herbs, and multiple factors can affect which method might work best for you: the humidity where you live, how much space you have, what parts of the plant you're drying, and how much you want to invest in special equipment. Read the following section, and start with what you think will work best for your situation.

PROCESSING TOOLS

Kitchen scissors: These are handy for a variety of easy cuts, such as cutting green stems.

Sharp knife and cutting board: For cutting roots before drying or processing, or cutting other parts before tincturing fresh herbs, you'll need something stronger than kitchen scissors.

It's not just leaves and berries that need to be dried for storage. Roots, bark, and twigs should all be properly dried to remove moisture before storing—unless you're tincturing them fresh.

Rubber bands and paper clips: I primarily use these for hanging twigs, though you may use them for bundling and hanging other things as well.

Paper bags in various sizes: Keep these on hand for hanging herbs—they'll catch the leaves as they dry and fall. They are also useful in your backpack for collecting seeds.

Twine or nylon cord and hooks or screw eyes: If you plan to hang twigs and stems, you need something to hang them from! A dedicated drying area is more efficient if you have twine or cord strung between hooks or screw eyes, ready to hang bundles of twigs or herbs.

Funnels in various sizes: It's so much easier to transfer herbs to jars when you have a few funnels to help.

Labels: You'll want labels large enough to hold all pertinent information, but small enough to fit your jars. I like to use 2-by-4-inch, or 2-by-$2^1/_2$-inch labels. Eventually, you may want a few different sizes.

Permanent markers: A must for labeling, as you don't want label information washing away if the label gets wet. An assortment of colors can make labeling fun.

Lots of jars in various sizes: Collect these from thrift stores if you can, though they're usually reasonably priced by the case at the grocery store.

Vegetable scrub brush: If you're harvesting roots, you'll need one.

A WORD ON WASHING

People always ask me if I wash what I harvest before I process it. What about dirt and dog pee? Actually, I don't wash what I harvest, for the most part, with the exception of roots.

If you pay attention while harvesting and notice where you're harvesting, you should be able to ensure that your herbs are clean enough without washing. Start by looking for any plants that have insect damage, such as holes, eaten parts, visible insect poop, webs, etc. Don't harvest from trail edges, as these high-traffic areas are more vulnerable to dog pee. And, on hot days, harvest in the mornings, while plants are still fresh but after the dew has burned off.

Without washing, your plant material will dry much faster, with less work for you. Roots, however, do need to be washed, because they're covered in soil. Cleaning roots can make a big mess too! Assuming it's not cold outside, it's best to wash them before you bring them into the house. If you have a hose with a strong spray nozzle, have someone else spray while you scrub. The force of the water from a strong spray can often remove a fair amount of soil and save time scrubbing.

As far as tools go, a cheap vegetable scrub brush works just fine. If you don't have a helper, you'll also need a bucket filled with water. You may have to give the roots a quick rinse afterward to remove the dirty water that was in the bucket. Or, if you don't mind getting your sink dirty, do this under the faucet spray or in a big pot in the sink. Just make sure you have a good strainer in the bottom of the sink so it doesn't get clogged.

DEHYDRATING HERBS

A dehydrator can be a large investment, but that's exactly the way to think of it: as an *investment*. Because I use a dehydrator for business and foraging almost daily from spring through fall, it made sense to invest in the top of the line. Speaking from experience, I have to say that, with dehydrators, it really does seem you get what you pay for. I figured because I was going to make this investment, I might as well spend a little more and get the model with the most trays (9) and a timer. Especially if you're going to leave some of the trays out (as I do in one of the methods that follows), having more room is helpful. The timer is nice because you can go to bed or leave the house and not worry about over-dehydrating your precious harvest. That said, air circulation is the most important thing when it comes to dehydrators. I know people who have good success with affordable dehydrators from lesser-known brands, such as those that are all metal with metal trays. Make sure whatever dehydrator you purchase has a good fan.

Fill trays uniformly when dehydrating. Notice how no bark is stacked on the rack at left, allowing proper airflow for a material that is somewhat tough to dry.

Below, you can see the stack of mullein leaves is packed more thickly, but also in a uniform fashion.

When dehydrating, start with the green plant material (rather than bark or roots). I usually don't bother removing the leaves first, because it's so much easier to remove them after they're dry. I simply make a layer of plant material edge to edge on a dehydrator tray, piled about 1 inch (2.5 cm) high. With a layer this thick, I remove the tray above it to allow for good air circulation. In most

climates, this sort of packed tray will take 2 to 4 hours to dry. In very wet climates, such as where I live in the temperate rainforest of Appalachia, it could take up to 6 hours. When dry, the leaves should break cleanly when bent, but not crumble.

As far as temperature goes, I prefer to go low and slow. The lower the temperature you set the dehydrator on, the more nutrients preserved. In the raw food movement, people don't dehydrate over 118°F (48°C), because it's believed important enzymes are killed above that temperature. For leaves and flowers, I dehydrate at 105°F (40.5°C).

For roots, cut them into small coins, about the size of a quarter and twice as thick, before dehydrating. I learned the hard way to cut the roots *before* dehydrating: if you wait until after, you may need a handsaw! For roots, fruits, bark, and twigs, raise the dehydrating temperature to 115°F (46°C) and dehydrate for 6 to 12 hours. If after that amount of time they haven't made enough progress, turn the temperature up to 125°F (52°C) for another 1 to 6 hours. As with leaves, twigs and bark should break cleanly when bent, without crumbling, and should feel dry to the touch throughout.

Storing your herbs in the same room where you dry and process them will make everything more convenient.

Other Drying Methods

If you’re not ready to make the investment for a dehydrator, there are several other options for drying. Leaves and flowers are by far the easiest to dry. Some are drier than others to start with. Those take the smallest amount of energy. If you live in a dry place or it’s a season of low humidity, dry them passively, without any energy input. For this, I recommend an assortment of baskets. You can usually find them cheaply and in abundance at your local thrift store. The bigger, the better, when it comes to baskets. You want as much area as possible to spread out the leaves and allow good airflow.

Bundling herbs and hanging them to dry is a slower option than the dehydrator, but it can work for many plants. Once they're dry, store them in jars to maintain freshness.

Another option is an old window screen (without lead paint), or make a drying rack yourself with fine-mesh screen from a hardware store, stretching it in a frame. Make several and stack them with bricks in between for airflow. Or hang a bed sheet, stretching it between the rafters.

Spread the herbs in a thin layer. If you don't have good air circulation, pointing a fan toward the herbs (but not too close) can help, along with turning the herbs over every day or two. The amount of time this will take is variable, again depending on your climate. Look for the same hints of doneness as with a dehydrator. The most important thing is to dry herbs in an area with low humidity and relatively consistent temperatures.

You can also hang plants in bundles to dry them. Gather the herbs in bundles about 1 inch (2.5 cm) in diameter at the base of the stems. String a cord from the ceiling through small hooks or screw eyes. It should be about 5 feet (45 m) long, or as much as you have room for. (I like using synthetic cord because it doesn't stretch very much, though you can use hemp as well.) Secure each bundle with a rubber band, and attach them to the cord. A paper clip bent into an S shape works well for this. As the herbs dry and shrink, the rubber band will tighten, keeping them from falling to the floor.

A variation on this for herbs with lots of leaves is to put them inside a medium-size paper bag and wrap the rubber band around the opening of the paper bag and the bundle of herbs. This way, if the leaves do drop when they dry, they will fall into the paper bag, yet some air circulation is still possible.

This hanging technique is also useful for twigs, though they take quite a while to dry. It's easy, though, and it makes your hanging space look magical! Twigs usually dry within a few weeks. Again, when bending them, they should break cleanly.

Folks often ask me about using their oven as a dehydrator. Unfortunately, even on the lowest setting, most ovens still get too hot to dehydrate herbs. You'll end up cooking them instead—or, at the very least, dehydrating them at an undesirably high temperature, which depletes their nutrients. However, there are a couple of hacks that people use with mixed success. This first one only works if you have an older gas oven with a pilot light. Leave the herbs in the oven, spread out on a pan, with the oven off. The heat from the pilot light may be enough to dehydrate the herbs. The second option is to leave the herbs on a pan and leave the oven light on. I haven't tried either of these options, though I have heard stories of great success and failure, so try them at your own risk. If you have a wood stove,

you can dry herbs above it with good success, as long as the stove isn't too hot and the herbs aren't too close to the stovetop. You could fashion your own rolling baker's rack with just top shelves, so it would fit right over the stove. Hold a thermometer near the herbs to ensure the heat is not too high—preferably not above 115 degrees.

There's one last creative option for drying. I've had mixed results with this one, but some of my friends swear by it, and you may find it useful: use your car as the dehydrator. Place a piece of newspaper on top of your dashboard, or in the back window bay of the car, then lay the herbs on it in a single layer. On a hot day, the herbs can be dry by sunset. With cooler weather, it might take a couple of days. Of course, you need to make provisions should you need to drive somewhere during this time! If you want to try this, choose your herbs carefully. This method can be too hot and quick for some herbs, especially those in the mint family. (When dried too hot or fast, they can brown easily.) Still, at the least, this may provide a free, quick way to dry herbs while traveling. Try it and see what happens.

Storing Herbs

After going to all the trouble to harvest and dry your herbs, it would be a shame to lose them to improper storage. After dehydrating, pack them into containers as soon as possible. If it's at all humid, the herbs can reabsorb moisture if they sit after coming out of the dehydrator. If you can't get to them right away, run the dehydrator for another 30 to 60 minutes before putting them away.

Glass containers of all sizes will be useful as you build your herbal apothecary.

I recommend storing herbs in glass containers. Plastic is porous and won't preserve the herbs nearly as long. If you order herbs and they come packaged in plastic, transfer them to glass jars. Start saving any jar you find, and ask your friends and family for their jars too. (Some say the real way to know you're an herbalist is by how extensive your jar collection is.) You may be able to find gallon glass jars for free at your local pizza shop or other restaurants, although most companies have gone to plastic. If you're reusing jars that

contained foods with strong odors, such as pickles or salsa, wash them well and leave the lids off until the smell disappears.

Once your herbs are ready to store, there are a few techniques to make storage easier:

- Strip the leaves. You might already know this method for stripping leaves off the stem if you've stripped basil before. Hold the top of the stem firmly with one hand, with the plant pointing up. With the other hand, make a circle by touching your pointer finger to your thumb. Run this down the stem. If it's completely dry, the leaves should come off easily. You might have to adjust the size of your circle to fit the leaves.
- Use a funnel to get leaves into a jar easily.
- Lightly pack leaves in a jar, but try not to crush them. The smaller the particle size of the herb, the shorter the shelf life. This loose packing technique works well for flowers too. You can also shake the jar lightly after every $^1/_2$ inch to 1 inch (1 to 2.5 cm) of herbs to sift them, making room for more herbs.

Use a funnel with a wide mouth to transfer herbs to jars with ease.

When preparing twigs, try to guess which size jar will hold them best; this skill comes with time. Quart, half-gallon, or gallon jars (960 ml, 1.9 L, or 3.8 L) are all good sizes for twigs, depending on how many you have. Unbundle your twigs before storing them. Use a good pair of pruners to cut them into lengths that will easily fit into the jar. Dried fruits, bark, and roots are easy to pack into jars. Sifting works well for them too.

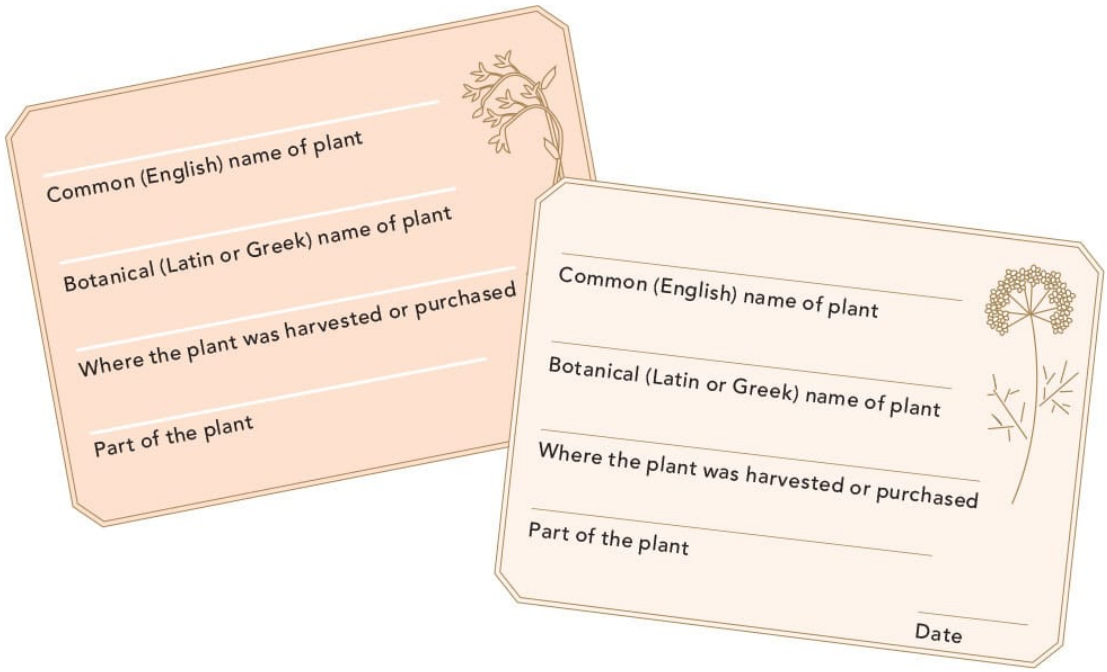
Finally, *where* you store your herbs is just as important as how you dry them. They need to be stored out of direct sunlight and in an area with relatively consistent temperatures. Cold temperatures are okay, but not hot, if you can help it. Most importantly, though, try to avoid big temperature fluctuations.

MEASURING HERBS

Some people are folk herbalists, adding a pinch of this and a dash of that. Others are more traditional and work with exact measurements. There are two main reasons for the latter:

- Replication. If I make a formula that works well for me or someone else, I want to be able to recreate it.
- Consistency. I want my batches to be of a similar strength, so I will hopefully receive the same results from each batch. (Disclaimer: I say the words “similar strength” and “hopefully” because the strength of the plants’ phytochemicals will vary based on year, location, and person.)

This book’s measurements are in volume as opposed to weight. You may have to coarsely chop some items, such as twigs or berries, to fit or pack them into a measuring cup.



LABELING HERBS

Now comes the other important part of storing herbs: **labeling**. Poor labels lead to throwing away perfectly good herbs and herbal formulas, and that is always a shame. Get into the habit of good labeling! Even if you prefer to use a simple sticker on the front or top of a jar, make sure you create a more detailed label elsewhere on the jar—if you open several jars at a time, it's easy to mix up the lids and be unsure of which herb is in which. A useful label can include more than these details, but it should always include:

- Common (English) name of the plant
- Botanical (Latin or Greek) name of the plant
- Where the plant was harvested or purchased
- Part of the plant
- Harvest date

CREATING YOUR HERBAL APOTHECARY

Now that you've got all your carefully grown, foraged, processed, stored, and labeled herbs, the fun starts—creating your apothecary. There are two main directions you could choose to go and many variations from there.

Do you want something simple that could work for your immediate needs, or do you want to put more time and energy into designing and creating (or even building) something that will last for years, with plenty of room for expansion? The other big decision is, as they say in real estate, location, location, location. Your choice of keeping it simple or making room for expansion as your herbal inventory grows will have a lot of bearing on this decision.

Always keep your herbs somewhere with relatively consistent temperatures, with low humidity, and, most importantly, out of direct sunlight. It's also helpful to have your apothecary in close proximity to where you will be processing your herbs when they come from the field, garden, or forest, and where you'll be making remedies. For most people, that means an ideal location is in or near the kitchen (away from the stove/oven and any kind of humidity). That said,

many find alternate locations work well. Common placements include (dry) basements, workshops, closets, and spare bedrooms.

As far as shelving goes, I've seen beautiful hutches, custom cabinets, inexpensive hand-me-downs, thrift-store shelving, and more. They all can work. The keys to useful shelving are adjustable shelf heights, so you can adjust them as needed for different jar sizes, and adequate depth. You'll also want the shelves to be sturdy enough to hold all the weight you'll load on them with your filled jars.

HERBAL TERMINOLOGY

Extractions/Preparations

Liniment: A topical herbal tincture (see below).

Poultice: Chopped, cut, or chewed herbs applied topically for skin and muscle ailments and pain.

Oil: An herbal formula, for topical or edible use, created by infusing herbs in oil slowly with little to no heat, or quickly with heat.

Salve: An herbal oil with added wax to create a more shelf-stable topical formula.

Tea: A medicinal or beverage drink made by infusing plants in (usually) hot water.

Tea Decoction: A tea made by simmering the plant parts. Usually for hardier parts of the plant, such as roots, bark, twigs, and dried fruits.

Tea Infusion: A tea made by letting the plant parts sit (infuse) in hot water. Usually for more delicate parts of the plants, such as leaves, flowers, and fresh fruits.

Tincture: A concentrated herbal formula made by infusing plant parts in alcohol or other solvents (such as vinegar or glycerin) for several weeks.

Tonic: An herb or herbal formula that is nourishing and generally considered safe enough for most people to ingest on a daily basis.

Properties

Astringent: An herb that can help dry a wet condition (such as a cough or diarrhea) or shrink tissue.

Demulcent: An herb that becomes slimy when processed (mucilaginous), making it soothing to the mucus membranes in the body.

Emollient: An herb that becomes slimy when processed (mucilaginous), making it soothing to the skin.

Energetics: The energy of an herb (or an ailment), especially when you taste it (or feel it in the body), such as hot, cold, dry, or moist.

Expectorant: An herb that helps expel mucus from the respiratory system.

Vermifuge: An herb that expels or kills worms and parasites in the intestines.

Your shelving will have a relationship with your labeling as well. For example, my gallon jars are on shelves that are only one jar deep. They are also higher on the wall, so I label them on the sides of the jars. My smaller jars are on shelving units. I usually store them three or four jars deep (leaving room for a couple more jars as my apothecary expands). For these jars, I make sure to label the tops so I can see them from above. However, I also label the sides of the jars in case jar lids are ever mixed up—it can be a pain to figure out which lid belongs on which jar otherwise.

Once you've decided on the design of your apothecary, choose how it will be organized. Besides where your dried herbs in different sized jars and tinctures will go, you'll need to decide if your herbs and tinctures will be organized by common (English) name or botanical/scientific (Latin or Greek) name. This is a big decision. While you can always reorganize later, it will only become more difficult as your collection grows.

It's also a good idea to keep an inventory, especially as your apothecary grows. This way you'll know at a glance how much of something you have left and if you need to harvest or make more. You can make a list on paper with a row for each herb/tincture and room to edit it. Keep the list on a clipboard with a pencil for quick access. I keep my inventory in a spreadsheet for quick editing, and it's easy to add columns when I add new herbs or tinctures.

MATERIA MEDICA

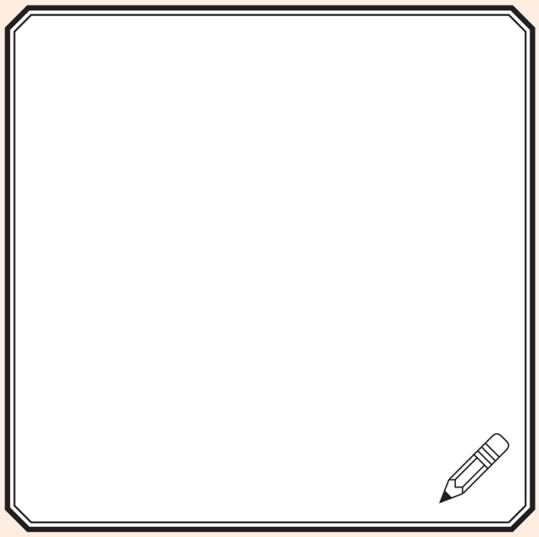
Whether you're an aspiring herbalist, family or community herbalist, or professional herbalist, a materia medica is a helpful personal resource to have. This is your personal herbal reference. Just like your apothecary, you can design this any way that suits you and refine it after some trial and error.

Generally, a materia medica is a collection of reference sheets on single herbs, including whatever information you desire. I keep my pages in a binder, organized by botanical names, though you could choose to organize yours by common names if you wish.

Some helpful information to include is:

- The common name of the plant
- The botanical name of the plant
- The plant's family
- Identification characteristics
- Habitat it likes to grow in
- Whether it's threatened
- Therapeutic parts
- Constituents, actions, and energetics (such as which vitamins or phytochemicals it contains, whether it's astringent or demulcent [see here], and whether it's warming or cooling)
- Edible and/or medicinal benefits
- Ethnobotanical tidbits (such as historical references)
- Dosage
- Contraindications
- List of resources where you found the information
- Any other interesting bits of information

Below you'll find my form. You're welcome to copy and use it or reference it as a foundation to create your own. The box in the corner is for making a drawing of the plant.



Common Name

Botanical Name

Plant Family

Botanical Description (growth habit, habitat, threatened status)

Therapeutic Parts	Safety Precautions & Interactions
Actions/Properties/Constituents	Preparations & Dosage
Energetics	Other Information
Therapeutic Indications	Resources

CHAPTER 2

The Mints and Herbal Tea

I OFTEN WELCOME people to my home with a cup of mint tea or, in the summer months, a mint cooler. I encourage you to start this chapter with a cup of mint tea in hand—and maybe even plant some mint in that pot on the porch.

For those new to herbs, mints are a great place to start. The mints have many fans, as they're easy to grow. Watch them, though—they spread! Mints are also mild, so they are generally safe for just about everyone, including kids. (Those with a mint allergy aside, of course.)

If you're more familiar with herbs, the mints can be a nice reminder to simplify. It's easy to overthink things, adding too many herbs to a blend or choosing exotic herbs over those growing right in our gardens or backyards. In herbalism, there's something called a *simple*. This means consuming one herb at a time: You get to know and feel the action of that one plant. That way, when you start making blends, you'll know better why you're adding each herb and how they fit together.

For me, mint and tea just go together, so this chapter also includes the key information for making decoction- and infusion-style teas. (If you know how to make tea, you're likely already familiar with infusions, but perhaps there's a tip or two that will increase your enjoyment of tea or that will help you extract more from your plants.) Teas are a common way for animals to take herbs as well. Try getting them to drink the tea in their water bowl. If they don't go for that, try pouring the tea over their food.

If you grew up drinking mint tea, you might tend to overlook mint's effectiveness. Yet mint is a powerful plant with a multitude of benefits—from soothing a stomachache or colic to comforting colds. It has an abundance of aromatherapeutic goodness. There are few things more soothing to a child with a bellyache than a cup of mint tea.

In this chapter, we'll sample mint in a variety of ways, including the Gardener's Summer Apple Mint Cooler shown here.

Meet the Mints (and a Bit of Botany)

When I introduce plants in workshops, I tend to start with the families in which they are categorized. Botany can seem overwhelming when you are just getting started, so it helps to establish patterns. You might not be able to identify a plant right away, but once you get familiar with the families, it will give you a good clue where to start. When you can put a plant into a particular family, it can often (though not always) tell you if that plant is edible or medicinal as well. Just be aware that this is not always the case. For example, the carrot family contains some of the most common vegetables and some of the deadliest plants in the world.

When you're thinking of a plant "family," try thinking of it like your extended family. You're all related, and chances are many members have some discernable similarities in appearance (maybe the color or texture of hair, eye color, skin color, build, etc.). That's just like a plant family—and the mint family, Lamiaceae, is my favorite example.

All mints have square stems (but not all square stems are mints, as I like to say). Their leaf arrangement, or how the leaves are arranged on the stem, is directly opposite each other. Their flowers are asymmetrical, with one petal on the bottom, providing a landing strip for the bees, with little lips coming off the edge. Almost every mint is aromatic, but not all smell like the classic mint that first comes to mind.

Continuing our botany lesson, from family we go down a funnel of sorts, getting more specific, coming to **genus**. There can be many genera (plural of genus) in one plant family. For example, *Mentha* is the genus that peppermint and spearmint belong to. Think of genus more like your immediate family; the physical similarities are usually more distinct, and people can often tell you're related.

Next, we go further down the funnel and get to **species**. *There's only one of each species*, as long as you don't count things like varieties and cultivars. For example, *Mentha spicata* is the species for spearmint. Once you see it a few times, you can easily discern it from other mints as the only one that looks, smells, and tastes the way it does. It's just like how you're the only (insert your first and last name here) that looks, talks, and behaves exactly like you! Think "species = specific."

When you see a species in writing, the names are always in italics, with the first word (genus) capitalized but not the second (species). However, the family name (such as Lamiaceae for the mint family) is not italicized.

The family name will always end in "aceae" as well. Family names without that ending are the old names of the family, before they were all standardized (such as the old name of the mint family, Labiatae, which referred to the lips on the bottom petal).

Get it now? If you want to go deeper, check out one of my most frequently referenced books, *Botany in a Day*.

The mints are a delicious and aromatic family.

RECIPE

Gardener's Summer Apple Mint Cooler

Mint offers a fantastic respite from a hot day in the garden. On a farm where I worked years ago, the head gardener, Barb, created this recipe, which is still one of my favorites. The apple juice quenches your thirst, while the salt replaces electrolytes lost from sweat. The mint keeps it refreshing and cooling. This recipe is written for just one mint cooler but can be made easily in larger quantities. For multiple people or a whole day's worth, multiply the recipe to whatever size best fits your pitcher, and hold the ice until it's time to serve.

YOU WILL NEED

1 cup (240 ml) apple juice, freshly pressed, if you can manage it

1 dash sea salt

1 cup (240 ml) ice

1 sprig fresh mint of your choice, lightly bruised

YIELD: Serves 1

INSTRUCTIONS

In a large glass, combine the apple juice and salt. Stir to combine. Add the ice, stir, and garnish with the mint sprig. You can also fill a thermos or water bottle with the mixture, minus the ice, and keep it in the fridge. If you leave the mint in the juice overnight, the mint flavor will be stronger the next day.

MINT SPECIES

Peppermint, *Mentha* x *piperita*, and spearmint, *Mentha spicata*, are the most commonly grown mints and likely the first that come to

mind. However, many culinary spices are in the mint family too. There's lavender, for one, and all the classic tomato sauce spices—basil, thyme, sage, and oregano.

There are many species of wild mints as well, the most popular being the mountain mints (the *Pycnanthemum* genus). The interesting thing about wild mints is they tend to taste more like oregano and less like what we think of as mint. Many are described as having a spicy mint flavor.

There are some showy wild mints with extra flair in the *Monarda* genus. There's bee balm (*Monarda didyma*) and bergamot (*Monarda fistulosa*). Some people use these names interchangeably for both species. This is where the difference between a common (English) name and a botanical/scientific (Latin or Greek) name comes in. The common names can get confusing. I most commonly see *Monarda didyma*, the one with red flowers, called bee balm, and *Monarda fistulosa*, with purple flowers, called bergamot, though I've also seen the names used interchangeably. *Monarda* contains more thymol, a compound added to mouthwashes for their antiseptic effect, than thyme, *Thymus vulgaris*, does. They're also easy to cultivate in many climates. Bergamot tends to prefer more sun, while bee balm can take some partial shade.

If **bergamot**, *Monarda fistulosa*, sounds familiar, that might be because Earl Grey tea is flavored with oil of bergamot. However, this is a different bergamot. The bergamot in Earl Grey comes from an essential oil from a citrus fruit. Still, I love this bergamot tea. **Bee balm** makes a great tea too. It has been called wild oregano, and that's how I tend to utilize it most often, substituting the leaves for oregano.

Once a mint plant is established, it will spread quickly. Make sure to establish borders for your mints or plant them in pots.

Lemon balm, *Melissa officinalis*, is another mint that is easy to grow and, consequently, spreads easily. It's such a great one, though, that I don't mind too much if it spreads. Lemon balm is an unassuming yet powerful herb. It's a powerful antiviral herb, often employed against any of the herpes viruses. Besides genital herpes, this includes cold sores, chicken pox, and shingles. Lemon balm is also a good choice for mood lifting and relaxation, stress-relieving and sleep-inducing formulas, along with fighting seasonal depression. Lemon balm is tasty, with a distinct lemony flavor. It's such a strongly flavored and enjoyable mint; it is often added to blends to make bitter herbs more palatable.

Going all the way in the other direction, **motherwort**, *Leonurus cardiaca*, is a mint that is very bitter. It's more often consumed as a tincture for that reason, but you can make it into a tea infusion if you combine it with a betters-tasting mint. True to tradition, motherwort is my favorite herb to gift new mothers. (In some herbal books, you may see the gift of motherwort described as "mothering the mother.") Indeed, I think it's great for anyone that needs a little mothering. Women often take motherwort to regulate or bring on their menstrual cycle. The *cardiaca* part of the name comes from its employment as a heart tonic, especially for regulating heartbeat.

If you're looking for a mint to improve the flavor of bitter herbs, give lemon balm a try.

TONIC HERBS

There are different forms of herbalism around the world, many of which were passed down in oral tradition. This means definitions can vary, including the definition of an herbal tonic. To me, tonics are herbs that are safe for most people to take on a daily basis and that help nourish or increase vitality in the body. Personally, I try not to take any herb *every single day*, at the very least giving my body a rest one day per week or a couple days per month. Whenever possible, I rotate my herbs for what I need during that particular time.

A good example is stinging nettle, *Urtica dioica*: Because I tend to get hay fever, I start drinking nettle tea every day, taking a day off here and there, a couple months before allergy season begins, and throughout the season too. Add some other nourishing and tonifying herbs, such as red clover and bee balm, for their special benefits and to keep myself from getting bored. This can also be a helpful way to utilize the extra herbs that have been sitting around in your apothecary for a while. Make a new blend and enjoy the fruits (or herbs) of your labor!

How to Make a Cup of Tea (a Hot Infusion)

While I'm encouraging you to explore the mints in this chapter, just about every popular herb you know today was made into a tea at some point in history. In times or cultures where there was little to no alcohol around, hot water was the most popular method of extraction for herbs. As you read the following section, feel free to try out some of the techniques with mint or with another herb. You'll find some of my recommendations shown here.

Before we make tea, you should know there are two popular ways herbalists brew it: an *infusion* (cold or hot) and a *decoction*.

An **infusion** is typically used for more delicate parts of the plant, such as leaves and flowers. An infusion is the way most of us know how to make tea, even if you make it with a bag. You pour hot water over some herbs, let it sit, then drink it. The process gets slightly more involved with loose herbs.

A **decoction**, on the other hand, is often for harder plant parts, such as roots, twigs, bark, and dried berries.

Though bags are simple and easy, you lose so much for their convenience. Bag tea is often the smallest particle size, like dust. Actually, it often is dust—dust that's fallen to the side after the higher quality brands are made! It's true that the smaller the particle size, the better and more quickly the tea infuses. However, smaller particles also oxidize more quickly. Most times you want as much surface area exposed as possible when making tea, but only when you're ready to make it. The sooner those particles are ground small, the more surface area is exposed to oxygen—meaning the more flavor it will lose.

RECIPE

A Cuppa Tea

When you make tea yourself, from herbs you grew or harvested, you'll taste and feel the difference. Say goodbye to the bag.

FOR 1 CUP (240 ML), YOU WILL NEED

1 tablespoon (15 ml) dried herbs or 2 tablespoons (30 ml) fresh herbs, cut and sifted (see Note)

1 cup (240 ml) water

FOR A 4-CUP (960 ML) POT, YOU WILL NEED

3 to 4 tablespoons (45 to 60 ml) dried herbs or 6 to 8 tablespoons (90 to 120 ml) fresh herbs, cut and sifted (see Note)

4 cups (960 ml) water

INSTRUCTIONS

1 In a pot or kettle over high heat, bring the water to a boil. While you're heating the water, place the herbs in the tea accessory of your choice (see here) and place them in your cup or pot.

2 Take the boiling water off the heat and pour it over the herbs.

3 Immediately place the lid on your teapot or cover your cup with a saucer or similar heat-resistant top. This step is important: it not only keeps the tea hotter but also keeps in all the good stuff that evaporates without a cover (such as volatile oils, where many of the herb's nutrients are stored).

NOTE: Cut and sifted means breaking down herbs to about $^1/_8$- to $^1/_4$-inch (0.3- to 0.6-cm) pieces.

YIELD: Serves 1 to 4

Bee balm makes for an excellent tea on its own or in blends.

There are two different reasons for consuming tea: as a beverage or therapeutically. A beverage tea is one consumed for pleasure, not with the expectation of getting any herbal benefits. A therapeutic tea is one consumed for all the herbal benefits, so it needs to extract longer to ensure you get all those benefits. Let the herbs steep for 5 minutes for a beverage tea or at least 20 minutes for a therapeutic tea. You can steep many herbs overnight, as well. (This method is

best with a quart [960 ml] of water, so you'll have enough to sip all day.)

MAKING A COLD INFUSION

Some herbs are better extracted without heat. These herbs are called *demulcents* (soothing, mucilaginous substances; see here). Think about the sliminess of okra when you cook it, and you'll start to get the idea. Vitamin C—in plants such as pine needles, rose, and hibiscus—is better preserved, and the mucilage demulcent plants are better extracted in cold water. (Hibiscus is high in vitamin C and is also a demulcent.)

To make a cold infusion: Use the same herb and water ratios as for making a hot infusion (see A Cuppa Tea). However, instead of heating the water, just pour it cold over the herbs in a jar or container of your choice, leaving the herbs loose. Cover the container and refrigerate for 8 hours, or overnight. Strain and drink cold, or warm to a pleasantly drinkable temperature.

Chamomile is a wonderful choice for tea, on its own or in blends.

HERBS FOR TEAS

Many herbs are suitable for making tea. Following are some of my favorites to get you started with the technique. If you want to explore and try something new, that's great! Just be aware that while these guidelines work for most herbs, there are always exceptions—including herbs you can overextract and herbs that are very bitter.

First I'll run through how I work with the herbs featured in this book. Then I'll recommend a few other favorites for further exploration.

Herbs Found in This Book

Hot Infusion

Bee balm

Bergamot

Calendula

Elderberry

Ground ivy

Lemon balm

Mountain mint

Mullein

Peppermint

Red clover

Sage

Spanish needles

Spearmint

Stinging nettle

Thyme

Yarrow

Cold Infusion

Elderberry (as a cold infusion, the vitamin C is preserved)

Plantain

Decoction

Astragalus

Echinacea

Witch hazel

Other Favorite Herbs for Tea

Hot Infusion

Chamomile (flower)

Holy basil/tulsi (leaf)

Lavender (flower, leaf)

Oats (milky tops [unripe seed] or straw)

Cold Infusion

Fenugreek (seed)

Hibiscus (calyx, petals)

Marshmallow (root)

Pine (needles)

Rose (hips)

Slippery elm (bark—only from sustainable sources!)

Decoction

Burdock (root)

Chicory (root)

Dandelion (root)

Fennel (seed)

Ginger (root)

Sassafras (root)

Making a Decoction

For a decoction, you'll use the same ratio of herbs to water as you did for an infusion. Be sure to put a lid on the pot to prevent evaporation.

- Start by bringing your water to a boil in a pot. Once at a boil, turn the heat to a simmer and add the loose herbs. Simmer the herbs for 5 minutes for a beverage blend, or 20 minutes for a therapeutic blend. If the herbs are strong tasting, such as ginger or burdock, simmer them for a shorter time—5 to 10 minutes.
- Most herbs need to be strained. The easiest way to do this is to pour all the contents—herbs and water—into a French press and plunge. You could also pour the tea through a strainer. Sweeten, if desired, and serve.

RECIPE

Sun Tea

This is the most energy-efficient way to make tea, but it's slower than a hot infusion or decoction. Just about any leaf or flower will work for this, but the best herbs for making sun tea are those that extract easily—especially those high in tannins. Mints are great for sun tea! Note that the harder parts of herbs, such as twigs, bark, and dried berries, will likely not extract well with the sun tea method.

The only special equipment you may want is a 1-gallon (3.8 L) glass jar, either with or without a spout. You can get by with large Mason jars, but if you start making sun tea regularly, you'll thank yourself for buying the larger container with the easy-pouring spout. Because you're not boiling the water, the sun tea jar can be a favorable atmosphere for bacterial growth. Make sure all parts, especially the spout, are very clean before each use.

YOU WILL NEED

1 cup (140 ml) dried herbs, cut small

1 gallon (3.8 L) water (or enough to fill your jar)

INSTRUCTIONS

1 Pour your herbs into a glass jar. You can place the herbs in a cloth bag or use a paper filter to prevent the spout from clogging, but make sure the herbs have enough room to expand and are not tightly packed.

2 Slowly pour in the water until it reaches the top of the container. Give the mixture a good stir.

3 Cover your container and place it in the sun. Wait 3 to 4 hours. The stronger the sunlight, the quicker the mixture will infuse to your

taste. If you're going to infuse the herbs longer than this, do it in the refrigerator to prevent bacterial growth.

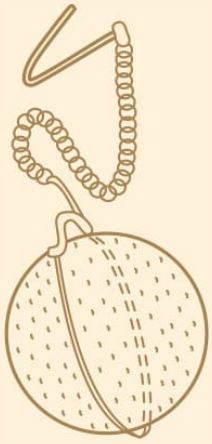
YIELD: Makes 1 gallon (3.8 L)

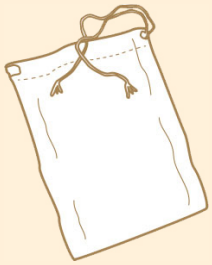
Herbs, water, and a large Mason jar are all you need for a batch of sun tea.

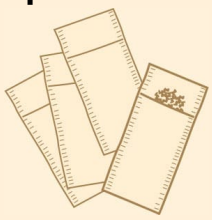
TEA ACCESSORIES

When it comes to tea accessories, there are many options—from simple to whimsical. Here's a chart to make it neat and easy to figure out the pros and cons. I rated them from 1 to 6, with 6 being the best (in my humble opinion). That said, I encourage you to experiment to see what works for you. The world of tea accessories is broadening every day. Don't be afraid to try something new.

There are advantages and disadvantages to different tea accessories. See the chart shown here to help you decide which tools are right for your tea station.

Accessory	**Tea ball** 
Portability	(6) Easily portable
Cleanability	(6) Quick and easy—dump and rinse.
Sustainability	(6) Reusable (until the hinge breaks)
Other	Comes in different sizes and degrees of ornamentation. Sometimes herbs may leak through the holes in the mesh (if they are powdery) or where the two halves come together. Also, the herbs don't have much room to expand. This can be helped some by buying a bigger tea ball.

Accessory	**Reusable cloth tea bag** 
Portability	(4) Easy to pack, but you have to wait for it to dry.
Cleanability	(3) Hard to clean; particles stick to it, especially when wet (though you might not care about a little bit of herbal particulate).
Sustainability	(5) Reusable until the drawstring comes out or a seam comes apart. Mine usually last about a year with regular use. (Of course, if you're DIY savvy, resew the seams.) Look for unbleached.
Other	Comes in different sizes. These are good to buy in bulk so you have extras for sachets, bouquet garni, or herbal baths.

Accessory	**Paper tea filter** 
Portability	(6) Packs down very small
Cleanability	(6) So simple—just compost the whole thing, herbs and filter; get unbleached filters if you're going to compost.
Sustainability	(2) They are compostable, but you need a new one for each 1 to 2 cups.
Other	Comes in different sizes. The bigger ones are good for making multiple servings at once in a jar, bottle, or percolator.

Accessory	**French press** 
Portability	(1) Almost impossible to pack, unless you're taking a fair amount of luggage and can wrap it safely
Cleanability	(5) Easy to clean, though sometimes herbs get stuck in the plunger.
Sustainability	(6) Reusable for years
Other	Get a bigger size, so you can make a quart (960 ml) at a time. You may even want two—one for coffee and one for tea.

Plants Discussed in This Chapter

BEE BALM

Botanical Name: *Monarda didyma*

Family: mint (Lamiaceae)

Native Location: native to much of the eastern United States, California, Oregon, and eastern Canada

Growing Zones: perennial, zones 4 through 9

Requirements: partial shade; moist, rich soil; needs good air circulation to resist powdery mildew

Harvesting Tips: Trim above the second set of leaves from the bottom; harvest flowers for a beautiful addition to tea

Therapeutic Parts: leaves, stems, flowers

Benefits: same as Bergamot (see here) for adults, children, and animals

Preparations: tea, tincture, syrup, steam

Contraindications: pregnancy; not much information available, follow contraindications for peppermint; animals don't tend to like the taste, administer as capsule or glycerite

BERGAMOT

Botanical Name: *Monarda fistulosa*

Family: mint (Lamiaceae)

Native Location: native to Unites States (lower 48 states) and parts of Canada

Growing Zones: perennial, zones 4 through 10

Requirements: flowers best in full sun; moist, well-drained, rich soil; needs good air circulation to resist powdery mildew

Harvesting Tips: Trim above the second set of leaves from the bottom; harvest flowers for a beautiful addition to tea.

Therapeutic Parts: leaves, stems, flowers

Benefits: tea infusion or tincture; antiseptic topically for skin infections and wounds and internally for sore throats, mouthwash, colds, flus, and upper respiratory issues; similar to other mints for gas, nausea, and indigestion

- **For children:** Try it with some mintier mints in tea or cough syrup for sore throats. It can also have a slight calming effect.
- **For animals:** tea infusion as a soothing antiseptic wash for animal skin irritations, itches, and fungal infections

Preparations: tea, tincture, syrup, steam

Contraindications: pregnancy; not much information available; follow contraindications for peppermint; animals don't tend to like the taste; administer as capsule or glycerite

LEMON BALM

Botanical Name: *Melissa officinalis*

Family: mint (Lamiaceae)

Native Location: Europe, Mediterranean, Africa, Asia

Growing Zones: perennial in zones 4 through 9, with mulch in the cooler zones

Requirements: partial to full sun; moist, rich, well-drained soil; doesn't spread by runners like many other mints, but will bush out if allowed

Harvesting Tips: Trim above the second set of leaves from the bottom before flowering.

Therapeutic Parts: leaves

Benefits: great antiviral, especially for herpes viruses; mood lifting; insomnia and seasonal depression relief; indigestion as with other mints; wonderful lemon flavor for adding to other, less tasty formulas

- **For children:** tea infusion for calming overactive, agitated, or sleepless children; indigestion; antiviral for chickenpox and other viruses
- **For animals:** tea for calming, depression, anxiety, indigestion, and (in cats) hyperthyroid conditions

Preparations: tea infusion, tincture, food

Contraindications: pregnancy, hypothyroid conditions, glaucoma, those taking pentobarbital or hexobarbital

MOTHERWORT

Botanical Name: *Leonurus cardiaca*

Family: mint (Lamiaceae)

Native Location: Eastern Europe and Asia

Growing Zones: perennial, zones 3 through 8

Requirements: full sun to shade; likes poor soils, drought tolerant; 15 inches (37.5 cm) apart

Harvesting Tips: Trim above the second set of leaves from the bottom, before flowering.

Therapeutic Parts: leaves, flowers

Benefits: (bitter) tea infusion or tincture for calming heart palpitations and arrhythmia, and lowering blood pressure; bringing on menstruation; helpful for the emotional and spiritual heart: depression (including postpartum), anxiety, and heartache

- **For children:** This is not an herb I usually give to children, because it is too bitter for them to tolerate.
- **For animals:** not usually given to animals, but could be considered as a tea infusion for the previously mentioned heart irregularities

Preparations: tincture

Contraindications: early pregnancy

MOUNTAIN MINT

Botanical Name: *Pycnanthemum* spp. (“spp.” is an abbreviation for the plural of “species,” in this case meaning there are multiple different species in the *Pycnanthemum* genus that are very similar in action)

Family: mint (Lamiaceae)

Native Location: throughout the United States

Growing Zones: perennial, zones 4 through 8 on average, depending on species

Requirements: partial shade to full sun; moist soil, but will tolerate drought; amount of space needed depends on species, but at least 12 inches (30 cm) apart

Harvesting Tips: Trim above the second set of leaves from the bottom before flowering.

Therapeutic Parts: leaves, stems

Benefits: interchangeable with other mints, such as peppermint and spearmint (but with spicier taste), for indigestion, cough, cold, fever, and colic; same for children and animals

Preparations: tea infusion, tincture, syrup

Contraindications: not much information available; follow contraindications for peppermint

PEPPERMINT

Botanical Name: *Mentha* x *piperita* (hybrid of watermint [*Mentha aquatica*] and spearmint [*Mentha spicata*])

Family: mint (Lamiaceae)

Native Location: Peppermint is tricky and under some debate. Most sources say it's native to Europe; others claim it's native to most of the United States, eastern and western Canada, and Puerto Rico.

Growing Zones: perennial, zones 3 through 11

Requirements: full sun to partial shade; fertile, moist soil; 18 to 24 inches (45 to 60 cm) apart

Harvesting Tips: Trim above the second set of leaves from the bottom before flowering.

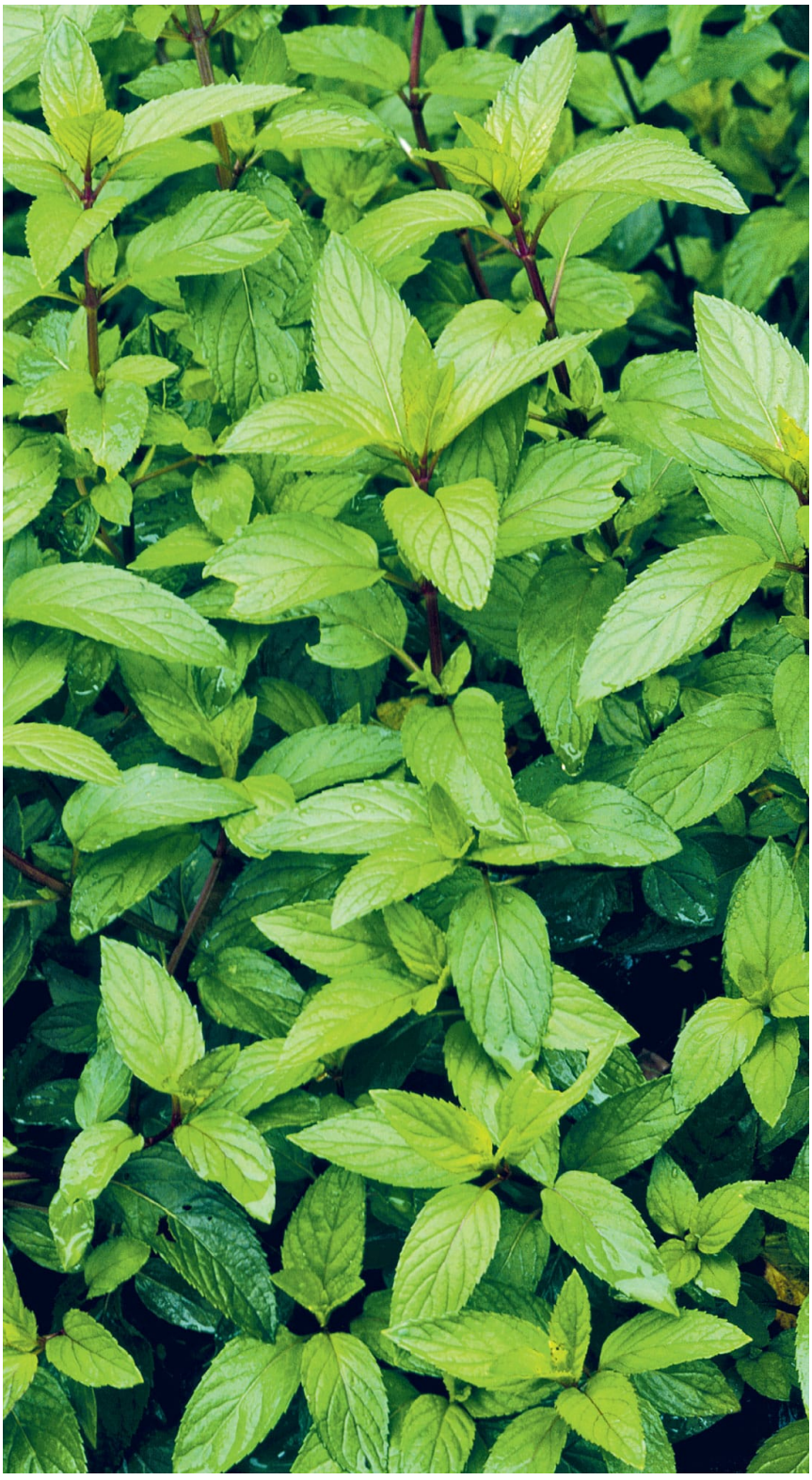
Therapeutic Parts: leaves, stems

Benefits: stimulates digestion; employed for gas, nausea, diarrhea, vomiting; antibacterial and antiviral for colds and flus; calming; stronger and more stimulating than spearmint

- **For children:** a taste kids love; add it to other not-so-tasty herbal teas for a better flavor; mild and safe for most; wonderful for bellyaches
- **For animals:** same benefits as for humans, also in a tea infusion

Preparations: tea infusion, tincture, syrup

Contraindications: pregnancy; kidney and liver diseases; fevers, seizures, heart problems; infants; those who don't tolerate sulfonamide antibiotics; not to be used with homeopathic medications



SPEARMINT

Botanical Name: *Mentha spicata*

Family: mint (Lamiaceae)

Native Location: Europe and Asia

Growing Zones: perennial, zones 3 through 11

Requirements: full sun to partial shade; fertile, moist soil; 18 to 24 inches (45 to 60 cm) apart

Harvesting Tips: Trim above the second set of leaves before flowering.

Therapeutic Parts: leaves, stems

Benefits: tea infusion similar to peppermint, but milder, so great for children and animals; stimulates sweating to bring down a fever

- **For children:** a taste kids love; add it to other not-so-tasty herbal teas for a better flavor; mild and safe for most
- **For animals:** same benefits as for humans, also in a tea infusion

Preparations: tea infusion, tincture, syrup

Contraindications: not much information available; follow contraindications for peppermint.

CHAPTER 3

Immunity and Remedies

IMMUNITY CAN BE a tough concept to grasp. It's safe to say nobody has it completely figured out, even the best scientists. Herbalism is also difficult to comprehend fully, as it's a holistic science—meaning it's about the whole being more than any individual part, or even the sum of the parts.

Perhaps this is why it's so tough for an herbalist when someone tells us they have a cough and asks what to take. In herbalism, we look at the whole person, the whole picture: what is going on in each part of the body, and outside the body as well. This includes the physical, psychological, emotional, and spiritual elements.

Even for something as seemingly straightforward as a cough, I would want more details. What have you been eating and drinking? Is it a wet cough or a dry cough? Is there any expectoration? Are you feeling hot or cold? These are what herbalists call "energetics." Symptoms can have energetics, and so can herbs and foods (for more, see here).

For example, for a dry cough, I'd recommend demulcent herbs, such as marshmallow root, licorice root, or violet leaf, to moisten and soothe the respiratory system and throat. If the person tended to run hot or was feeling hot, you could choose the marshmallow root or violet leaf, which both have a cooling effect, whereas the licorice root is warming for cooler conditions and/or people. Though the process is not usually this simple, it gives you a good idea of where to start.

In this chapter, we'll focus on staying healthy and also discuss how to prepare some common remedies with tinctures and oils. This chapter is not meant to be used as a pharmacy; rather, consider this information as it might apply to your own holistic approach to health.

Tinctures, oils, and other preparations should be used as part of a holistic approach to health.

Prevention Is the Best Medicine

Just as symptoms and herbs have different energetics, the immune system has many different parts and contributors. Though there are certain herbs you can take to boost and protect your immune system, they won't work as well if you're stressed, not eating well, not exercising, or short on sleep.

Yes, there are natural medicines we can take to help with this preventive approach—but don't forget food. As Hippocrates said, "Let food be thy medicine and medicine be thy food." You can plan what you eat—and don't eat—based on what your body needs. The more you pay attention, the more in tune you'll become with your body.

Let's start with some basic fundamentals for good health:

- Get as close to 8 hours of sleep a night as possible—note some people need more and some less. Listen to your body, and use 8 hours as a baseline.
- Drink plenty of fluids, especially water and tea. Avoid sugary and highly caffeinated drinks, which don't contribute to proper hydration.
- Eat a balanced diet, rich with fresh, naturally grown vegetables and protein and light on simple carbohydrates.
- Get cardiovascular exercise *every day* for at least 30 minutes, preferably more.

Here are a few more things that can contribute to a healthy lifestyle:

- Breathe deeply every day. Instead of a smoke break, take a breathing break once an hour. Have a contest with yourself to see how many deep breaths you can take in a row before you get distracted.

- Stretch every day to keep your body supple and protected and to relieve stress.
- Meditate for at least 5 minutes, preferably first thing when you wake up and again before bed. This will help relieve stress, clear your mind, and slow you down to prepare for restful sleep.
- Spend time with people you love. This will add greatly to your emotional health.
- Help yourself by helping others. People who volunteer are some of the happiest and healthiest people.
- Do things you love every day, even if only for a few minutes. This is another great way to de-stress and give your immune system a jumpstart.

Think about how to combine some of these basics to make your life easier. You could make a plan to hike or go to a yoga class with friends once a week or create a regular potluck night.

FIGHTING OFF INVADERS

All the same practices that are good for immune support are also good for fortifying our armor to protect against parasitic invaders: healthy food, exercise, de-stressing techniques, etc. Likewise, the same things that will knock down our immune system will also make us more vulnerable to these creatures: stress, lack of sleep, and especially sugar consumption.

Sugar comes in all the obvious forms—desserts, pastries, sodas, etc. However, it can also appear in places we're not used to looking; for example, it's added to an ever-increasing number of processed foods on the market—including some "health foods." Bread, peanut butter, and cereal are some foods you might not think of as sugary, yet they can contain quite a lot. Check your nutrition labels. It's also possible to get too much of a good thing when it comes to fruits and fruit juices. The fruits that taste less sweet, such as berries, apples, and pears, don't tend to affect our blood sugar. However, sugary fruits such as ripe bananas and mangoes can spike it. Eat and drink these in moderation.

There are foods we can eat to dispel worms and parasites: figs, pumpkin seeds, and garlic are a few of my top picks. Raw unsalted pumpkin seeds are best for this purpose and can be fed to animals when ground and sprinkled on food. Figs are tasty, but they can increase blood sugar, so eat just a few a day. Garlic in every form, especially raw, is a great food to consume every day. It's highly antimicrobial. However, I wouldn't recommend feeding it to animals. It's so strong, it can cause more harm than good in their bodies.

The best policy for dealing with parasites, such as worms and fungi, is prevention. Prevention takes a lot less energy than launching a full-on attack once affected. It's also a lot gentler to our bodies, minds, and emotions. Plus, these invaders can be tricky to deal with. Each one, just like each one of us, is different. They and we all respond differently to different herbs. It's best to work with a qualified practitioner who can discern the problem and give you a more accurate protocol to follow, tailored to your needs. Some of these herbs can be hard on the body, especially if your body is already struggling. My recommendation would be to nourish first and fight last, a good metaphor for life.

AN HERBAL APPROACH TO ATHLETE'S FOOT

The dreaded athlete's foot can be tough to heal. Managing it may be easier than getting rid of it. If you've never had it, count your blessings. In my experience, the fungus is caused and exacerbated by lack of airflow to the feet when locked in shoes, sometimes after exposure to the fungus from someone else. All previous suggestions are particularly important here, especially avoiding sugar, which feeds the fungus and can cause a flare-up faster than anything else.

Regular exercise is important to keep everything moving smoothly, but change your socks after sweating and at least once a day even if you don't notice any sweat. Choose socks that are good at wicking moisture. Wear loose-fitting, breathable shoes, especially sandals, or, even better, go barefoot as much as possible. Try stress-reducing tactics to stop nervous sweating, including herbs (see here).

Wash your feet at least once a day. After that, apply some black walnut tincture (see sidebar, shown here). Saturate a cotton ball with

one dropperful of tincture. Cover the toes, especially in between them, and the top and bottom of one foot. Then add another dropperful of tincture to the cotton ball and repeat on the other foot.

For a nice relaxing fungus-fighting remedy, soak your feet before bed. Fill a tub with the hottest water you can stand. Add apple cider vinegar and 1 tablespoon (15 ml) of an antimicrobial herb, such as thyme or sage. If the plant is dried whole, just add a couple of sprigs. You can also add 10 drops of tea tree oil. Soak for 10 to 20 minutes. Make sure to dry your feet very well afterward. Then apply black walnut tincture as noted previously.

Figs, garlic, and pumpkin seeds are all considered helpful in the battle against parasites.

To prevent sweating and keep feet dry to prevent fungus, drink sage tea, 1 quart (960 ml) a day. You can mix it with other tasty herbs of your choice. Foot powders can be great for absorbing sweat too. Just take some simple cornstarch or arrowroot powder, add a few drops of tea tree oil, and mix. Dust your feet with this before putting on your socks. You can also pour a little in your shoes. Let your shoes air out after getting sweaty.

Herbal Remedies

On the pages that follow, I'll teach you how to make herbal oils to help relieve a wide range of ailments, from dry skin to earaches and cramps, and even a massage oil. We'll see how to make a time- and energy-saving oil and then another one on the quick.

Then we'll talk about tinctures, a concentrated and portable remedy for acute and longer-term issues. Most tinctures are alcohol extractions of plants. However, there are other solvents, such as vinegar and glycerin, that you can use for alcohol-free alternatives. This is a helpful way to preserve fresh and dried herbs much longer.

There are also herbal steams to help soothe and open our sinuses when it seems nothing else will. They're easier and faster than a neti pot and more pleasant for some of us. They only take a tiny bit of herbs and/or a few drops of essential oils.

However, there's one recipe I wanted to share first, as it's a popular (and delicious) natural armor during cold and flu season. It's made from a berry from one of my favorite native shrubs that is pretty easy to grow yourself.

RECIPE

Elderberry Syrup

Before I was well acquainted with elderberry, *Sambucus* spp., herbalist Dawn Combs of Mockingbird Meadows drew my attention to it, as it is like North America's native version of the goji or açai berry. So often we don't have to go far or spend tons of money and resources if we can find a native substitute.

A native superfood, elderberries are packed with vitamin C. Being a strong antiviral, they are believed to be able to prevent the flu and other viruses, along with shortening the duration of a cold or flu by multiple days. My family drinks elderberry syrup every day, especially during flu season.

I recommend taking 1 to 2 tablespoons (15 to 30 ml) every morning for prevention, especially during flu season. When you're exposed to those with the flu, a cold, or another virus, take the same dosage several times per day—even up to once an hour if you're sick. You'll find this is a tasty remedy you won't have to convince kids to take. The syrup will last up to a few months in the refrigerator, but mine never sticks around that long.

YOU WILL NEED

- 1/2 cup (120 ml) elderberries
- 4 cups (960 ml) water
- 1/2 to 1 cup (120 to 240 ml) honey or other sweetener of choice, such as natural sugar
- 2-quart (1.9 L or similar size) saucepan
- 1-quart Mason jar with lid

Funnel or fine-mesh strainer

Cheesecloth

INSTRUCTIONS

1 In the saucepan over medium-high heat, combine the elderberries and water. Bring to a simmer. Cook for about 45 minutes, uncovered, until the liquid reduces by half.

2 Line a funnel with cheesecloth. Carefully strain the syrup through the cheesecloth. Or you can strain with a mesh strainer (you can find these with a plastic frame and handle, inexpensive at most grocery stores).

3 Let cool to below 110°F (43°C), if adding honey, to preserve the enzymes. Stir in the sweetener until completely dissolved. Let the mixture cool to room temperature.

4 Bottle, label, and refrigerate.

NOTE: All elderberry leaves, twigs, and uncooked berries are poisonous, containing cyanide.

YIELD: Makes about 1 quart (960 ml)

Elderberry Syrup has quickly become a popular herbal remedy.

RECIPE VARIATION

Herbal Cough Syrup

For a syrup that's meant for helping coughs, follow the Elderberry Syrup recipe, but add herbs suited to that purpose in any ratio, adding up to $^1/_2$ cup (120 ml) total. One of my favorite blends is 3 tablespoons cherry bark, 3 tablespoons mullein leaf, and 1 tablespoon bee balm. Think about flavor, and experiment to see which herbs are more bitter and which add a pleasant touch, adding the former in lower ratios and using the latter to mask the bitterness.

THE STORY OF YARROW, *ACHILLEA MILLEFOLIUM* OR *A. BOREALIS*

A common "weed" found in open fields, yarrow is a beautiful, low-growing, feathery ground cover with clusters of tiny white flowers. The genus *Achillea* was named after Achilles. I've heard a couple of stories about how it got this name.

The first story says that when Achilles was shot by an arrow in his heel, he put yarrow on the wound, which stopped the bleeding. This is because yarrow is what's called, in herbalism, a styptic, meaning it stops bleeding.

The other, more interesting, story starts with Achilles' mother, who knew he was slated to be a great warrior. Like every mother, she worried about her son getting hurt. When he was a baby, she held him by his heels and dipped him in yarrow tea every day to make him invulnerable to wounds. Unfortunately, he was shot in the heel, the only area left vulnerable during the dunking.

The last part of the species name, *millefolium*, is more straightforward. It means "thousand leaves," because it looks like each yarrow leaf is divided into a thousand tiny leaves.

Yarrow is also called a *diaphoretic* in herbalism, which means it helps you sweat out a fever. This is generally a more productive way to deal with a fever than trying to lower it. When we have a fever, our body is trying to sweat out the toxins to stop them from creating an infection. (This should only be tried when the fever is low- to medium-grade. Higher fevers need more aggressive techniques.)

Yarrow is great for clearing sinuses and can be employed in an herbal steam. It's antiviral too, so try it at the beginning of a cold or fever. Because it's incredibly bitter, it's too much for some people in tea, but that makes it a fabulous bitter for a bitters tincture before meals or for dealing with indigestion. There's also research coming out that shows yarrow tincture is an effective tick repellent (see here).

RECIPE

Herbal Steam

Steams are a wonderful way to clear upper and lower respiratory congestion and infections. When you were little, chances are your parents may have used a humidifier to add moisture to the air and to help with general congestion. This works on the same principles, but by adding a powerful herb such as thyme to the steam, you'll enjoy benefits beyond the moisture alone.

YOU WILL NEED

- 1/2 cup (120 ml) water
- 1 teaspoon (5 ml) dried (or 2 teaspoons [10 ml] fresh) thyme, oregano, or yarrow
- 3 to 5 drops essential oil (optional, but I recommend eucalyptus, peppermint, or a respiratory blend)
- Large soup pot with lid
- Trivet, hot pad, or other heat-proof surface
- Towel

INSTRUCTIONS

1 In a large pot over high heat, combine the water and herbs. Cover the pot and bring to a boil.

2 Once at a gentle boil, remove the pot from the heat and place it on a heat-proof surface on a table.

3 Add the essential oil, if desired.

4 Place your head over the pot and cover your head and the pot with a towel to trap the vapors. Breathe in the vapors for at least 5

minutes. *If at any time you feel like the vapors are burning you, stop and wait for the water to cool slightly. It should be warm and comfortable, not painful*.

5 When finished, save the water and reheat it to perform steams as needed throughout the day, adding more essential oil as the aroma fades. Make a new batch every day you need to steam.

YIELD: Makes 1 reusable treatment

Clear your sinuses—and your mind—with a relaxing herbal steam.

Combining herbs with oil can be done at room temperature or with heat. Read on to learn which method is right for you and how to choose the ingredients you want to work with.

INFUSED HERBAL OIL

Herbal oils consist of herbs (usually wilted or dried) infused in relatively stable oils. Heat is generally used to facilitate the infusion process, utilizing the *active* or *passive energy methods*. Both are

discussed here, but, in short, the active method uses heat while the passive method utilizes “digestion” (gentler heat and increased time to assist in the extraction process). Digestion is recommended for herbs containing alkaloids, essential oils, and mucilage. Infused oils have a shelf life of 1 to 2 years when protected from excessive heat, light, and moisture. There are many uses for these oils: food/salad dressing, massage, ear ailments, swollen lymph glands, moisturizer, sunscreen … use your imagination!

Before we begin, let’s talk for a moment about oils. Good choices for infusing include olive, sweet almond, sesame, jojoba, grapeseed, avocado, and castor oils; cocoa butter; and lard. Some notes on oils that may help you pick the right one, based on your intended use:

- Olive oil is comedogenic, meaning it can clog pores. So it’s not a good choice for the face or anywhere you tend to have oily skin or breakouts.
- In Ayurveda (Indian herbal medicine), sesame oil is recommended for people with dry skin and those who tend to run cold. (Remember energetics?)
- Coconut oil is solid at room temperature. This means if you’re making a salve, you won’t need much beeswax to harden it. Some people believe coconut oil isn’t absorbed into the skin or doesn’t fully absorb, so it can make your skin look greasy.
- Lard may sound weird or gross to put on your skin. However, it’s the closest oil to human skin oils, so it’s well absorbed. You’ll also need less beeswax for lard, as it liquefies at a higher temperature.

Note: To prevent rancidity, add slippery elm bark to your oil with the other herbs you’re using. (Thanks to Jim McDonald’s research straight out of 1852: www.herbcraft.org/slipperyelm.html.) Try 1 teaspoon (5 ml) of slippery elm powder to 1 quart (960 ml) or less of oil, or 1 tablespoon (15 ml) of slippery elm powder to anything from 1 quart (960 ml) to 1 gallon (3.8 L) of oil. Heat-infuse for 25 to 45 minutes. Alternatively, stir in slippery elm powder after straining the oil. A few drops of vitamin E and certain essential oils, such as rosemary or lavender, can also add to product shelf life.

RECIPE

Infused Herbal Oil: Passive Energy Method

This method works best with dried herbs. Fresh herbs will introduce moisture into the oil, opening up the possibility of pathogens causing spoilage. This method uses little to no energy and requires a very small input of time, aside from waiting.

YOU WILL NEED

- 1 cup (240 ml) dried herbs, ground or chopped into small pieces
- 2 cups (480 ml) oil of choice, or enough to cover the herbs by 1 to 2 inches (2.5 to 5 cm)
- 10 drops essential oil, one oil or a combination (optional)
- 1-quart (960 ml) Mason jar with lid
- Small container of water or paper bag

INSTRUCTIONS

1 Fill the Mason jar just below the halfway point with the dried herbs. Cover with oil to at least 1 to 2 inches above the herbs. Stir. Seal the lid and place the jar in a sunny spot inside or outside. To capture more heat, place the jar in a small container of water, or put it inside a paper bag and set it in direct sunlight. This prevents the oil from getting direct sunlight. (Some people believe direct sunlight can hurt the herbs and oil.)

2 Check on the infusion the next day to make sure the herbs are still covered with oil. If necessary, add more oil.

3 Let the mixture infuse for 2 weeks.

4 Strain the mixture through cheesecloth or fabric into a second Mason jar or similar container. Squeeze as much oil from the herbs as you can. Cover the jar and let the mixture settle overnight.

5 The next day, transfer the oil to a clean Mason jar or similar container for long-term storage. Discard the bottom sludge.

6 Add essential oil, if desired.

7 Label the jar and store it in a cool, dark place for up to 1 year, or as long as oil still smells fresh and not rancid.

YIELD: Makes about 1.5 cups (355 ml)

Passive infusion is less work than active, but it does not work well for fresh herbs.

RECIPE

Infused Herbal Oil: Active Energy (Stovetop) Method

This method is perfect for when you need an oil fast. It's also the best way to go with fresh herbs.

YOU WILL NEED

1 cup (240 ml) dried herbs, or 2 cups (480 ml) fresh herbs wilted for 6 to 8 hours to allow water to evaporate and prevent rancidity (see here)

2 cups (480 ml) oil of choice, or enough to cover the herbs by 1 to 2 inches (2.5 to 5 cm)

10 drops essential oil, one or a combination (optional)

Double boiler

2-quart (1.9 L) pot (or size that will fit double boiler)

Cheesecloth

1-quart (960 ml) Mason jar with lid

Jars for finished salves (4-ounce, or 120 ml, Mason jelly jars work nicely)

INSTRUCTIONS

1

1 Place the herbs in the top of a double boiler and cover with the oil. Place the double boiler over high heat and bring the water in the bottom of the double boiler to a boil. Reduce the heat to a low simmer to help the infusion along without scalding the oil. Make sure the oil itself does not simmer or come to a boil. Monitor the heat level to keep the water at a low simmer.

2 Infuse the oil for at least 45 minutes and up to 2 hours, depending on how much time you have and how strong you want it to be. Again, monitor the process to make sure the oil never comes to a boil or starts to simmer.

3 Once the infusion is complete, let the mixture cool to room temperature.

4

4 Strain through cheesecloth or fabric into a Mason jar or similar container. Squeeze as much oil from the herbs as you can.

4

5 Optional: Cover the container and let the mixture settle overnight, then strain again the next day.

6 Add the essential oil, if desired, and transfer the finished oil to a clean Mason jar. Discard any sludge on the bottom.

7 Label and store in a cool, dark place for up to 2 years, or as long as the oil still smells fresh and not rancid.

Infused Oils to Try

Following are a few of my favorite infused oils. You can experiment with other herbs that call to you. If you're just getting started, here are my recommendations for herbs to try:

Recommended dried herbs (for either active or passive infusion method): burdock root, calendula, cayenne, comfrey leaf and root, elderflower, ginger, goldenseal leaf and root (only sustainably grown and harvested), marshmallow root, mullein leaf, nettle leaf, plantain, yarrow

Recommended fresh plants (for active energy method only): arnica, garlic, mullein flower, St. John's wort (especially flower buds)

YIELD: Makes about 1.5 cups (360 ml)

RECIPE

Classic Mullein Ear Oil

To apply this oil, cool the oil until it is just warm to the touch or reheat it by placing a closed jar or tincture bottle of the oil in a jar of hot water. Administer a few drops in each ear. Wait 2 minutes to let the oil drain into the ear, while massaging around the outside of the ear. Take as needed for earaches. Note that the garlic can cause rancidity, so this does not last long.

YOU WILL NEED

3 medium-size garlic cloves, chopped

1/4 cup (60 ml) fresh mullein flowers and/or leaves

1/8 teaspoon (2 ml) slippery elm bark (optional, to prevent rancidity)

1/2 cup (120 ml) olive oil

INSTRUCTIONS

1 Follow the directions for Infused Herbal Oil: Active Energy (Stovetop) Method. Strain the oil well.

2 Label and keep refrigerated for up to 6 months.

YIELD: Makes about 1/4 cup (120 ml)

RECIPE

Goldenrod Oil

Goldenrod is anti-inflammatory for aches and pains and especially helpful for relieving menstrual cramps. Apply externally where and when needed.

YOU WILL NEED

1 cup (240 ml) dried goldenrod blossoms, or 2 cups fresh (480 ml), wilted for 6 to 8 hours

2 cups (480 ml) oil of choice, plus more as needed

INSTRUCTIONS

1 Infuse using either the active or passive method (only for dried blossoms) (see here and here).

2 Check the infusion after 24 hours to make sure the flowers are still covered with oil. If not, add more oil.

3 Strain.

4 Label and bottle. Store in cool, dry place until needed. Should keep for 6 to 12 months. Store in the refrigerator and/or add a pinch of slippery elm bark or powder for long-term storage.

YIELD: Makes 1.5 cups (360 ml)

RECIPE

Massage Oil

Regular massages are one of the best things you can do for your health, in my opinion. They move the lymph, help with detoxification, and provide valuable touch. Lavender and chamomile help relax weary muscles and spirits, while peppermint helps penetrate deeper into muscles. Add essential oils of choice, if desired, to further your desired effect.

YOU WILL NEED

- 2 tablespoons (30 ml) dried lavender blossoms
- 2 tablespoons (30 ml) dried chamomile
- 2 tablespoons (30 ml) dried calendula
- 2 tablespoons (30 ml) dried peppermint
- 1 cup (240 ml) oil of choice
- Essential oil (optional)

INSTRUCTIONS

1 Infuse the oil using the active or passive method (see here and here).

2 After infusing, add up to 30 drops of essential oil, if you like.

3 Strain.

4 Label and bottle. Store in a cool, dry place until needed. Oil should keep for 6 to 12 months.

YIELD: Makes about 1/2 to 3/4 cup (120 to 180 ml)

HERBAL TINCTURES

A tincture is a concentrated liquid extraction of an herb or herbs. Tinctures are a good way to address acute conditions, such as coughs, colds, pain, and headaches. They're also a great way to preserve herbs, especially herbs with a high water content (such as chickweed and cleavers). They can preserve herbs from 1 to 10 years (or even longer), depending on the solvent used. Thanks to their strength, tinctures are very portable. They can also be an easy way to get children to take herbs, as a small spoonful of tincture is comparable to 1 cup (240 ml) of tea in potency.

To make a tincture you macerate herbs in a *menstruum*, which is another word for a solvent used to make extracts. In the case of tinctures, the menstruum is usually alcohol, vegetable glycerin, or vinegar. The word comes from the Latin word *menstruus*, or monthly, because of the influence the changes of the moon—and consequently the time of the month—were thought to exert upon the preparation of solvents. Many traditional herbalists still start their tinctures in a particular phase of the moon to utilize the energy of that time. (For example, the waxing moon is thought to be a good time to start a nourishing tincture because the energy is growing or building.) Let's take a brief look at the most common menstruums.

Alcohol: For many, alcohol is the best preservative for tinctures as it's usually the best at extracting the properties of herbs. It's a good idea to use at least 80- to 100-proof alcohol. (The proof is equal to twice the alcohol content, so that would be 40 to 50 percent alcohol content.) Most alcohols you drink will work (don't use rubbing alcohol!). Vodka and brandy are the most popular, as the former is close to tasteless and brandy tends to play well with the flavor of most herbs, especially berries.

Tinctures last indefinitely if you use the correct percentage and ratio of alcohol for each herb. This can be tricky, as each herb has different constituents and water content.

The general accepted ratios are one part, by weight, *dried herbs* to five parts, by volume, alcohol, with 50 percent (or 100-proof alcohol). For example, you could tincture 1 ounce (30 ml) of dried herbs in 5 fluid ounces (150 ml) of alcohol. For *fresh herbs*, it's one

part, by weight, herbs, to two parts, by volume, alcohol, with 75 to 95 percent alcohol (or 150 to 190 proof).

This can get confusing, so I recommend starting with the traditional method of tincturing, using these general guidelines for alcohol percentages and following the basic instructions that start shown here. (For information on recommended alcohol content and ratios of herb to alcohol, go deeper with the book *Making Plant Medicine*.)

Glycerin: A glycerin-based tincture is called a *glycerite*. When making glycerites, you'll use pure vegetable glycerin. You'll find glycerin has a sweet taste, making it great for kids. People also find glycerites soothing to the mucus membranes. It is often not as effective as alcohol at extraction, though, and it's generally accepted that glycerin tinctures are only good for about 6 months at room temperature. (Glycerites may be refrigerated for longer preservation.)

Glycerin can also be added to alcohol tinctures before or after tincturing to give them a sweeter taste. Glycerin extracts from fresh herbs best. Herbs that work well as glycerites include anything aromatic, such as the mint family herbs and cinnamon.

Vinegar: Organic apple cider vinegar is what I recommend for tinctures, though you can experiment with other vinegars, such as rice vinegar, if you don't want the flavor of apple cider vinegar in your tinctures. Just don't use white vinegar, as it is not healthy to consume internally.

Vinegar is not as good as alcohol at extracting many herbal constituents, but it is good for digestion in general and for extracting minerals from herbs. One reason people like vinegar-based tinctures is they can be added to foods or made into salad dressings. They also make great tonics, or formulas to be consumed daily to strengthen and nourish your system.

Vinegar will preserve herbs for a minimum of 6 months, but sometimes much longer if stored in a cool, dark place.

RECIPE

Simple Tincture

There are different methods for making tinctures; as already noted, some involve complicated math. This simple method is a good place to start. One important note before you begin: harvest fresh herbs or find the freshest dried herbs you can (check by look, smell, and feel). This is a great opportunity to give gratitude to the plants. Once you master the basics of making a tincture, I encourage you to browse *Making Plant Medicine*. This wonderful book has detailed information on various tincturing methods.

YOU WILL NEED

- 1/2 cup (120 ml) fresh herbs
- 8 fluid ounces (180 ml) 75% (150 proof) to 95% (190 proof) alcohol, glycerin, or vinegar
- 16-ounce (480 ml) Mason jar with lid
- Parchment paper or wax paper
- Mesh filter, cheesecloth, or potato ricer
- Funnel
- Dropper bottle

INSTRUCTIONS

1

1 Chop the herbs. Place them in the Mason jar. If using **alcohol** or **glycerin**, pour it over the herbs. If using **vinegar**, warm it slightly and pour it into the jar.

2 Optional: Transfer the solvent and herb mixture to a blender, and blend until the herbs and the menstruum are thoroughly combined. Some people prefer to take this extra step to expose more surface

area to the menstruum. They believe it helps with extraction. Transfer everything back to the jar when you're done.

3

3 With a clean cloth, wipe the jar mouth well. Cover the jar with a piece of parchment paper or wax paper about twice as large as its mouth (the vinegar—and, eventually, any solvent—will corrode the metal lid). Seal the lid and give the jar a gentle swirl.

4 Create a label including the names of the herb(s) (I include the common English name and the botanical name), the menstruum (including alcohol proof/percent), date, location of harvest, and even the moon phase if you wish! It can be a fun, creative way to

make the label colorful—you can even draw a picture of the herb(s) and give your tincture a fun name.

5 Put the jar in a dark, temperature-stable environment, such as a cabinet—but somewhere you will see it regularly. Check after 24 hours to make sure the herbs are still below the menstruum. Add more liquid, if necessary.

6 Gently shake the tincture every day. This is a good time to add some of your energy to the process, notice the changes, and occasionally take a sniff. Continue doing this for 4 to 6 weeks (or more, if you choose).

7

7 When the tincture is ready (about 4 to 6 weeks), strain the tincture by pouring it through a funnel lined with cheesecloth (or using a potato ricer), and funnel it into a dropper bottle or jar. If using a potato ricer, you may want to strain the tincture once more to make sure you've strained out all the herb particles.

8 If you're using cheesecloth, make sure to squeeze it to get the most out of your tincture.

9 Create a new label if not transferring the tincture back to its original container.

YIELD: Makes about 6 ounces (180 ml)

BLACK WALNUT (*JUGLANS NIGRA*)

Black walnut is a beautiful tree with prolific and memorable nuts. So many people have lost their footing when stepping on these nuts, they're also known as "ankle breakers." The black walnut is what's called a *vermifuge*, meaning it kills or expels worms and parasites. It's one of the most well-known herbs for this purpose. Two others are wormwood and cloves. In fact, there's a traditional formula including all three that is widely available.

Black walnut hulls are the parts that most people make into tinctures. Beware, though: they will stain your hands black for several days. Wear gloves when processing to prevent this, and store the nuts in something you don't mind getting stained.

When making tinctures, I used to grate off the green walnut hull from the mature nuts. However, a few years ago I learned it's a lot easier to process them if you simply harvest young nuts that have blown or fallen off the tree while still immature. When at their smallest, they do not yet contain a nut inside, and they are softer. This means you can simply chop the nuts in half and cover them with alcohol. This is also how the Italian liqueur Nocino is made. You can make some at the same time as your tincture for easy holiday gifts!

Plants Discussed in This Chapter

BLACK WALNUT

Botanical Name: *Juglans nigra*

Family: walnut (Juglandaceae)

Native Location: central and eastern Northern America

Growing Zones: zones 4 through 9

Requirements: full sun; deep, fertile, moist, well-drained soil

Harvesting Tips: Harvest young nuts for easiest tincture making, or when still green.

Wear gloves to avoid staining hands. Be careful not to trip on nuts while harvesting.

Therapeutic Parts: leaves, hulls, inner bark, immature nuts

Benefits: antifungal, astringent, vermifuge; historically taken for expelling worms and parasites

Note: You may experience die-off symptoms, such as diarrhea or stomach upset, the first few days taking vermifuges. Start slowly and plan in advance for this possibility. If symptoms are too intense, slow down or stop.

- **For children:** Children are often the prime victims of worms because they spend time with groups of other children in close quarters and spread contagious issues easily through touch and play. Ringworm and pinworms are two of the most common. Ringworm is actually a fungus, related to athlete's foot. It responds quickly to topical and internal application of black walnut tincture. Pinworms also respond well to black walnut tincture.
- **For animals:** Black walnut is great for most animal parasites and worms. However, *black walnut should not be given to horses*. The leaves or hulls can be made into tea. Crush leaves or shells and cover with as much water (by volume). Let steep for 20 minutes. Mix with honey to make palatable. Start with 1 cup (240 ml) a day for 2 days, moving to 2 cups (480 ml) for 2 days, then 3 cups (720 ml) per day for the next week. Can also be applied topically without the honey.

Leaves can be spread in outdoor pens and cages to repel parasites, ticks, and fleas. Animals can also have a strong reaction to walnuts, so slow down or stop if this occurs.

Preparations: tincture, tea

Contraindications: not to be taken during pregnancy; *do not give to horses*

ECHINACEA

Echinacea has grown in popularity over the years. Unfortunately, it has grown so much that it has been overharvested in the wild. It's now on the United Plant Savers Species At-Risk list. This makes it a great plant to cultivate.

Botanical Name: *Echinacea* spp. (*E. angustifolia* is the most historically utilized species. *E. purpurea* is often utilized, as well as *E. pallida* and others.)

Family: aster (Asteraceae)

Native Location: *E. angustifolia*, central to western United States; *E. purpurea*, eastern to central United States

Growing Zones: perennial, zones 3 through 8

Requirements: full sun; moist (though it will tolerate drought), well-drained, rich soil. Echinacea will grow well from seed if planted outside in the fall or inside in the winter with 4 to 6 weeks of moist stratification. Capable of self re-seeding.

Harvesting Tips: A 2008 study by Kelly Kindscher, Dana M. Price, and Lisa Castle, showed when the top 15 to 20 cm (about 6 to 8 inches) of the roots were harvested, 50 percent of the plants resprouted. Try this for a more sustainable harvest.

Therapeutic Parts: mainly roots; sometimes leaves and flowers

Benefits: Though some people take echinacea on an ongoing basis, many sources state this is a bad idea. It loses its effectiveness if taken continuously. It's suggested to take echinacea at the first sign of cold, flu, upper respiratory infection, or strep throat. It helps get lymph moving. Apply diluted tincture or strong decoction topically to snakebites.

- **For children:** considered a safe immune booster for all the ailments mentioned here
- **For animals:** a great immune booster when needed to prevent infections, including mange and kennel cough, colds, and flus

Preparations: tea decoction, tincture, syrup of fresh or dried herb

Contraindications: not recommended for people with autoimmune diseases

ELDERBERRY

Botanical Name: *Sambucus* spp. (multiple species)

Family: moschatel or elderberry (Adoxaceae or some say Caprifoliaceae, the honeysuckle family)

Native Location: several native species in the United States, some native to China and Europe; *Sambucus nigra* and *Sambucus nigra* ssp. *canadensis* are the most common. ("ssp." means subspecies, which some taxonomists consider this to be, though sometimes you'll still see it as *Sambucus canadensis*). *S. nigra* is often called European elder and *S. nigra* ssp. *canadensis*, American elder.

Growing Zones: perennial, zones 3 through 8

Requirements: for best fruiting, plant in full sun; wet, but well-drained rich soil (their native habitats are stream and river banks, and they'll need watering if you don't have wet habitat); propagate by seed (need soaking and stratification [a cold season]), suckers, cuttings, or root division

Harvesting Tips: Cover flowering tops with netting to prevent birds from devouring the developing berries, comb the flowers with your fingers or a wide-toothed comb over a basket to ensure only getting the petals while leaving the ovaries to become berries; harvest the berries carefully, trying to bend the branches as little as possible (they are very brittle); cut whole umbels of berries, instead of taking much more time to harvest individual berries.

Therapeutic Parts: berries, flowers. *All elderberry leaves, twigs, and uncooked berries are poisonous, containing cyanide*.

Benefits: The flowers and the berries are both diaphoretic, which increases sweating to help clear a fever. They are both also antiviral. An extraction of the berries is said to prevent the flu virus from entering human cells and shorten the duration of a cold or flu by up to 4 days, along with helping relieve coughs. The berries are also very high in vitamin C. Use a strong tea infusion of the flowers as a gargle for sore throats or an eyewash for conjunctivitis and general soothing.

- **For children:** Elderberry Syrup is a common remedy for children, as it is safe and delicious.
- **For animals:** same benefits as for humans, also in a tea infusion, especially as an eyewash or extract for coughs

Preparations: tea, tincture, syrup

Contraindications: Some people consider the red elderberry, *Sambucus racemosa*, to be poisonous, though they are a traditional indigenous food. *Again, as a reminder, all elderberry leaves, twigs, and uncooked berries are poisonous, containing cyanide*. This is why they are always cooked or fermented. Not recommended for those with autoimmune disorders or those taking immune suppressants.

MULLEIN

Botanical Name: *Verbascum thapsus*

Family: figwort (Scrophulariaceae)

Native Location: Europe and Asia

Growing Zones: biennial, zones 3 through 8

Requirements: full sun; dry soil (will grow in clay, but harder to harvest the root); sow in warm spring weather

Harvesting Tips: Harvest leaves near the base of the plant. I harvest from the set of leaves above the bottom leaves, as the bottom leaves tend to be dirty from sitting on the soil. The long taproots are much easier to dig when grown in less compacted soil than the abandoned lots where you often find them.

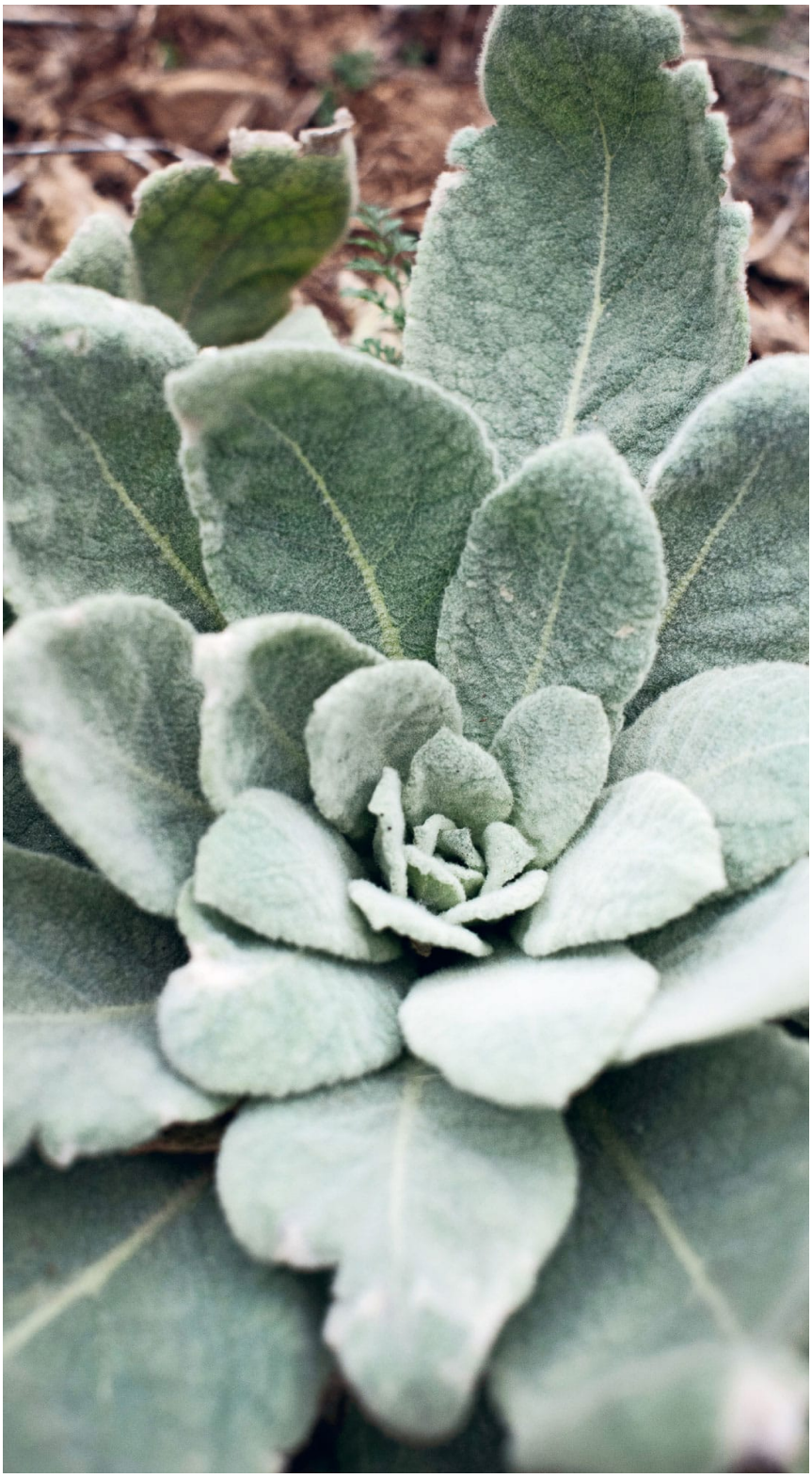
Therapeutic Parts: leaves, flowers, roots

Benefits: The leaves are a cough suppressant and expectorant. The flowers or leaves help with earaches (see Classic Mullein Ear Oil); the root helps sciatica.

- **For children:** Mullein is a great herb for children who are more prone to earaches and respiratory issues.
- **For animals:** lower respiratory system issues, kennel cough

Preparations: tea infusion, tincture, syrup of fresh or dried herb; smoking herb and oil from dried herb; when making tea or syrup, strain well or leaf hairs may irritate the throat.

Contraindications: none known



SAGE

Botanical Name: *Salvia officinalis*

Family: mint (Lamiaceae)

Native Location: Mediterranean

Growing Zones: perennial, zones 5 through 9

Requirements: full sun; well-drained soil

Harvesting Tips: Like other mints, cut the stem near the bottom, leaving a couple of sets of leaves below to continue to grow.

Therapeutic Parts: leaves

Benefits: antibacterial, antifungal, antiviral, antiseptic, astringent for tea, tincture, mouthwash or sore throat spray or gargle; taken internally for its antiperspirant effect or to dry milk production

- **For children:** Serve as a tea, with other mints to make more flavorful, for sore throats.
- **For animals:** Use as a tea for skin and mouth infections internally and externally, including ringworm. Feed $^1/_2$ cup (120 ml) dried herb to small animals or 1 cup (240 ml) to larger animals, or honey-sweetened tea.

Preparations: tea, tincture, steam, cough syrup

Contraindications: not for pregnant or nursing mothers

THYME

Botanical Name: *Thymus vulgaris*

Family: mint (Lamiaceae)

Native Location: southern Europe

Growing Zones: perennial, zones 5 through 9

Requirements: full sun, well-drained soil, medium pH (around 7.0); uneven germination from seed, grows easily from cuttings or starts; wait until soil warms to transplant. Thyme can also make a great (and fragrant) groundcover. Creeping thyme can be placed between stepping stones or in walkways.

Harvesting Tips: As with other mints, cut the stem near the bottom, leaving a couple of sets of leaves below to continue to grow.

Therapeutic Parts: leaves, flowering tops

Benefits: With its antimicrobial, antispasmodic, and expectorant actions, thyme is a perfect candidate for a cough syrup to fight an infection, slow coughing, and make coughs more productive.

- **For children:** same as previous. Herbal Steam is a great and gentle option for children old enough to sit still and be safe around a hot pot.
- **For animals:** same benefits as for humans, also in a tea infusion, especially as an eyewash or extract for coughs; generally considered safe

Preparations: food, tea, tincture, steam

Contraindications: pregnancy

YARROW

Botanical Name: *Achillea millefolium or A. borealis*

Family: aster (Asteraceae)

Native Location: It was thought that yarrow was only native to Europe, but in Alan S. Weakley's 2015 document, "Flora of the Southern and Mid-Atlantic States," he stated there is a native species (*A. borealis*). The two are almost impossible to tell apart. It is believed that, most of the time, what you find in the United States is the native species, and *A. millefolium* is found in Europe.

Growing Zones: perennial, zones 4 through 8

Requirements: full sun; relatively dry soil, not picky about soil quality, usually grows in open fields; can be seeded into trays or direct seeded once the soil is warm; a good groundcover

Harvesting Tips: Trim the stem, preferably when flowering, leaving a few leaves at the bottom to regrow.

Therapeutic Parts: leaves, flowers

Benefits: good for promoting sweating to bring down fevers as well as fighting colds, flus, and excessive mucus (because of its astringency). This is one of the most bitter herbs you'll find. (We'll talk about bitters in chapter 6.) Take this into account when making formulas. Chopped fresh or powdered yarrow leaf stops bleeding when placed in (preferably cleaned) shallow wounds. Use a tea infusion as an antiseptic wash for wounds.

- **For children:** same as just noted, but, because of its extremely bitter nature, it can be tough to get children to take unless mixed with other strongly flavorful herbs. Because of its astringency, yarrow is a good herb to help combat bedwetting,
- **For animals:** same as for humans, especially for fevers, wounds, and bleeding; can be chopped and placed in ears for earaches. Again, take the bitterness into consideration when administering internally.

Preparations: tea infusion, tincture

Contraindications: not for ingestion during pregnancy; possibility of allergic reaction for those extremely allergic to other plants in the aster family

CHAPTER 4

Bug Repellents and Skin Soothers

SKIN IS OUR largest and most sensitive organ; it's what we face the world with every day. Skin is both your armor and the cause of much frustration. A tiny itch can monopolize your thoughts, distract you from your work, cause hot spots on your animals, and keep you up at night.

Thankfully, there are herbs to help. Some are common "weeds" that surround us in the lawn and on the farm, while others are easily cultivated. And because herbs are multifaceted, they can be supportive in cases of strains, sprains, burns, bruises, and more.

Prevention being the best medicine, it's best to start with insect repellents for ourselves and our animal friends. Plant aromatic herbs along the borders of your property and make herbal insect-repellent sprays. Inevitably, there will be a bite or sting you need to address. Luckily there are herbal options in the forms of poultices for these times.

Poison ivy, oak, and sumac are also an ongoing challenge when you spend time outside. Witch hazel, *Hamamelis virginiana* or *H. vernalis*, to the rescue! Did you know when you buy some of these formulas, such as witch hazel, at the store they often contain very little of the actual plant, yet cost quite a bit? It's true. Growing and making our own is not only empowering, but also economical and reassuring, actually knowing what's in there.

Yarrow is a key ingredient in my insect-repellent spray.

An Herbal Approach to Insects

There are some troublemakers that can cause us, and our animals, a lot of discomfort. I'm talking bugs! How do we keep them from bugging us, or how can we make ourselves more comfortable after a bite or sting? With herbs, of course!

Entomology is the science of insects. However, bugs and insects are not always the same thing. All bugs are insects, but not all insects are bugs. The main difference between the two is their mouthparts. True bugs have a *proboscis*, a Latin word literally meaning *forward or before* and *to nourish*. It's a straw-like appendage used to suck things out of plants … and sometimes people. It gets more specific, though. Some insects with a proboscis are still not bugs. In fact, the proboscises (plural of proboscis) you're likely familiar with, the ones on moths and butterflies that curl up under their mouths, are not the type belonging to bugs. Bugs have proboscises that do not curl up, but stay rigid in place instead. Some examples of true bugs are leafhoppers, aphids, cicadas, stink bugs, water bugs, and bed bugs. Now you know!

Whether bug or insect, we humans need ways to repel them and take care of ourselves if we do get bit or stung. No doubt, that's why there are so many bug sprays on the market. Unfortunately for many of us it's not as easy as buying a bug spray or two, as these sprays are often quite toxic—most depend on strong chemicals.

Herbal sprays can work very well, but you will need to reapply them often.

Some people say it's no big deal because our skin doesn't absorb those chemicals, but that's not true. Our skin is the armor we present to the world every day. It's our largest organ of detoxification too. The

skin's absorption of chemicals is not an easy thing to explain, as there are no absolutes. Chemicals are absorbed in different quantities—some less, some more (dependent on molecule size), and some faster, and some slower. Some ingredients in bug sprays (or, should I say, *insect* sprays) have been shown to have varying degrees of side effects with unknown cancer risks. Some people still choose to use them because they can be so effective and the alternatives, such as tick-borne diseases and illnesses, can be very scary. Because some of these chemicals are proven neurotoxins and are especially harmful to children, it's great to have natural options.

That brings us to herbal alternatives. Yarrow is my favorite insect-repelling herb. We talked about yarrow shown here, so you know it has many benefits. Many herbalists believe it can be more effective than even powerful chemical insect repellents when it comes to repelling mosquitoes and ticks.

I have drawn my own evidence-based conclusions as well. I made an insect-repellent spray with yarrow before taking a teaching trip to Maryland, a.k.a. tick central. My friends said I wouldn't need to wear pants and that shorts would suffice where we'd be hiking because we wouldn't be walking through tall grass. (I want to remind you here that the best medicine is prevention, and even herbalists don't always make the best decisions.) Of course, we did end up walking through tall grass. In the car after the hike, I found three ticks in quick succession. One had not attached itself to my skin yet. The others were attached. I left them attached until I could get back to the house and remove them properly with tweezers or my tick key. In the 20-minute ride, both detached themselves. I believe they didn't like the taste of the yarrow insect spray. (Another awesome tidbit about yarrow is that it's also not tasty to deer—the host for the deer tick, the most common carrier of Lyme disease. So plant it and other deer-repellent herbs, such as mints, sage, oregano, thyme, mugwort, and goldenrod, in the garden and around the homestead.)

RECIPE

Insect-Repellent Spray

This is my recipe for yarrow-based insect-repellent spray (pictured shown here). Shake it well before each application. To apply, spray liberally every 20 to 30 minutes as long as you're outside. This reapplication is important, as it's not as strong as a chemical spray.

One important reminder: Some animals are very sensitive to essential oils and can have allergic reactions. It can even cause liver damage. Instead of this spray, try the recipe shown here. Also, because some people are allergic to or irritated by certain essential oils, make sure your friends know what's in the spray before they borrow it.

YOU WILL NEED

- 1 cup (240 ml) citrus peel or whole fruit cut into $^1/_2$-inch (1 cm) pieces
- 2 cups (480 ml) white vinegar or apple cider vinegar, or enough to cover the citrus
- 1 cup (240 ml) yarrow tincture (see here for how to make a tincture)
- 50 drops aromatic essential oils, such as lemon, eucalyptus, peppermint, lily of the valley, lavender, citronella, rose geranium (see Note)
- 1-quart (960 ml) Mason jar with a lid
- Parchment paper or wax paper
- Small spray bottle, or similar container for use/storage

INSTRUCTIONS

1 In the Mason jar, combine the citrus and vinegar, making sure the citrus is covered by the vinegar.

2 Cover the jar with parchment paper or wax paper (the vinegar will corrode the metal lid). Seal the lid. Let the mixture infuse for 2 weeks, preferably in consistent temperature and out of direct sunlight, shaking it daily.

3 Strain the liquid into a large measuring cup and empty the Mason jar. Return the liquid to the jar.

4 Add the yarrow tincture and essential oils to the citrus-infused vinegar.

5 Fill your spray bottle. Keep the remaining liquid in the Mason jar with the lid on. Label both. It should last about 1 year.

NOTE: I recommend using a mixture of oils rather than just one, as it seems to increase effectiveness. Additionally, some essential oil brands are more concentrated than others, and we all have different sensitivities to them. It may take some trial and error to figure out the amount that works best for you. It's better to start small and work your way up.

YIELD: Makes about 3 cups (720 ml)

RECIPE

Insect-Repellent Spray for Animals

Cover your animal liberally with this spray before going into areas where they will be exposed to fleas, ticks, mosquitoes, etc. Avoid the eyes when spraying. Reapply every 30 minutes.

YOU WILL NEED

2 cups (480 ml) apple cider vinegar

2 cups (480 ml) water

2 sprigs rosemary

2 sprigs lavender

2 sprigs peppermint

1-quart (960 ml) Mason jar with lid

1-pint (480 ml) Mason jar with lid

Parchment paper or wax paper

Small spray bottle, or similar container for use/storage

INSTRUCTIONS

1 Place 1 sprig of rosemary, 1 sprig of lavender, and 1 sprig of peppermint into the 1-quart (960 ml) Mason jar. Add the apple cider vinegar.

2 Cover the jar with parchment paper or wax paper (the vinegar will corrode the metal lid). Seal the lid and label the jar. Let infuse for 2 weeks, preferably in consistent temperature and out of direct sunlight, swirling the mixture daily.

3 The night before the vinegar infusion will be finished, place the remaining herb sprigs in the pint-size (480 ml) Mason jar. Bring the water to a boil and pour it over the herbs. Cover the jar and steep overnight.

4 Strain the water into a bowl and reserve it in the jar.

5 Strain the vinegar into a bowl. Combine the vinegar and water in the quart-size (960 ml) jar. Fill your spray bottle, and keep any remaining mixture in the Mason jar, covered.

6 Label the spray bottle.

YIELD: Makes about 4 cups (960 ml)

RECIPE

Herbal Flea Wash

If you decide to go natural with insect protection for your beloved animal friend, it's important to look for ticks regularly and get a flea comb to comb them with at least once a week. If your friend is itching a lot and you find fleas or evidence of them, it's time for an herbal bath to wash those fleas away. These aromatic herbs will help repel and kill the pests. If your animal has sensitive skin, test the wash on a small area before bathing the entire animal.

YOU WILL NEED

- 2 gallons (7.6 L) water
- 3 sprigs of herbs: peppermint, rosemary, and/or lavender
- 1 tablespoon (15 ml) pure liquid castile soap
- 5 drops neem oil
- 2 large soup pots
- Small plastic bucket, or similar container to use for bathing

INSTRUCTIONS

1 In a large soup pot, combine 1 gallon (3.8 L) of water and the herbs. Using the infusion method shown here, make a tea, infusing it, covered, for 20 minutes.

2 After 20 minutes, it should still be warm, but not hot. If it's still too hot to the touch, let it cool a bit longer. Strain out the herbs, pour the tea into the bucket, and stir in the castile soap and neem oil.

3 Fill a second large soup pot with the remaining gallon (3.8 L) of water, and warm it slightly (unless it's a hot day). This will make it

more tolerable for your animal.

4 Start by rinsing your animal. Cover with a liberal amount of the tea, lathering as you go, *avoiding the eyes* (very important). It's helpful to have another set of hands to hold the animal if possible, or attach to a leash or line.

5 Massage the mixture into the skin. Leave it on for 5 minutes, or even a little longer if the animal doesn't mind (see Note).

6 After 5 minutes, rinse the soapy mixture off. Repeat at least twice per week for as long as the flea infestation lasts.

NOTE: If the tea mixture seems to cause any skin irritation, rinse it off immediately and do not try it again.

YIELD: Makes 1 wash

Get rid of those pesky fleas with a soothing herbal bath.

ANIMALS AND INSECT CONTROL

Over the years I've discovered several things that work—and plenty that don't—when it comes to insect repellents for animals and humans. Here are a few of my favorites.

First, Lyme disease is one of the most-feared insect-borne diseases. It can affect animals and people alike. The best medicine for all is prevention: wear long pants covered by socks when going into areas likely to house ticks, such as long grass, and always wear insect spray, reapplying it regularly when in areas that could have ticks. Do a tick check or have someone help you with one, checking every part of your body for ticks after being outside during the warmer months. Thoroughly check your dog for ticks as well, even if they take flea and tick medication.

There's no substitute for spotting a tick and removing it quickly.

Stephen Harrod Buhner is known as a top herbal researcher on Lyme disease (see Bibliography, shown here, for more). Astragalus, *Astragalus membranaceus*, root tincture in high dosages is one of the first things he recommends after a tick bite. Some people recommend taking astragalus preventively as a tincture, or powdered and added to food, throughout tick season. In some Asian cultures, it's seen as a tonic safe for frequent consumption (I put it in my soup stock).

As far as essential oils go, I've had great success with peppermint oil as an insect and rodent repellent. When I moved to the country, I learned the hard way not to leave snacks in the car. Mice moved into my ventilation system and ate tunnels into my seats. Thanks to a neighbor's suggestion, I placed pieces of cotton balls in all the car's vents, adding a few drops of peppermint oil to each one. The mice didn't like the smell and quickly learned to stay out. This works in cabinets and pantries too!

Last but not least, diatomaceous earth (DE) is another widely employed natural option as an insect control for animals, as it kills fleas. DE is made

from diatoms, tiny one-celled organisms that have been fossilized. It can be applied directly onto cat and dog fur, but *a few words of caution*:

- Work with only food-grade DE!
- Only apply when the animal is dry.
- Avoid getting any into their eyes, ears, or nose.

Put some in a saltshaker or spice jar and sprinkle it over your pet until they are slightly dusty, and then rub it under the fur. You can also sprinkle DE on floors—wood, carpet, or otherwise—sweeping it into cracks. Or apply a small amount on furniture or animal bedding. Vacuum once a week, emptying the vacuum bag or canister into a bag and removing it from the house quickly. It's good to continue this practice even after the fleas are gone, to prevent new infestations.

My dog, Bluebell, wants to play outdoors whenever the weather is warm. It's my job to protect her from insects as best I can.

Skin-Soothing Salves

Though our skin is our armor, it's not impervious. On a typical homestead, you'll come into contact with a wide array of skin irritants: the sun, poisonous plants, insects, splinters, etc. It's reassuring to know there are plants growing around us, or easy to cultivate, that are invaluable in our first aid kits.

When it comes to sun, prevention is, again, the best medicine. Sometimes, though, with hours spent in the fields and gardens, sunburn is unavoidable. Then there are also accidents, like the quick brush against a hot woodstove. A simple soothing green salve can be the saving grace in these situations. It can also be a huge blessing for all kinds of scrapes, bruises, and such.

HERBAL SALVES

Herbal salves consist of an herb-infused oil (shown here through here) hardened with wax. Oils that are solids at room temperature, such as lard, require a smaller addition of wax. Salves are more shelf stable than oils, with a shelf life of up to 3 years! As far as uses go, they have many of the same ones as oils. However, in addition to their main uses for wounds and burns, they can help with muscle relaxing, moisturizing, relieving chest congestion, and much more.

Wax Options

- **Beeswax:** This is my first choice and often the easiest to find—especially if you know a local beekeeper or keep your own bees. (Just make sure whoever is raising the bees is using natural methods.) Beeswax is high in vitamin A and good for keeping moisture in the skin. The only potential downside is that, unlike the other options listed here, it's not vegan.
- **Carnauba:** This wax comes from a Brazilian palm tree. There are serious questions about its sustainability, though, as some palm

plantations are being planted after deforestation. Please do your research before purchasing this, even as a last resort.

- **Candelilla:** Most wax of this type comes from a plant grown in Mexico and the southwestern United States. It can add gloss, which is nice for lip balms. It's a powerful hardener, so *use half as much* as other waxes in most recipes.
- **Soy:** Much of soy is now genetically modified, so make sure to get organic/non-GMO soy wax. It has a higher melting point than beeswax. Be sure to melt it completely.

Once you've made an herbal oil, it's wonderful to incorporate it into a salve.

RECIPE

Basic Herbal Salve

The following is a general salve recipe. It will make any oil into a salve. Check the recipes from the previous chapter, or see the next entry for my favorite recipe.

The amount of wax needed depends on the purpose for your salve. If using an oil that is solid at room temperature, try starting with half as much wax and increasing by a tablespoon at a time, if necessary. More wax is desirable for lip balms (about $^1/_3$ of a cup beeswax to 1 cup liquid oil), as the wax offers protection from nature's elements, while less wax allows better absorption of herbal constituents in a healing salve.

YOU WILL NEED

1 cup (240 ml) herbal oil, such as recipe shown here (see here through here for instructions on making herbal oil), plus more as needed

$^1/_4$ cup (60 ml) beeswax or soy wax or $^1/_8$ cup (30 ml) candelilla wax, plus a little extra

20 drops essential oil, such as lavender or citronella (optional)

Double boiler

8-ounce Mason jar, or salve jars, for storage

INSTRUCTIONS

1 In a double boiler over very low heat, combine the herbal oil and wax, adding the wax 1 teaspoon at a time. Stir to incorporate. After each addition, test the mixture's consistency: Cool 1 teaspoon of the salve in the freezer for 1 minute. If the salve is too hard, add a little more oil. If the salve is too soft, add a little more wax. When

it's just right, record the amount of wax added for next time you make this recipe.

2 Keep stirring until the wax is completely melted. Continue to test and adjust until the mixture reaches the desired consistency.

3 Add the essential oils and stir to combine. Immediately transfer the salve to the storage container and label it. Store in a cool, dark place.

YIELD: Makes about 8 ounces (240 ml)

SALVES TO TRY

Salves are handy remedies to keep in the first aid kit, the medicine cabinet, the diaper bag, and beyond. I have fondly nicknamed the following salve my Every Purpose Salve because it's good for just about every purpose (read the note about deep wounds). The Solomon's Seal Salve is my go-to for seasonal transition aches and pains and post-gardening wrist and joint moans and groans.

Skin-Soothing Salve

This salve is my go-to for soothing irritated skin. While a plantain poultice works well for shallow puncture wounds, you should see a practitioner first for any deeper wounds, as the particles could introduce infection. A plantain poultice (see here) would be a better option. A little extra wax (about 1 cup) can be added to make this into a lip balm. Lavender oil can be added for extra soothing, or peppermint oil for a tingly lip balm, or other oil of preference.

YOU WILL NEED

- 1/4 cup (60 ml) dried calendula
- 1/4 cup (60 ml) dried comfrey leaf
- 1/4 cup (60 ml) dried plantain leaf
- 1/4 cup (60 ml) dried St. John's wort
- 2 cups (480 ml) oil of choice, or enough to cover 1 to 2 inches (2.5 to 5 cm) above the herbs
- 1/4 cup (60 ml) wax of choice, plus more as needed

Essential oil of choice

Pint-sized container

INSTRUCTIONS

Follow the directions for making an herbal salve (see here).

YIELD: Makes about 2 cups (480 ml)

Solomon's Seal Salve

Solomon's seal is deeply soothing and moistening to the tendons and ligaments. This salve is pain relieving for joint and arthritic-type pain.

YOU WILL NEED

Ingredients for Skin-Soothing Salve (preceding), but substitute 1/2 cup (120 ml) chopped Solomon's seal root, preferably fresh, for the St. John's wort. Solomon's seal is becoming threatened in some areas, so please either grow your own or make sure it's coming from an ethically harvested source.

INSTRUCTIONS

1 Follow the Skin-Soothing Salve recipe (preceding), using the active method of infusing the oil (see here).

2 Add the wax, testing the consistency, as in the Basic Herbal Salve recipe.

3 Label and store in a cool, dark place for 6 months or more.

YIELD: Makes about 2 cups (480 ml)

Other Skin Soothers

Salves and oils are fantastic remedies for many things, but wounds need to be cleaned. Witch hazel is my go-to remedy for this purpose. I carry it in my first aid kit, just in case. You can take the basic witch hazel remedy found here and turn it into a soothing remedy for poison ivy too. For deeper wounds and insect bites, a poultice is the way to go. You'll be amazed at how easy they are to make … easy enough for your children to make them!

RECIPE

Witch Hazel Soother

Cleaning wounds is an inevitable occurrence on the homestead. Research is starting to come out showing that hydrogen peroxide and plain rubbing alcohol applied to wounds can actually do more harm than good. Witch hazel may be a better option—or at the very least worth trying. In addition to cleaning wounds, it can be soothing for hemorrhoids or as a skin toner, with moisturizer applied afterward to prevent skin drying out.

However, the witch hazel you buy in the stores can have only very tiny traces of the actual witch hazel plant in it, and it's way more expensive, so you're better off making your own.

Witch hazel likes to grow in moist habitats, such as stream banks or moist woods. If you don't have any growing near you, it is a beautiful shrub worth planting.

YOU WILL NEED

1 cup (240 ml) witch hazel twigs (1 inch long, or 2.5 cm, pieces cut with pruners) and leaves (at least three-fourths twigs)

3 cups (720 ml) 80-proof alcohol (or $1\frac{1}{2}$ cups (360 ml) 70% isopropyl alcohol diluted with $1\frac{1}{2}$ cups (360 ml) water, plus more as needed (see Note)

1 half-gallon (1.9 L) Mason jar with lid

Parchment paper or wax paper

INSTRUCTIONS

1 Place the witch hazel in the Mason jar.

2 Add the alcohol, adding more as needed to cover the plant material completely.

3 Place a piece of parchment paper or wax paper over the jar (the alcohol will corrode the metal lid). Seal the lid. Let the mixture infuse, out of direct sunlight, for at least 2 to 4 weeks, shaking daily.

4 Strain the liquid into a large bowl or measuring cup. Measure it and return it to the Mason jar.

5 Add an equal amount of water to the jar to dilute the alcohol. (We are trying to get to a finished alcohol percentage of 15 to 20 percent.)

6 Label, store, and use as needed. The mixture should keep for at least 6 months. Refrigerate for longer storage.

NOTE: If using isopropyl alcohol, be sure to label not for internal use and keep out of the reach of children!

YIELD: Makes about $1\frac{1}{2}$ quarts (1.4 L)

This Witch Hazel Soother has a variety of uses, and it's quite easy to make.

RECIPE

Poison Ivy/Oak/Sumac Spray

Contrary to popular belief, you can get poison ivy, oak, or sumac irritations during all parts of the year. It's just more common in the warmer months, when the irritating oil, urushiol, is found more often in the aboveground parts of the plants. Our allergies can also change. So even if you've never gotten it before, you still can. This trio is actually part of the cashew family, Anacardiaceae. This means relatives include edible sumac, pistachios, cashews, mangos, and Brazilian pepper. Some people who are very allergic to poison ivy, oak, or sumac can have reactions to these non-"poisonous" plants as well. Oh, and *never* burn poison ivy, oak, or sumac, as the oils can become airborne and invade your respiratory passages.

There's nothing worse in the heat of summer than an itchy oozing rash all over your body, right? Once you have the itch, let's talk about what you can do about it. Oils and salves can be bad in this instance because we want to dry the weeping mess, not moisten it. Witch hazel is a better solution, especially when mixed with other herbs that are suited for these kinds of rashes. My two favorites are jewelweed, *Impatiens capensis* or *Impatiens pallida*, and plantain. Like witch hazel, jewelweed grows in moist woodland areas. Combine the three and you'll have a super soother for this itchy rash.

YOU WILL NEED

1/2 cup (120 ml) witch hazel twigs (1 inch long, or 2.5 cm, pieces cut with pruners) and leaves (at least three-fourths twigs)

1/2 cup (120 ml) jewelweed stems, flowers (if available), and leaves

1/2 cup (120 ml) plantain leaves

3 cups (720 ml) 80-proof alcohol (or 1 1/2 cups (360 ml) 70% isopropyl alcohol cut with 1 1/2 cups (360 ml) water, plus more as needed [see Note])

1/2-gallon (1.9 L) Mason jar with lid

Parchment paper or wax paper

Spray bottle

INSTRUCTIONS

1 In the Mason jar, combine witch hazel with coarsely chopped jewelweed and plantain and lightly pack them in.

2 Add the alcohol to the jar, adding more as needed to cover the plant material completely.

3 Place a piece of parchment paper or wax paper over the jar (the alcohol will corrode the metal lid). Seal the lid. Label the jar and let the mixture infuse for at least 2 to 4 weeks, shaking daily.

4 Strain the liquid into a large bowl or measuring cup. Measure it and return it to the Mason jar.

5 Add an equal amount of water to the jar to dilute the alcohol.

6 Fill a spray bottle, keeping the remainder of the spray in the jar.

7 Label, store, and use as needed. The mixture will keep for at least 6 months. Refrigerate for longer storage.

NOTE: If using isopropyl alcohol, be sure to label not for internal use and keep out of the reach of children!

YIELD: Makes about 1 1/2 quarts (1.4 L)

Watch out for poison ivy. Even a small patch can cause lots of irritation.

RECIPE

Poultices

A poultice is simply cut or mashed herbs applied to the skin. For some skin injuries, such as bee stings and splinters, poultices can work wonders. The bonus is they are the easiest of all the formulas. The only downside is you do need fresh plant material to make a poultice—dried won't do for most.

Plantain is the best poultice herb I know! If you live in many parts of Europe or North America, it's likely one of the species is growing on your property right now. Plantain is a powerful herb with an incredible drawing power. It can draw out bee venom, and some people even swear by it for snakebites. I have seen firsthand the power of plantain: A child I knew who was allergic to bees was stung by a bee in the park. I prepared a plantain poultice for her, which allowed her to avoid a trip to the hospital. Then I taught her to identify the plant and empowered her for the next time it happened. Plantain poultices can also pull out splinters or shards of glass too small to remove otherwise. Put a bandage over the poultice and replace it every 4 to 6 hours or after a night of sleep, until the foreign object comes out.

YOU WILL NEED

Fresh plant of your choice, such as 1 to 3 large plantain leaves (depending on species, they differ in size), for a bee sting, splinter, or glass shard, or 1 to 3 inches (2.5 to 7.5 cm) of comfrey root (ground), depending on circumference, for sprains and strains

INSTRUCTIONS

1 To make a poultice out of a leafy herb such as plantain, chew a few leaves into a course pulp and place it on the sting. If someone else has been stung, they might not want your saliva and prefer to chew it themselves. If even their own saliva does not appeal, chop it

finely (by hand, in a blender, or in a food processor) and mix with a small amount of water.

2 Repeat the application as needed, replacing the poultice every 3 to 6 hours for splinters, glass shards, strains, sprains, bruises, or pain relief.

3 For a poultice made of ground roots, you may not want to chew it, so mix the herb(s) with water (by hand, in a blender, or in a food processor).

YIELD: Makes 1 application

There's no need to dry plantain before making it into a poultice.

Plants Discussed in This Chapter

ASTRAGALUS

Botanical Name: *Astragalus membranaceus*

Family: pea (Fabaceae)

Native Location: China, Mongolia, Korea

Growing Zones: perennial, zones 4 through 10 (with heavy mulch in cold areas)

Requirements: full sun; sandy, well-drained slightly alkaline soil; seeds need stratification and scarification (scratching or cracking the shell), followed by soaking overnight; will tolerate drought

Harvesting Tips: Wait 2 to 4 years before harvesting the root.

Therapeutic Parts: roots

Benefits: adaptogen—helps adapt to stress, tonic, strengthens the immune system (especially recommended for Lyme disease); antiviral, best for prevention or during early stages of illness

- **For children:** considered safe for children. However, traditional Chinese medicine recommends against taking it during fever.
- **For animals:** early stages of viral and bacterial respiratory infections (while supporting the body), such as kennel cough; boosts immune, kidney, and liver function

Preparations: tea decoction, tincture, capsules; as a vegetable in soup or stock or powdered and sprinkled on food

Contraindications: those taking immunosuppressants or lithium; those with acute conditions; conflicting research on taking with autoimmune disorders

CALENDULA

Botanical Name: *Calendula officinalis*

Family: aster (Asteraceae)

Native Location: Europe

Growing Zones: annual, zones 2 through 11

Requirements: full sun; averagely fertile soil with good drainage; direct sow seeds after last frost, thin to 6 inches (15 cm) apart

Harvesting Tips: Harvest flower heads when mature.

Therapeutic Parts: flowers

Benefits: externally soothing for many skin irritations, antiseptic, anti-inflammatory, clears lymphatic congestion

- **For children:** great skin soother in an easily applicable salve for shallow wounds, bites, burns, and skin irritations
- **For animals:** same as for children, plus as a wash for bites, burns, poison ivy, eczema, and conjunctivitis; tea or tincture for lymph drainage, candida, urinary and fungal infections; soak for sore hooves

Preparations: flowers in oil or salve or tea infusion as a wash; tincture

Contraindications: early pregnancy; long-term exposure in cats

COMFREY

Comfrey is highly valued in permaculture. The deep roots are good at pulling nutrients out of the deep soil, making them more available for plants closer to the surface. This is partly why they are often planted around apple trees. The leaves are great as a green mulch, cut twice a year and left to compost in place, or as a groundcover to shade the soil. You can make compost tea out of the leaves too.

Botanical Name: *Symphytum officinale*

Family: borage (Boraginaceae)

Native Location: Europe

Growing Zones: perennial, zones 3 through 9

Requirements: partial to full sun; moist soil with good drainage, *will spread prolifically*

Harvesting Tips: Harvest leaves anytime available when they still look green and fresh; roots are relatively easy to harvest when growing in loose soil.

Therapeutic Parts: leaves, roots

Benefits: The leaf is soothing and a cell proliferator for a multitude of skin irritations, such as burns, stings, and shallow scrapes; employ the root for bruises, sprains, and strains.

- **For children:** great skin soother in an easily applicable salve
- **For animals:** leaf poultice, salve, or infusion for bruises, fractures, sprains, burns, *shallow* wounds, mastitis, bites, and other skin irritations

Preparations: leaf mainly in salve; root in poultice

Contraindications: Internal consumption is not recommended due to the plant's pyrrolizidine alkaloids, said to be carcinogenic. *Not for deep wounds*. *The quick cell proliferation can cause bacteria to be sealed inside the wound*.

JEWELWEED

Botanical Name: *Impatiens capensis* or *Impatiens pallida*

Family: touch-me-not (Balsaminaceae)

Native Location: North America

Growing Zones: annual, zones 2 through 9 (depending on species)

Requirements: partial to full sun; moist soil with good drainage; reseeds itself easily, however, can be difficult to germinate because they need double dormancy (or a cold stratification, followed by warmth, followed by another cold stratification). You can do this by seeding them in the ground or a pot and waiting until the second year for germination.

Harvesting Tips: Harvest, if possible, when the stem is the juiciest, usually spring to early summer. Cut the stem above the second or third leaf from the bottom.

Therapeutic Parts: all aboveground parts

Benefits: leaf, stem, and especially the stem juice are soothing for a multitude of skin irritations, especially poison ivy, oak, and sumac; if applied directly soon enough after exposure to the poisonous plants, a rash may be prevented; if applied later, can temporarily relieve symptoms

- **For children:** helpful to grow and keep spray available for quick application after exposure to poisonous plants. You can also make a strong infusion or purée and freeze it in ice cube trays for quick, repeated relief. Show children the plant to empower them after coming into contact with poisonous plants.
- **For animals:** There isn't enough evidence on jewelweed applied to animals to be certain it is safe.

Preparations: The juice in the stem is the most powerful part. If it's juicy at the time of harvest, cut the stem open vertically and rub the juice on the exposed skin. Poultice aboveground parts by crushing or chopping coarsely and applying directly to areas touched by poisonous plants; in spray for repeated application; in salve for skin irritations (but too moist for weeping rashes like poison ivy, oak, and sumac).

Contraindications: none known with external application

PLANTAIN

Botanical Name: *Plantago* spp.

Family: plantain (Plantaginaceae)

Native Location: Europe, Asia, and North America

Growing Zones: annual or perennial (depending on species), zones 3 through 10

Requirements: partial to full sun; moist to dry soil (depending on species); happiest in a lawn-type environment with compacted soil

Harvesting Tips: Harvest leaves anytime available; harvest seeds while green when they easily separate from the stalk, and hang to dry, or wait until dried on the plant.

Therapeutic Parts: leaves, seeds (sometimes called *psyllium*)

Benefits: skin soothing, drawing, demulcent (soothing to mucus membranes, especially in respiratory and digestive system), expectorant, laxative (seed)

- **For children:** easy go-to for stings, scrapes, burns, and splinters; seed tea can be a gentle laxative option. Teach children to identify the plant to empower them when stung.
- **For animals:** demulcent food or tea for internal or external inflammation, antibacterial, diarrhea, lubricating and anti-inflammatory for digestion and intestines; seed tea as a laxative; poultice or salve in the same way as for humans

Preparations: leaf in salve, poultice, cough syrup; cold seed or leaf tea infusion

Contraindications: leaf internally: excessive mucus or congestion; seed: esophageal stenosis, abnormal intestinal narrowing, bowel obstruction, lithium salts should be taken at least 1 hour before ingesting.

WITCH HAZEL

Botanical Name: *Hamamelis virginiana* or *Hamamelis vernalis*

Family: witch hazel (Hamamelidaceae)

Native Location: central and eastern United States

Growing Zones: perennial, zones 3 through 8 (depending on species)

Requirements: partial to full sun, with best flowering in full sun; moist, sandy soil with good drainage; seeds need stratification

Harvesting Tips: Harvest twigs spring through fall and leaves when available and looking healthy

Therapeutic Parts: twigs, bark, leaves

Benefits: mainly utilized externally for cleaning wounds, toning skin, soothing skin irritations, burns, hemorrhoids, spider and varicose veins; also internally as a tea to stop bleeding, diarrhea, and dysentery

- **For children:** keep handy for cleaning wounds and soothing poison plant irritations; burns slightly due to the alcohol
- **For animals:** vein swelling, bleeding, insect bites, burns; internally as tea for diarrhea and dysentery; earflap hematomas and ear cleaning; torn and inflamed udders and glands

Preparations: solution or spray, tea decoction, or tincture

Contraindications: Internal consumption should be done in moderation for short periods of time. The tannins can cause stomach and liver irritation. *Never take internally in isopropyl alcohol!*

CHAPTER 5

Allergies and Pain

ALLERGIES AND PAIN are frustrating ailments most of us deal with at some point. Unfortunately, either can also be a chronic condition. While at first it may seem like the only thing allergies and pain have in common is the misery they bring, there is another important link. In fact, they are grouped together in this chapter because they are both caused by inflammation.

In this chapter, you'll find insider secrets on the deeper causes of allergies and pain and natural strategies to avoid them. Why does our body react the way it does, and what else can we do to prevent the symptoms and keep our bodies happy and healthy?

We'll look at a few common "weeds" that offer strong relief, including red clover, Spanish needles, ground ivy, and goldenrod. We'll also explore one of my all-time favorites, stinging nettle. While you may have been bothered by this ouch-y herb, you'll soon love it, as it packs a medicinal wallop too!

You'll learn a few new recipes, including a kind of liniment you might find helpful for pain relief. (That bumper crop of hot peppers? It's a natural warming pain reliever!) You'll also find pain tincture and allergy tincture recipes utilizing common wild and easily cultivated herbs. And there's a sweet treat as well: a way to prevent allergies and preserve the harvest by infusing herbs in honey!

I'm a fan of herbal liniments for pain relief. You can find the recipe for the liniment shown here shown here.

Allergy Relief

It's tempting to use over-the-counter or even prescription medications for allergies. After all, they can provide quick relief. However, these medications also have downsides, including drowsiness. Like other chemical-based medications, they only relieve the symptoms and not the causes, and thus their relief is temporary.

Allergic reactions are caused by the body reacting to foreign substances. Antibodies are created to fight back and a histamine (inflammatory) reaction occurs. This is usually caused by the body's inability to process the foreign substances in a healthy way.

As I've mentioned in other chapters, prevention is important! Inflammatory foods can cause or aggravate inflammation in all parts of the body. That spells trouble for allergies (and pain). Many symptoms can be caused by food allergies, while others can be relieved when removing inflammatory foods from the diet. The top inflammatory food culprits include sugar, wheat, dairy, and any processed or fried foods, along with tobacco and alcohol. Most people see tremendous results after removing these foods from their diets, though it may take a few weeks to clear them from the body.

Adding 20 to 30 minutes of heart rate–raising (cardio) exercise and several rounds of deep breathing every day makes a big difference too. Anything that can reduce stress and help you sleep better is a positive, because both stress and lack of sleep can cause inflammation. What other methods can you think of to create an anti-inflammatory lifestyle?

Last but not least, when it comes to allergies, I always look at the liver. It's the main organ of detoxification in the body. If it's not functioning properly, it can react to usually benign substances as if they are harmful. In defending the body it can create all those pesky symptoms, such as runny nose, itchy eyes, hives, postnasal drip, cough, fatigue, and more.

Grass pollen is a frustrating source of allergies for many people.

STINGING NETTLE

Stinging nettle, *Urtica dioica*, is my favorite herb for seasonal allergy prevention. It is well known for its sting, which will indeed send you yelping if you happen to brush against the plant while wearing

shorts. It's not actually the hairs that sting you, the way a thorn or prickle does, but the formic acid in the hairs. (Formic acid is also released in ant bites and bee stings.)

When harnessed properly, that same formic acid is what provides allergy prevention. It is believed to reduce inflammation and histamine reactions, which means it also can relieve allergy symptoms as well as arthritis-type symptoms for some people.

There is some debate about the best way to take nettle for allergy relief. I have tried consuming it in a variety of ways, my favorite being a tea infusion, and found it beneficial, but some natural doctors say it is only effective when freeze-dried. No matter how you ingest nettle, it works best if you start consuming it a few months before allergy season begins, which means planning ahead. Stinging nettle doesn't often grow wild here in the United States, and the jury is out on whether its wild cousin, wood nettle, *Laportea canadensis*, has similar properties. Most folks seem to believe it does, yet stinging nettle remains more popular medicinally. To guarantee a supply of stinging nettle, grow it in your garden. Just make sure to plant it somewhere that children and animals won't wander. Make sure, too, that it has a border to prevent it from spreading.

Some people believe you should not harvest stinging nettle once the plants start to flower, because their chemistry changes, possibly making them harmful. However, every researcher I've talked with has not been able to find any evidence to prove this. My suspicion is this is based on intuition, drawing a parallel with the way we don't eat greens after they bolt. If you keep harvesting nettle from the time it first leafs out, leaving a couple sets of leaves at the bottom every time, they will continue to grow and can be harvested multiple times during the year. Once harvested, nettle is easily bundled and hung to dry, or it can be tinctured immediately. I prefer to tincture nettle fresh to preserve as many of its medicinal qualities as possible. If you have extra from your harvest, eat them as a cooked green. They lose their sting once cooked.

Stinging nettle (above) and wood nettle can both be harvested and tried out in recipes. Stinging nettle is a more researched medicinal herb. I prefer the taste of wood nettle, so I'm more likely to eat it and benefit from the same vitamins (A & C) that are in other dark, leafy greens.

OTHER FAVORITES FOR ALLERGIES

Red Clover (*Trifolium pratense*)

Red clover is a tonifying herb especially helpful with clearing mucus. It's also high in minerals, helps clear waste products from the body, and acts an expectorant. All these properties are why I love to add it to allergy tincture formulas. Harvesting flowers can be time consuming because you just pick the tops (flowers and the top set of leaves). An herbalist friend who is a farmer collects about 25 flowers every day they are blooming. By the end of the season, she has enough to last until the next blooming season. Of course, we don't all have this option, but if you can spread your harvest over multiple days, it will be less monotonous. Another option is to have a harvesting party with friends or get the kids into it and make it a contest to see who can pick the most blossoms.

Spanish Needles (*Bidens* spp.)

Spanish needles have many common names, depending on the particular species and regional preferences. Some call it by its genus name, *Bidens*, though you'll also hear devil's tick, beggar's tick, and more. The name Spanish needles (and, I suspect, devil's tick) comes from its two sharp spiked seeds, along with the genus name, which literally means "two teeth." The seeds are the plant's genius technique for spreading for reproduction, just like burrs. Nature is brilliant! I have enjoyed comparing the different species in tincture form. Most seem to have amazing antihistamine and antibiotic properties, especially *Bidens alba*. This is a plant you'll immediately want to make a remedy with, because it is believed to be much more effective fresh than dried. It makes a nice tea, though you can also try a tincture for a more concentrated version.

Red clover is a favorite of mine for allergy relief, though it can be tedious to harvest.

Ground Ivy (*Glechoma hederacea*)

Ground ivy is my favorite herb for sinus congestion, and I've heard from many former students that ground ivy tincture has also worked to relieve their tinnitus. You may also hear it called alehoof, as someone thought the leaves looked like a hoof and the plant was once an ingredient in beer. This natural decongestant can be found in great abundance in many parts of the world, where it grows throughout much of the year. While ground ivy is despised by most and considered a weed, that just means you'll get a smile when you ask to harvest some from your neighbor's land. Ground ivy has been touted for clearing heavy metals, especially lead, from the body. However, it can also uptake heavy metals from the soil. This means you'll need to harvest it from areas away from industrial sites, highways, houses with old paint, etc.

Goldenrod

Goldenrod is a beautiful fall plant, with bright yellow blooms. Its many species seem to be one of the last embodiments of sunshine in the fall. It's perfect for allergies because it has antihistamine, expectorant, anti-inflammatory, and mucus-clearing (especially in the upper respiratory system) properties. It gets a bad rap for causing allergies, but it's actually ragweed pollen, which blooms at the same time, that causes most people's hay fever symptoms. I like the flowers in tea; when combined with the leaves, they have an interesting, slightly musky flavor. They work great in tincture as well, and it's nice to see the flowers preserved through the winter in solution. However, my favorite way to preserve and ingest them is in honey (see here), a beautiful and tasty option.

RECIPE

Allergy-Away Tincture

This recipe combines all the herbs from the previous section with a few additions to round it out. Take 1/2 to 2 dropperfuls as needed, starting low and working your way up to what works for your allergy relief. All herbs can be fresh or dried, but include fresh Spanish needles if at all possible. All amounts listed here are by **weight** (except the alcohol). See note shown here about measuring by weight.

YOU WILL NEED

- 3/4 ounce (22 ml) stinging nettle
- 3/4 ounce (22 ml) red clover
- 3/4 ounce (22 ml) burdock root
- 1/2 ounce (15 ml) mullein leaf
- 1/2 ounce (15 ml) Spanish needles
- 1/4 ounce (8 ml) ground ivy
- 1/4 ounce (8 ml) goldenrod
- 1/4 ounce (8 ml) slippery elm, marshmallow root, or rose of Sharon flower
- 20 fluid ounces (600 ml) 100-proof alcohol (if working with dried herbs), or 8 fluid ounces (240 ml) 150-proof alcohol (if herbs are fresh)
- 1-quart (960 ml) Mason jar with lid

INSTRUCTIONS

Follow the directions for making a tincture starting shown here. If you don't have enough alcohol to cover the herbs, add more or place the herbs and alcohol in the blender to create a slurry for infusion.

YIELD: Makes about 2 cups (480 ml)

RECIPE

Herbal-Infused Honey

Honey itself is medicinal and can be beneficial for allergies. When you consume local, recently harvested honey, you are also consuming the pollen you're exposed to—which may be causing your allergies. The pollen in the honey works similarly to a vaccine, giving you a little bit to stimulate your body's natural defenses. Honey is a tasty menstruum for herbs and gentler than many other forms of sugar when it comes to affecting blood sugar levels. Unlike when we made syrups in chapter 3, there is no heat involved in this technique. Instead, we rely on time. One last note on infused honeys: They can be applied topically as well. Remember when we discussed that you should not apply comfrey salves on deep wounds because the comfrey will seal in the bacteria (see here)? Honey is a perfect alternative because it's antibacterial (though somewhat sticky). However, don't put anything into a very deep wound. Have it checked by a health professional first.

YOU WILL NEED

6 tablespoons (90 ml) dried herbs (see Note), such as goldenrod, thyme, and violets (for specific combinations, see here and shown here)

6 fluid ounces (180 ml) honey, plus more as needed

10-ounce (300 ml) or larger Mason jar with lid

INSTRUCTIONS

1 Prepare your herbs: Decide whether to keep them whole, chop them coarsely, or blend them finely. This partly depends on whether you'll strain them afterward. Whole flowers and petals are beautiful in honey and can easily be left in suspension. However, for harder herb parts, such as seeds and bark, or large leaves,

chopping or grinding in a food processor or coffee grinder may make more sense.

2 Add the herbs to the Mason jar. Pour the honey over the herbs, giving it time to settle. A gentle stir can help integrate the honey with the herbs. Stir, or place the lid on and invert the jar a few times. Seal the lid.

3 Store the jar in a warm place, preferably with consistent temperature, with the lid on for 2 weeks. Check the honey after 24 hours to make sure the herbs are still covered. If not, top off the mixture with a little more honey (see Tip).

4 After two weeks, you can enjoy the honey or strain out the herbs and transfer the infused honey to a new container. To store, label and keep out of direct sunlight.

NOTE: This recipe should only be made with dried herbs. Moist herbs run the risk of fermenting once added to the honey. If your herbs are fresh, wilt them overnight for 8 to 12 hours before proceeding.

TIP: Over the years, I've learned a tip for keeping ants at bay when dealing with honey. Make a moat by putting your jar of honey in a small saucer or shallow bowl of water (nothing deep, as you don't want water near the lid!).

YIELD: Makes about 5 fluid ounces (150 ml)

The violet and goldenrod honeys shown in this photo are both delicious and beautiful.

HONEY RECIPES AND IDEAS

When it comes to herbal-infused honeys, the sky is the limit. There are medicinal honeys and tasty honeys, though most are both. Get crafty and experiment with different flowers and herbs. Try them singly first and then create fun combinations. Put infused honey on toast, create a salad dressing, eat it by the spoonful, or use your imagination.

Wild Power Greens Honey

This is based on a recipe some friends made called Fairy Honey. Basically, you're taking any green leaves that grow near you and combining them to create a green superfood blend. So you're getting a nutritious, delicious tonic.

YOU WILL NEED

5 ounces (150 ml) of a combination of your favorite wild green leaves, such as chickweed, cleavers, dandelion, violet, plantain, nettle, pine, spruce or fir; wilted or dried; include less of the bitter greens so your honey doesn't turn out bitter)

6 fluid ounces (180 ml) honey

10-ounce (300 ml) Mason jar with lid

INSTRUCTIONS

1 Run the herbs through a food processor or coffee grinder until you have a fine powder. Make sure you end up with no more than 3 ounces (by volume) of powder (about 6 tablespoons).

2 Follow the directions for Herbal-Infused Honey.

YIELD: Makes about 5 fluid ounces (150 ml)

Chai Honey

Chai is my favorite kind of honey. If you love warming herbs like I do, this is a great honey option. It's especially nice in the winter to warm you from the inside out. All the herbs are also digestive supporting. Stir it into your coffee, milk, or tea for a little spicy kick.

YOU WILL NEED

- 2 tablespoons (30 ml) ground cinnamon
- 2 tablespoons (30 ml) ground ginger
- 1 tablespoon (15 ml) ground cardamom
- 1 tablespoon (15 ml) ground cloves
- 3/4 cup (180 ml) honey
- 10-ounce (300 ml) Mason jar with lid

INSTRUCTIONS

1 In a medium-size bowl, stir together the herbs. Add them to the Mason jar.

2 Follow the directions for Herbal-Infused Honey.

YIELD: Makes 5 fluid ounces (150 ml)

Honey for Sore Throats

When you have a sore throat, it can be hard to swallow anything. Honey goes down easy. The bee balm and thyme are antimicrobial to help relieve infection, and the mint creates a menthol effect to cool the burning.

If you have some available in your neck of the woods, try mountain mint in this recipe.

YOU WILL NEED

2 tablespoons (30 ml) dried or wilted bee balm

2 tablespoons (30 ml) dried or wilted thyme

2 tablespoons (30 ml) dried or wilted mint

3/4 cup (180 ml) honey

10-ounce (300 ml) Mason jar with lid

INSTRUCTIONS

Follow the directions for Herbal-Infused Honey.

YIELD: Makes about 5 fluid ounces (150 ml)

Ready to develop your own honey recipe? Here are some of my favorite herbs to utilize with this technique.

Flowers to Try

- Bee balm
- Goldenrod
- Hibiscus
- Honeysuckle
- Lavender
- Rose
- Violet

Leaves to Try

- Bee balm
- Fir
- Mint
- Pine
- Spruce
- Thyme

Pain

Pain-relieving drugs can cause anything from constipation to lethargy, and, of course, there's addiction to consider. That said, this book is not meant to replace any relationship with your doctor. Always work with a qualified health practitioner to manage pain, especially where pain medication is concerned. Stopping or reducing pain-relieving drugs comes with its own set of dangers, as the withdrawal symptoms can be severe.

Consider yourself lucky if you can find stinging nettle growing in the wild.

Let's first go back to the beginning of this chapter and recall that pain is a result of inflammation. Re-read the preventive measures (see

here) and see if there are lifestyle changes you can make to reduce your inflammation.

When it comes to the herbal side of pain management, we're also going back to where we started with allergies—stinging nettles, which have long been employed for relief of aches and pains. In fact, their high magnesium content makes them especially suited to relaxing tight muscles. Every spring, as I start getting back into my busy season routine, the hiking and gardening quickly turn into body aches. I find about 1 quart (960 ml) a day of stinging nettle tea infusion, or nettle blended with other herbs such as oatstraw and red clover, helps relieve the achiness.

There is a word, *urtication*, that comes from the botanical genus and family names of the stinging nettle (*Urtica* and Urticaceae), that actually means to flagellate (or whip or beat) with nettles. This has long been a practiced technique for pain relief, and you can experience the same relief simply by walking through a patch of nettles (or inserting the affected portion of the body into the patch!).

A few years ago, I co-led a wild foods backpacking trip on the Appalachian Trail. Everyone was advised beforehand to wear long pants to protect their legs—but one person didn't listen. After walking through a patch of wild wood nettle, he quickly realized his mistake—or so we thought by the noises he was making. Yet to our surprise he was filled with delight. He had dealt with knee pain for a very long time and was scheduled for surgery following the trip. Walking through the nettle had relieved his pain! For the brave, it's worth a try—apply the stinging nettle topically to see if it can help relieve arthritis and gout pain, along with other joint and muscular pain.

Of course, to employ urtication year-round you'd have to grow stinging nettle and keep it somewhere warm through the winter to be able to continue this sort of practice, as ongoing pain is something that often involves an element of trial and error to find what brings longer-term relief. If something works, it may be worth the effort. Again, with ongoing pain, work with a health practitioner to uncover the root cause.

Two additional herbs to consider for pain relief are willow and birch. Both plants contain salicylates, which are the compounds that aspirin was designed from. (Black birch contains methyl salicylates;

the *methyl* gives it the minty taste.) Both willow and birch are analgesic and anti-inflammatory, but without most of the side effects of aspirin—though they're not recommended for people with blood thinning issues or who are on blood thinners.

Willow will grow practically anywhere there's water, though there is some debate about which species are medicinal. Some folks say it's only the white willow (*Salix alba*); however, the different species can be hard to tell apart, even for botanists. I work with any and all species of willow I find, from black willow to weeping willow, and everything in between, with good results.

I'm fortunate to be surrounded by black birch (*Betula lenta*) where I live. It's my favorite birch species because it tastes like wintergreen. If you've ever tried birch beer (a nonalcoholic soda), this is the plant it's created from. However, any birch species will share similar properties if not the unique taste. I harvest the twigs of both willow and birch for the pain-relieving tincture shown here.

Birch is featured in the Pain-Relief Tincture recipe at right.

RECIPE

Pain-Relief Tincture

First, *this is not for people with blood thinning issues or who are on blood thinners*. Okay, that said, I take 1/2 to 2 dropperfuls of this tincture internally, as needed, for aches and pain. A friend swears she has been able to remove all over-the-counter pain relievers from her house after trying this tincture. However, it's not for long-term use, as the herbs can be astringent and drying to the digestive system and have other possible side effects. The measurements in this recipe are by weight (see note below).

YOU WILL NEED

1/2 ounce (15 ml) birch bark or twigs

1/2 ounce (15 ml) willow bark or twigs

5 fluid ounces (150 ml) 100-proof alcohol (if using dried twigs or bark), or 2 fluid ounces (60 ml) 150-proof or higher alcohol (if using fresh twigs or bark)

1/2-pint (240 ml) Mason jar with lid

INSTRUCTIONS

Follow the directions for making a tincture shown here. Add more alcohol, if needed, to cover the twigs. Alternatively, if you don't have a scale or are not concerned with making a precise recipe, fill your jar halfway with twigs or bark, and fill the whole jar with alcohol.

NOTE: The herbs in this recipe all weigh about the same. If you don't have a food scale, you can just change the amounts to parts, i.e. 1 part goldenrod, then multiply that by 2 to get the amounts of the herbs that are listed at 1/2 an ounce, and by 3 to get the amounts of herbs listed at 3/4 ounces. Then cover with twice as much alcohol.

HERBAL LINIMENTS

A liniment is an old-fashioned herbal remedy and may not be what first comes to mind when you think of the word *liniment*. It's actually a tincture, with the key difference being it's often made with rubbing (isopropyl) alcohol instead of drinking-grade alcohol, because liniments are applied *topically*.

While it's safe and inexpensive to use isopropyl alcohol, I usually make my liniments by combining single-herb tinctures I have already made with alcohol suitable for internal consumption. This does two things: It helps me avoid extra work (always a bonus), and *isopropyl alcohol is extremely toxic if ingested*. Because I'm around children many days, I worry about them accidentally getting ahold of toxins—or anyone picking up a bottle and not reading the label carefully enough. Better safe than sorry!

Though most liniments are for pain relief, there are many different herbs you can include. One of the most famous liniments is called Kloss's Liniment, created by Jethro Kloss. You can find the recipe in his book *Back to Eden* or on many websites with an easy search. Jethro claimed his liniment had a multitude of uses, including for muscle soreness, acne, and wound cleaning. If you're ready to try your first liniment, get started with the one shown here. I created this recipe for relief from inflammation as well as muscle and joint aches.

For easy application, strain this liniment into a dropper bottle and apply by the dropperful with a cotton ball.

RECIPE

Deep-Relief Liniment

This recipe has warming and cooling properties for deep relief. For that reason, make sure to wash your hands after applying it to avoid stinging your eyes, nose—or worse. Also, do not apply it to broken or inflamed skin.

INSTRUCTIONS

Follow the directions for making a tincture (see here).

1 Infuse for 2 weeks, shaking daily.

2 Strain. If using 150-proof alcohol, dilute by adding an equal amount of water. Add a few drops of essential oils, if you like.

YOU WILL NEED

1 tablespoon (15 ml) fresh, minced, or 2 tablespoons (30 ml) dried cut and sifted peppermint (see Note)

1 tablespoon (15 ml) fresh, minced, or 2 tablespoons (30 ml) dried cut and sifted lobelia (see Note)

1 tablespoon (15 ml) fresh, minced, or 2 tablespoons (30 ml) dried cut and sifted chamomile (see Note)

1 teaspoon (5 ml) dried or 2 teaspoons (10 ml) fresh, minced cayenne pepper (or hot pepper of choice)

6 fluid ounces (180 ml) alcohol of choice (for dried herbs, use 100-proof alcohol or regular isopropyl; for fresh herbs, use at least 150-proof alcohol or isopropyl; see Note)

Essential oils of choice, such as lavender for relaxation or peppermint to penetrate more deeply (optional)

1/2-pint (240 ml) Mason jar with lid

NOTE: Cut and sifted means breaking down herbs to about 1/8- to 1/4-inch (0.3 to 0.6 cm) pieces. If using isopropyl alcohol, be sure to label it not for internal use and keep out of the reach of children!

YIELD: Makes about 5 fluid ounces (180 ml)

Plants Discussed in This Chapter

BIRCH

Botanical Name: *Betula* spp. (I work with the various species interchangeably; however, I like black birch, *Betula lenta*, best due to its wintergreen flavor.)

Family: birch (Betulaceae)

Native Location: multiple species throughout cooler regions of the northern hemisphere

Growing Zones: many, depends on species

Requirements: shade to full sun; very moist soil with good drainage; many like slightly acidic soils; propagate well from softwood terminal cuttings

Harvesting Tips: Harvest twigs in spring (preferable) through fall, when available and looking healthy

Therapeutic Parts: twigs, bark, leaves

Benefits: headaches, aches and pains, inflammation, fever, diuretic

- **For children:** same as above; the taste of black birch can make taking it more pleasant
- **For animals:** pain, rheumatism, inflammation; leaf tea to expel worms; *should never be given to cats—can be fatal!*

Preparations: tea decoction, tincture, birch beer with black birch

Contraindications: internal consumption should be done in moderation for short periods; never give to cats; allergies to salicylates; when taking blood thinners/NSAIDS, or if you have blood-thinning issues; edema from heart failure, kidney insufficiency, or other situations when a diuretic would be inappropriate

GROUND IVY

Other common names: Creeping Charlie, Alehoof, Gill over the Ground

Botanical Name: *Glechoma hederacea*

Family: mint (Lamiaceae)

Native Location: Europe and Asia

Growing Zones: perennial, zones 3 through 9

Requirements: partial to full sun; moist garden soil—*spreads prolifically*!

Harvesting Tips: Harvest during leaf or flower season. Cut the stem above the second set of leaves from the bottom. *Ground ivy can uptake heavy metals from the soil, so harvest it in areas away from highways and houses with old paint, etc*.

Therapeutic Parts: leaves, stems, flowers

Benefits: decongestion, mucus drying; bitter; tinnitus relief; internal heavy metal removal

- **For children:** This is not a minty tasting mint. Combine with mintier mints, such as peppermint or spearmint, or even lemon balm, for a more palatable tea.
- **For animals:** coughs, colic; poultice for skin growths

Preparations: tea infusion (inhale the steam for extra decongesting), tincture (preferably fresh)

Contraindications: Be aware this herb is high in iron and potassium, which could be contraindicated with some medications.

RED CLOVER

Botanical Name: *Trifolium pratense*

Family: pea (Fabaceae)

Native Location: Europe and Asia

Growing Zones: biennial, zones 5 through 10

Requirements: full to partial sun; soil with good drainage; seed spring through fall, depending on climate

Harvesting Tips: Cut the flowers and first set of leaves of plant tops with scissors or a knife, or by pinching off the stem; make sure there is no brown on the flowers.

Therapeutic Parts: flowers

Benefits: expectorant and soother for wet coughs; tonic, helps the body remove mucus and waste products, which can help with skin conditions such as eczema and psoriasis, internally or externally; historically employed in cancer protocols; estrogen regulation during menopause

- **For children:** can be helpful for allergies, coughs, and skin conditions
- **For animals:** added to feed in small quantities (depending on animal's size) for psoriasis and eczema; cold tea or poultice for itchy skin; in tea or feed for equine respiratory infections, coughs; cancer-fighting in feed or tea

Preparations: tea infusion, tincture, or poultice; eaten as a garnish

Contraindications: This should not be taken by people with blood thinning issues or who are taking blood thinning medications, or within 2 weeks of surgery, or during pregnancy.

SPANISH NEEDLES

Botanical Name: *Bidens* spp. (*Bidens alba* is the most common medicinal species, though I've tinctured *Bidens pilosa* and *Bidens bipinnata*. Many other species are most likely medicinal as well. Now some sources are saying *B. alba* is the same species as *B. pilosa* and using the species name of the latter for both.)

Family: aster (Asteraceae)

Native Location: North America and the Caribbean

Growing Zones: annual or perennial, depending on species and zone, zones 3 through 10 (depending on species)

Requirements: partial to full sun; moist soil with good drainage

Harvesting Tips: Harvest when flowering. Cut the stem above the second set of leaves from the bottom. The sharp, pointed seeds cling to fur and other things to maximize reproduction. They can also hurt when sticking in your skin and will stick to your clothes like burrs.

There are some reports of Bidens alba/pilosa *being phototoxic, meaning it can cause severe skin damage if exposed to skin before exposure to sun. It can also absorb cadmium and arsenic from the soil, so don't harvest in areas that may be contaminated*.

Therapeutic Parts: leaves, stems, flowers

Benefits: antihistamine and antibiotic effects

- **For children:** can be helpful for allergies; avoid the sharp seeds
- **For animals:** not enough research on animals and this herb

Preparations: fresh tea infusion, tincture (preferably fresh); eat as cooked greens

Contraindications: see harvesting tips preceding; if diabetic, consume with caution as the herb can lower glucose levels

STINGING NETTLE

Botanical Name: *Urtica dioica* (This is the most common medicinal species, but other species grow in different parts of North America and Europe.)

Family: nettle (Urticaceae)

Native Location: Europe and Asia

Growing Zones: perennial, zones 4 through 9 (depending on species)

Requirements: partial to full sun; very moist soil (such as damp woodlands and streambanks) with good drainage

Harvesting Tips: *Wear thick gloves and protective clothing*. Harvest from spring through fall for several harvests and to prevent flowering. Cut the stem above the second set of leaves from the bottom.

Therapeutic Parts: leaves, stems

Benefits: hay fever relief and prevention (start treatments 2 to 3 months before allergy season); arthritis, general tonification; high magnesium

- **For children:** can be helpful for allergies; teach children to avoid the plant's stinging hairs
- **For animals:** Dried leaf or cooked fresh leaves can be added to food to provide extra vitamins and minerals and allergy relief; rheumatism, arthritis, anemia tonic; tea as a rinse for itchy skin and healthier coat.

Preparations: fresh or dried tea infusion; tincture (preferably fresh); eat as cooked greens; urtication (flagellation)

Contraindications: hairs sting upon touching; may cause kidney irritation if consumed in quantity or after flowering; can cause hives in horses (in this case, stop feeding it)

WILLOW

Botanical Name: *Salix* spp. (some people believe that white willow, *S. alba*, is the only medicinal species, but I work with them interchangeably)

Family: willow (Salicaceae)

Native Location: multiple species throughout the northern hemisphere

Growing Zones: many, depends on species

Requirements: shade to full sun; very moist soil; grows very well from cuttings, which is why they are often planted in riparian restoration situations

Harvesting Tips: Harvest twigs in spring (preferable) through fall, when available and looking healthy.

Therapeutic Parts: twigs and bark

Benefits: headaches, aches and pains, inflammation, fever

- **For children:** same as above
- **For animals:** pain, rheumatism, inflammation; *should never be given to cats—can be fatal!*

Preparations: tea decoction, tincture, oxymel (vinegar and honey syrup)

Contraindications: internal consumption should be done in moderation for short periods; never give to cats; allergies to salicylates when taking blood thinners/NSAIDS, or if you have blood-thinning issues; genetic glucose-6-phosphate dehydrogenase deficiency

CHAPTER 6

Eating Herbal through the Seasons

HIPPOCRATES ONCE SAID, “If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health.” Now, how do we go about the nourishment? In the most delicious way possible, of course!

If you look back through history at the diets of people around the globe, they naturally ate what was growing around them during each season. Coincidentally or not, those foods were often perfectly suited to relieve symptoms experienced during those times of the year. My favorite example is bitter greens.

After a long, cold winter of eating only preserved foods, people’s organs started to get sluggish. They would eagerly eat the first greens popping out of the ground, which happened to be bitter greens. Those greens tonify the liver and gallbladder and stimulate the flow of bile, giving a jumpstart to the body in spring.

If your body craves a bitter taste, such as coffee or hoppy beer, it may be a sign your body really wants bitter greens. Likewise, bitters weren’t always just for making cocktails. They were served before meals to get the bile flowing and prepare the liver and gallbladder to digest the meal. You can easily make your own bitters by tincturing bitter herbs in alcohol or vinegar. A fun and delicious way to do this is by pickling bitter roots—which we’ll do in this chapter.

Of course, there’s more than one way to eat your greens. We’ll try them in pesto, fritters, and even an infused vinegar. Check out all the recipes in this chapter for tasty ways to stay healthy, incorporating what’s growing around you all year long. Let it spark your imagination and fill your root cellar!

From Dandelion Fritters to the burdock pickles shown in this photo (recipe shown here), there are many creative ways to incorporate herbs into your meals.

Eat Wild Greens

Let's start the chapter with two wonderful tonics: chickweed, *Stellaria media*, and violet, *Viola*, spp. These tasty edibles are soothing for the skin and mucus membranes, and they can help when you have a cough.

You can generally find the plants in spring and early fall—just when you need them for a cold! This is another reason I love foraging: there seems to be something growing in every season for every symptom.

Chickweed is my favorite wild edible green. The name is appropriate because chickens love to eat it, but I know plenty of humans who enjoy it as well. It has a mild succulent taste that makes a fantastic base for salads or pesto. In fact, it's my favorite green for the pesto you'll find shown here.

All violets are not only beautiful, but delicious, nutritious, and medicinal. The flowers are pretty and can make a beautiful garnish for salads or desserts. But don't ignore the leaves, which are the mucilaginous parts of the plant. (The young leaves will be the most tender part.) Be aware that the plant known as African violet is not a true violet, being in a different family. While it's supposedly nontoxic, it does not have the same medicinal benefits.

Chickweed and violets are both great examples of tonic herbs. (See here.) While they are safe for regular consumption and nourishing for the whole body, remember to ease into these herbs and eat violets, especially, in moderation—they can cause diarrhea in larger quantities.

This wild salad features violet flower and leaf, daylily leaf, and wild mustard.

RECIPE

Wild Greens Pesto

This pesto is a twist on the old standby, basil pesto. It's great for dipping or topping toast or burgers, and it's always a hit at potlucks. Remember, though, if you add bitter greens, to balance them with a higher ratio of milder greens. You can also substitute (less bitter) garden greens, doubling or tripling the recipe to keep a big batch in the fridge (you'll find it tends to be eaten quickly!).

YOU WILL NEED

- 2 cups (475 ml) wild greens, such as chickweed, wintercress/creasy greens, stinging nettle, wood nettle, wild onions, dandelion, violet, daylily, etc. A mix is a good idea if the greens are bitter or strong (such as wild onions or dandelion).
- 2 or 3 garlic cloves, or an equal amount of wild onion tops and/or bulbs
- 1/2 cup (120 ml) nuts or seeds (sunflower, walnut, pecan, etc.)
- 6 tablespoons (90 ml) olive oil or similar tasting oil, plus more as needed
- Salt, to taste
- 1/4 cup (60 ml) fresh lemon juice per batch

INSTRUCTIONS

1 Either don't wash the greens, or wash and dry completely (or spin in salad spinner).

2 In food processor, mince the garlic for 30 seconds.

3 Add the nuts or seeds. Process just until they make a coarse meal.

4 Add the greens to the food processor and process until finely chopped.

5 Add the 1/4 cup (60 ml) of olive oil and season to taste with salt. Process to combine the oil with the other ingredients. If the pesto is too dry, add the remaining 2 tablespoons (30 ml) of olive oil and process to combine. If it's still too dry, add a tiny little bit more olive oil! If it's now too wet, try to find some additional greens to add.

6 Transfer to an airtight container and stir in the lemon juice to keep your greens looking green longer. Keep refrigerated for 3 to 5 days.

YIELD: Makes about 1 cup (240 ml)

This pesto recipe is versatile. Try it out with an edible green that's growing near you.

RECIPE

Dandelion Fritters

Fritters are a lovely food to serve herbs to those used to mainstream fare. They might sound unhealthy, but they don't have to be deep-fried. You can use less oil and sauté them instead. I think they taste wonderful with any mild-tasting edible flower, but dandelions are my favorite.

YOU WILL NEED

- 1/3 cup (80 ml) flour of choice (try rice flour for a gluten-free option)
- 1/3 cup (80 ml) cornmeal (blue cornmeal is fine)
- 1 teaspoon (5 ml) baking soda
- 1 teaspoon (5 ml) bee balm or other savory herbs, or to taste
- 1/2 teaspoon (2.5 ml) salt
- 1 large egg
- 2/3 cup (160 ml) milk of choice (I use coconut)
- 1 1/2 cups (355 ml) fresh dandelion flowers
- Butter or olive oil, for frying

INSTRUCTIONS

1 In a large bowl, stir together the flour, cornmeal, baking soda, and salt.

2 In another large bowl, beat the egg for 30 seconds. Add the milk and whisk to combine.

3 Add the dry ingredients to the wet ingredients, and stir to combine.

4 In a cast iron skillet over medium heat, melt the butter or warm the oil. Use a light layer of oil to sauté or more oil to deep-fry. Make sure the oil is hot before moving on to the next step.

5 Dip the flowers in the batter, making sure they're well coated. Immediately add the batter-coated flowers to the hot oil, but don't crowd the pan! Only cook as many flowers at a time as will comfortably fit. Cook the flowers on the first side until they start to brown, about 5 minutes. Flip and cook the other side until equally brown and crisp, about 2 minutes more.

6 Transfer the fritters to paper towels to drain. Serve warm.

YIELD: Serves 4 to 5

Impress your friends by turning fresh dandelions into fritters!

RECIPE

Mixed Wild Greens Fritters

Have you been out harvesting wild greens? Then this recipe is for you, as almost any edible green will work. You can include one or two types of greens that have a strong or unique taste, as long as you mix them with others to mellow out the taste.

YOU WILL NEED

- $2\frac{3}{4}$ cups (650 ml) wild greens leaves of choice (packed lightly into measuring cup)
- 4 wild onion tops or green onions (or about $\frac{1}{4}$ cup, or 60 ml, diced)
- 1 teaspoon (5 ml) garlic salt, or $\frac{1}{2}$ teaspoon (2.5 ml) salt, and 1 garlic clove, minced
- 4 large eggs
- $\frac{2}{3}$ cup (160 ml) milk of choice (I use coconut)
- 4 tablespoons (60 ml) fresh or 2 tablespoons (30 ml) dried bee balm or oregano leaves, minced
- 2 tablespoons (30 ml) butter or cooking oil of choice, plus more as needed

INSTRUCTIONS

1 If you had to wash the greens, make sure they are dry before proceeding with the recipe. Finely dice the greens.

2 Put the greens, onions, bee balm or oregano, and garlic salt into a large mixing bowl.

3 In another large bowl, beat the eggs for 30 seconds. Add the milk and whisk to combine.

4 Add the dry ingredients to the wet ingredients and stir to combine.

5 Allow to saturate for 5 minutes.

6 Form the batter into about 8 patties, each 2 inches wide, and set aside.

7 In a cast iron skillet over medium heat, melt the butter or warm the oil. Use a light layer of oil to sauté or more oil to deep-fry. Make sure the oil is hot before moving on to the next step.

8 Add the patties to the hot oil, but don't crowd them. Only cook as many patties at a time as will comfortably fit with room in between. Cook the patties on the first side until they start to brown, about 4 minutes. Flip and cook other side until equally brown and crisp, about 4 minutes more.

9 Transfer the patties to paper towels to drain. Serve warm.

YIELD: Serves 4 or 5 as an appetizer

Vinegars

Apple cider vinegar is a health tonic made by fermenting apples. The fermentation process first turns the apples into alcohol, then bacteria turn the solution into acetic acid. It's currently undergoing research for its benefits and helpful properties for such things as lowering cholesterol, helping with digestion, balancing blood sugar, and aiding weight loss.

Infused herbal vinegars serve two purposes: they preserve the herbs, and they are an easy way to take your herbs. Vinegars are a good alternative to alcohol tinctures for people who don't want to consume alcohol. Vinegar has antibacterial properties that make it a good preservative for herbs; however, it does not preserve for as long as alcohol tinctures—usually only 3 to 12 months. If you're making fresh herb vinegars, they should be refrigerated to prevent mold.

Note that it's a good idea to buy unpasteurized vinegar, which most people believe has greater health benefits. However, because it has a live culture in it, it will continue to grow, like kombucha. If you'll be giving your herbal vinegar to someone who might be grossed out by weird floaters, you may want to explain the issue or pasteurize your vinegar. You can do this easily by putting your vinegar in a small (nonreactive—not aluminum, iron, or nonstick) saucepan, raising it to a boil, and taking it off the heat. Do not heat in the microwave, as it heats unevenly.

In case you're wondering, here are some ideas on what to do with infused vinegars:

- Mix with oil for salad dressings (vinaigrette).
- Pour over cooked greens (my favorite).
- Add a dash to soups to brighten the flavors.
- Use as a marinade (pre or post cooking).

- Combine 1 tablespoon (15 ml) of vinegar with 1 teaspoon (5 ml) of honey and a pinch of cayenne for a daily tonic.
- Give some as a thoughtful hostess, thank you, welcome, or any-occasion gift.

It doesn't get much better than an herbal vinegar on a salad with wild greens.

RECIPE

Herbal Vinegar

My base recipe calls for apple cider vinegar and greens, but this recipe is a template built for exploration. It is a perfect opportunity to experiment with other vinegars. New varieties come out all the time, and you're sure to find something exciting made from a favorite fruit, vegetable, or grain. Try the different wine vinegars, rice vinegar, and more to see what works with the herbs you're trying to preserve. (The only vinegar I recommend avoiding is distilled white vinegar, as it can be harmful to ingest. However, its antibacterial properties make it well suited for cleaning, as in Antibacterial Cleaning Spray.)

YOU WILL NEED

2 cups (475 ml) fresh coarsely chopped, lightly packed herbs of choice (see here). Remember, the more bitter herbs you add, the more bitter your vinegar will be, so it's nice to mix it up a little (see Note).

4 cups (960 ml) organic apple cider vinegar, or enough to cover the herbs

1/2-gallon (1.9 L) Mason jar with lid

Parchment paper or wax paper

INSTRUCTIONS

1 Pack the herbs loosely into the Mason jar.

2 Pour the apple cider vinegar over the herbs, making sure it is at least 1 inch (2.5 cm) above the top of the plant material.

3 Place a piece of parchment paper or wax paper over the jar (the vinegar will corrode the metal lid). Seal the lid. Place the jar out of direct sunlight in an area with a relatively stable temperature for 2 weeks. Shake daily.

4 Strain the vinegar into a large bowl. Discard the greens. Return the vinegar to the Mason jar for storage in a cool, dark place. Label. Use immediately, or within a few months.

NOTE: Add 1 chopped garlic clove or a tablespoon of fresh wild onion for an extra kick.

YIELD: Makes 3 to $3\frac{1}{2}$ cups (720 to 840 ml)

HERBS (AND MORE) FOR VINEGARS

You can follow the Herbal Vinegar recipe using any of these ingredients fresh or dried. Depending on how hot you want your vinegar, you will also need to adjust hot peppers to taste. So go ahead—pick some ingredients! Mix, match, and experiment to your heart's content.

Culinary Herbs

- Basil
- Bee balm
- Oregano
- Thyme

Vegetables

- Chives
- Garlic
- Hot peppers
- Onions

Medicinal Herbs

- Chickweed
- Cleavers
- Garlic mustard
- Violet
- Wild onion

Flowers

- Basil
- Bee balm
- Calendula

- Chive
- Evergreen needles: fir, pine, spruce
- Honeysuckle
- Nasturtium
- Rose

Branch out from culinary herbs and try making a vinegar with other aromatic plants, such as white pine.

RECIPE

Antibacterial Cleaning Spray

Did you know that white vinegar, aromatic herbs, and citrus fruit (in various combinations) were in multiple formulas that helped prevent people from contracting the plague? Whether or not this formula would be effective for such a thing, I can say it is assuredly good enough to clean your counters! If you like this spray, try making a larger batch and fill multiple bottles at once. Goodbye commercial cleaning spray.

YOU WILL NEED

- 1 lemon or other citrus fruit (peel or whole), cut into slices (see Note)
- 1 tablespoon (15 ml) dried thyme
- 1 tablespoon (15 ml) dried lavender, pine needles (chopped), or other fragrant herb of choice
- 3/4 cup (180 ml) white vinegar
- 10 drops essential oil, such as lavender or peppermint (optional)
- 1-quart (960 ml) Mason jar with lid
- Parchment paper or wax paper
- Small spray bottle

INSTRUCTIONS

1 In a quart-size (960 ml) Mason jar, combine the citrus fruit, thyme, lavender, and vinegar. Cut a piece of parchment paper or wax paper twice as big as the top of the jar and place it between the jar and lid to prevent corrosion. Seal the jar and set aside in a cool,

dark place to infuse for about 2 weeks, giving it a good stir or shake daily.

2 Once the mixture has infused, strain it into a spray bottle. Add the essential oils, if you like. It's ready to use immediately. Spray on surfaces to clean and disinfect. This mixture will last for at least 6 months, though it will likely be gone before then!

NOTE: This is a great excuse to utilize some less delicious citrus fruits. My choice is trifoliate orange, a hardy citrus fruit that looks like a fuzzy lemon and grows on spiky shrubs. They're prolific where I live, but it's tough to figure out what to do with them, as they are quite bitter.

YIELD: Makes about 1/2 cup (118 ml)

Get rid of the chemicals and bring on the herbal cleaning spray.

Pickles and Fire Tonics

If you're wondering how pickles can be the perfect embodiment of food as medicine, look no further than herbs. While there are no hard rules, I've found the roots of herbs tend to work best for pickling. Some of my favorites are dandelion, burdock, chicory, and Jerusalem artichoke. All are high in inulin, a prebiotic. That means they're food for the probiotics in our guts. With more research coming out saying our gut health affects the health in every other part of our body, prebiotics and probiotics are an ever-more-important part of the diet. These herbs are also liver tonifiers and members of the aster family.

Though many North Americans see dandelion, *Taraxacum officinale*, as a scourge upon the earth, they are cultivated in Asia because of their great value as an edible and medicinal plant. They're one of the first foods of the year for bees, and their taproots help break up compacted soil. If you haven't made Dandelion Fritters out of the flowers yet, or decorated a salad with them, give it a try.

Burdock, *Arctium* spp., with its big, deep taproot, is called Gobo in Asia, where it is often added to soups. It can be hard to dig out of the compacted soil it likes to grow in. I jammed an ankle and ended up on crutches after one burdock-foraging trip, so take your time and be careful. Better yet, grow some burdock. If you plant it in a raised bed mixed with sandy soil, it will be much easier to dig out than if you forage it. Chicory, *Cichorium intybus*, has beautiful blue flowers, sometimes called cornflowers (another example of the possible confusion caused by common/English names, as this name is also often used for bachelor's buttons). If you look carefully, you'll often see chicory growing on the side of the road—too bad, because you don't want to forage it there. Instead, look for it further from the road in a similar habitat. It is plentiful in many parts of the eastern United States. It is famous in New Orleans, where the root is roasted and

made into a coffee substitute or blended with coffee for a caffeinated treat.

Jerusalem artichoke, *Helianthus tuberosus*, is a unique plant. It's not from Jerusalem, but was possibly given that name because it sounded similar to an Italian word for the plant. The *artichoke* part of the name comes from the fact that the tuber was thought to taste like an artichoke. About 50 years ago, it was renamed the sunchoke to help differentiate it. Though it can be eaten raw, some people find it disagreeable to their digestive system, causing flatulence (because of all the inulin). Most people boil the tubers or slice and sauté them. Pickling is another way to help make them more digestible. However, moderation is still recommended when ingesting them. All four of these vegetables can cause quick evacuation of the bowels, a.k.a. diarrhea, if ingested in too high a quantity.

RECIPE

Herbal Root Pickles

Pickles are a tasty way to ingest our bitters. I like to combine 2 or 3 bitter herbs such as burdock, dandelion, chicory, and sunchokes. Go for smaller roots, though, about the circumference of your pinky finger, as the bigger roots are fibrous. Serve these as a digestive-stimulating appetizer. Just keep the servings small to prevent overly speedy digestion.

YOU WILL NEED

- 1 cup (240 ml) 1/2-inch (1 cm) root pieces or coins (see Note)
- 2 tablespoons (30 ml) diced scallions or wild onions
- 1 cup (240 ml) apple cider vinegar or other vinegar of choice
- 1/4 cup (60 ml) tamari
- 1-pint (480 ml) Mason jar with lid
- Parchment paper or wax paper

INSTRUCTIONS

1 Scrub the roots well with a vegetable brush. Run them under water or work in a small bowl of water to make sure you remove all the dirt (nobody likes the crunch of dirt in their pickles!).

2 In a pint-size (480 ml) Mason jar, combine the cleaned roots, scallions, vinegar, and tamari. Stir well to combine. Place a piece of parchment paper or wax paper between the jar and lid to prevent rust if you intend to store these for more than a few days. Seal the lid.

3 Refrigerate for 2 to 3 days, then start tasting. Most pickles will be ready to eat at this point, though some thick roots may benefit from another day or two of infusing.

4 Enjoy in moderation. When refrigerated, most pickles will last for 1 to 3 months.

NOTE: If you dig burdock roots or other roots that have developed a tough root bark, peel it off with a knife or peeler to keep your pickles tender.

YIELD: Makes 15 to 20 small servings

Herbal pickles will expand your palate with new flavors and textures.

RECIPE

Fire Tonic

Fire cider (pictured on the next page) is a vinegar-based formula co-created by Rosemary Gladstar, one of the grandmothers of American herbalism. Each herbalist seems to have their own twist on the recipe. The basic ingredients are apple cider vinegar, hot peppers, garlic, and sometimes horseradish. I chose the herbs in this particular recipe for a multi-faceted effect, primarily immune boosting but also for circulation support, anti-inflammatory response, decongesting ability, and liver and digestive tonification.

I call this recipe Cheyenne to Cincinnati Cider. At the time I created it, I was working on a farm in Cincinnati, Ohio. Like many farms and homesteads, it seemed overrun with hot peppers. Theirs were a kind of cayenne pepper, called Cheyenne. The owners said to take as many as I could, so I took a couple of garbage bags full, which inspired me to make this recipe.

YOU WILL NEED

- 10 Cheyenne, cayenne, or similar hot peppers
- 4 large garlic cloves, chopped
- One 2-inch (5 cm) piece turmeric root, chopped
- One 2-inch (5 cm) piece fresh ginger, chopped
- One 2-inch (5 cm) piece horseradish root, chopped
- One 1-inch (2.5 cm) piece burdock root, chopped
- 3 quarts (2.9 L) apple cider vinegar
- 1-gallon (3.8 L) glass jar with lid

Parchment paper or wax paper

INSTRUCTIONS

1 Wear gloves and be careful not to touch your eyes or any sensitive skin with anything that has come in contact with the peppers. Remove the tops of the peppers and chop the rest into 1/2-inch-long (1 cm) pieces.

2 Combine the peppers and herbs in a gallon (3.8 L) jar.

3 Fill the jar with apple cider vinegar to 1 inch (2.5 cm) or so below the top of the jar. Stir to combine.

4 Cover the jar with parchment paper or wax paper (the vinegar will corrode the metal lid). Seal the lid. Set the jar aside in a warm place to infuse for 2 to 4 weeks. After 2 weeks, start tasting the cider. Once it gets to the level of infusion you enjoy, strain the liquid and discard the solids (see Note).

5 Store the cider in the glass jar with parchment paper or wax paper between the jar and lid. It will last about 6 months refrigerated. Refrigeration also helps preserve the heat.

NOTE: If you want to make a hot sauce with a portion of the cider, remove the solids and place them in a blender. Cover with enough of the infused vinegar for the mixture to purée, adding more vinegar until the sauce is the consistency you like. Pour into a hot sauce bottle.

YIELD: Makes about 1/2 gallon (1.9 L)

Fire tonics, also known as fire ciders, are meant to be consumed in small doses.

Plants Discussed in This Chapter

BURDOCK

Botanical Name: *Arctium* spp.

Family: aster (Asteraceae)

Native Location: Europe and Asia

Growing Zones: biennial, zones 3 through 9

Requirements: full to partial sun; loves compacted soil with some clay, but will be much easier to dig out of garden soil in a raised bed

Harvesting Tips: Like other biennial roots, harvest the fall of the first year or spring of the second year (before it grows a stalk) with a digging fork or spade, being careful to cut around the root, not through it. If you harvest when roots are larger than the width of your pinky, peel them before pickling to remove the tough root bark.

Therapeutic Parts: roots

Benefits: prebiotic and blood sugar–balancing inulin; liver tonic as a bitter; skin clearing; food

- **For children:** pretty bitter, but can be helpful with skin issues such as acne, psoriasis, or eczema; easier to take when they don't have to taste it so much, like in a tincture mixed into tea or juice
- **For animals:** tincture in pure, undiluted glycerin or make a tea decoction; liver and blood tonic also helps with skin issues such as eczema, psoriasis, itching, and other inflammatory skin, kidney, bladder, and arthritic disorders, especially by removing toxins from the body

Preparations: tea decoction (tasty roasted), tincture; eaten in soups or as pickles

Contraindications: can cause diarrhea in excess, consume in moderation during pregnancy

CHICKWEED

Botanical Name: *Stellaria media* (most common species, but others are edible too)

Family: pink or carnation (Caryophyllaceae)

Native Location: throughout the world

Growing Zones: overwintering annual, zones 3 through 8

Requirements: full to partial sun; nitrogen-rich soil like that in garden beds; grows fall through spring in climates with hot summers

Harvesting Tips: Cut the plant above the bottom two leaves with scissors or a knife, or by pinching off the stem; they get fibrous when they get tall, and they are better harvested when young and allowed to regrow and reharvest so they stay tender, like cultivated greens

Therapeutic Parts: leaves, stems, flowers

Benefits: high in protein, calcium, and vitamins; prolific edible green; soothing and itch-reducing for skin; expectorant; cleansing for cysts, cholesterol, and extra weight

- **For children:** a mild green for salads, pestos, etc.; soothing in salves or cough syrup
- **For animals:** fed whole or juiced for internal soothing of digestive tract and esophagus, or expelling hairballs; poultice or salve for burns, itches, and general skin irritations

Preparations: tea infusion, tincture, cough syrup; poultice, salve; eaten as a raw or sautéed green

Contraindications: can cause diarrhea or vomiting in excess; possible allergen for some animals (watch for reactions)

CHICORY

Botanical Name: *Cichorium intybus*

Family: aster (Asteraceae)

Native Location: Europe, Asia, Africa

Growing Zones: biennial, zones 3 through 9

Requirements: full sun; rich, well-drained garden soil

Harvesting Tips: As with other biennial roots, harvest the leaves at the base in spring and fall (they get more bitter with summer heat); flowers whenever available.

Therapeutic Parts: roots, leaves

Benefits: prebiotic and blood sugar–balancing inulin; liver tonic as a bitter; skin clearing; food

- **For children:** roots and leaves are bitter for most children; flowers can be fun to eat
- **For animals:** not much research available

Preparations: root tea decoction (tasty roasted), tincture; flowers eaten raw, leaves raw or sautéed lightly

Contraindications: could be harmful during pregnancy or with gallstones; also a diuretic

Other: coffee substitute; also called Belgian endive; grow in sand for a less bitter, lighter-colored green

DANDELION

Botanical Name: *Taraxacum officinale*

Family: aster (Asteraceae)

Native Location: Europe and Asia

Growing Zones: perennial, zones 3 through 9

Requirements: full sun; loves rich garden soil

Harvesting Tips: Like other roots, harvest in spring or fall; harvest leaves at the base in the spring and fall (they get more bitter with summer heat); flowers whenever available; stems contain a latex that is toxic to ingest and a skin irritant to some people

Therapeutic Parts: roots, leaves, flowers

Benefits: prebiotic and blood sugar–balancing inulin; diuretic, liver tonic as a bitter; skin clearing; stem latex topically for warts; food

- **For children:** roots and leaves are bitter for most children; flowers can be fun to eat
- **For animals:** high-vitamin and -mineral (especially potassium) green eaten from the field or fed in various quantities depending on size and condition of animal (see *Herbs for Pets* in Bibliography section, shown here); similar benefits for animals as for humans, especially as a bitter and diuretic

Preparations: root tea decoction (tasty roasted), leaf tea infusion, root or leaf tincture; flowers eaten raw or as fritters, leaves raw or sautéed lightly

Contraindications: can cause diarrhea in excess, not to be taken with irritable bowel syndrome or serious gallbladder or liver issues; stem latex can be irritating to skin. Because it is a diuretic, don't consume before bed or you'll learn firsthand about its French moniker, "piss the bed."

Other: good early food for bees; makes a delicious wine; flowers make a light yellow dye.

VIOLET

Botanical Name: *Viola* spp.

Family: violet (Violaceae)

Native Location: many places throughout the world, including the United States, Europe, and Asia

Growing Zones: annual or perennial, zones 2 through 10 (depending on species)

Requirements: full sun to partial shade; moist, well-drained, rich soil; seeds need cold stratification so can be sown in fall. Can also be propagated by stolons (or runners) of other plants placed into soil.

Harvesting Tips: Harvest leaves at the base when available and healthy looking (the younger leaves are more tender); harvest flowers whenever available.

Therapeutic Parts: mainly leaves, less commonly flowers

Benefits: skin and mucus membrane soothing, cough reducing, lymph moving; cysts, boils, abscesses (internally and externally)

- **For children:** Teach them about this easily identifiable plant so they can poultice it for skin irritations and have fun eating the flowers; a mild addition to cough syrup.
- **For animals:** similar to human benefits; flowers and leaves as an expectorant, demulcent, and for growths internally and/or externally by feeding or in tea

Preparations: poultice, salve, leaf tea infusion, tincture, cough syrup; edible green raw or cooked, flowers eaten raw or candied, leaves raw or sautéed lightly

Contraindications: Leaves can cause diarrhea when consumed in excess; roots and some stems poisonous; pansies are in the *Viola* genus and contain salicylates, and so *should not be consumed by those with blood thinning issues or who are taking blood-thinning medication*.

Resources

In addition to the books listed in the bibliography, check out these websites:

A. M. Leonard

www.amleo.com

My favorite company for hori horis. They also make single and double sheaths to hold hori horis and pruners.

American Botanical Council

www.abc.herbalgram.org

An independent, nonprofit research and education organization dedicated to providing accurate and reliable information for consumers, healthcare practitioners, researchers, educators, industries, and the media. Home to *HerbalGram* magazine.

American Herbal Pharmacopoeia

www.herbal-ahp.org/overview.htm

A nonprofit organization promoting the responsible use of herbal products and herbal medicines mostly through herbal monographs.

American Herbalists Guild

www.americanherbalistsguild.com

Find practitioners in your area and information on upcoming conferences, webinars, and other resources.

Botany Everyday

www.botanyeveryday.com

Marc Williams, an ethnobotanist, offers by-donation botany courses, carrying on the work of Frank Cook and Plants & Healers International.

Buhner Healing Lyme Q&A

www.buhnerhealinglyme.com

Herbalist and researcher Stephen Harrod Buhner offers extensive information on Lyme disease, including recommended herbs and his research-based protocols.

Felco

www.felco.com

My favorite company for pruners. Theirs are high quality and are made in multiple sizes to fit different-sized hands.

Free Fire Cider

www.freefirecider.com

History of Fire Cider and other herbal information.

Jim McDonald, Herbalist

www.herbcraft.org/seedsstems.html

Jim McDonald's website hosts a storehouse of articles of his and many other herbalists around the world.

Kiva's Enchantments

www.kivasenchantments.com

The blog for Kiva Rose, an incredibly knowledgeable herbalist, who practices traditional herbalism in the rural Gila bioregion of New Mexico. Her herbal monographs are fantastic. She also created the Good Medicine Confluence, an herbal conference in the Southwest.

Lloyd Library & Museum

www.lloydlibrary.org

The world-famous Lloyd Library & Museum in Cincinnati, Ohio, is said to be the largest medicinal botanical library in the hemisphere, and it is my favorite place to do research.

Lyme Compass

www.lymecompass.net

Herbalist Meredith Klein's extremely informative and helpful website on her family's journey with Lyme disease, herbs, and other protocols they've tried and/or grown, and resources for further help.

Plant Healer Quarterly

www.folkherbalism.com

A beautiful herbal magazine published by herbalist Kiva Rose.

Strictly Medicinal Seeds

www.strictlymedicinalseeds.com

Richo Cech and his family's seed company is where I buy almost all my seeds. The site has a ton of growing information too.

United Plant Savers Species At-Risk List

www.unitedplantsavers.org/species-at-risk

A list of wild medicinal plants most sensitive to human activities, plus more information on membership and preserving at-risk plants.

US Department of Agriculture PLANTS Database

www.plants.usda.gov/about_plants.html

A database of plants by common or scientific name, where you can find out their growing range and current taxonomy.

Villagers

www.forvillagers.com

My favorite homesteading store. Though they're in Asheville, North Carolina, you can order from them wherever you are.

The Wander School

www.thewanderschool.com

My website includes my upcoming events, plus my educational blog, which covers many wild edible and herbal plants and mushrooms that I wildcraft.

"Wildman" Steve Brill

www.wildmanstevebrill.com/plants

An extensive resource for wild plants based on the experiences of the man made famous by getting arrested in Central Park for foraging dandelions. Check out his Wild Edible Forage app too.

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Dedication

I dedicate this book, in gratitude and love, to my amazing daughter, Autumn. She's the sunshine of my life. Without her, I may have never settled down or had a reason to lead by example. I also dedicate it to my teacher, Leslita Williams, for guiding me, mostly gently, down this path of health and disease, empathy and learning (often the hard way). Thanks so much for finally giving in to my pleadings at the farmers' market and taking me on as a student.

About the Author

Founder of the WANDER (Wild Artemisia Nature Discovery, Empowerment, and Reconnection) School, Abby Artemisia—botanist, herbalist, and professional forager—lives on the edge of Pisgah National Forest in the Appalachian Mountains of North Carolina. She learned about plants playing in the Midwestern woods of Ohio, from working on organic farms and at an herbal apprenticeship, earning a bachelor's degree in botany from Miami University, and running her own tea business.

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Find out more at www.thewanderschool.com.

Index

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nor as an alternative to proper medical care. Plants used for any formula must be identified with 100 percent certainty before use.