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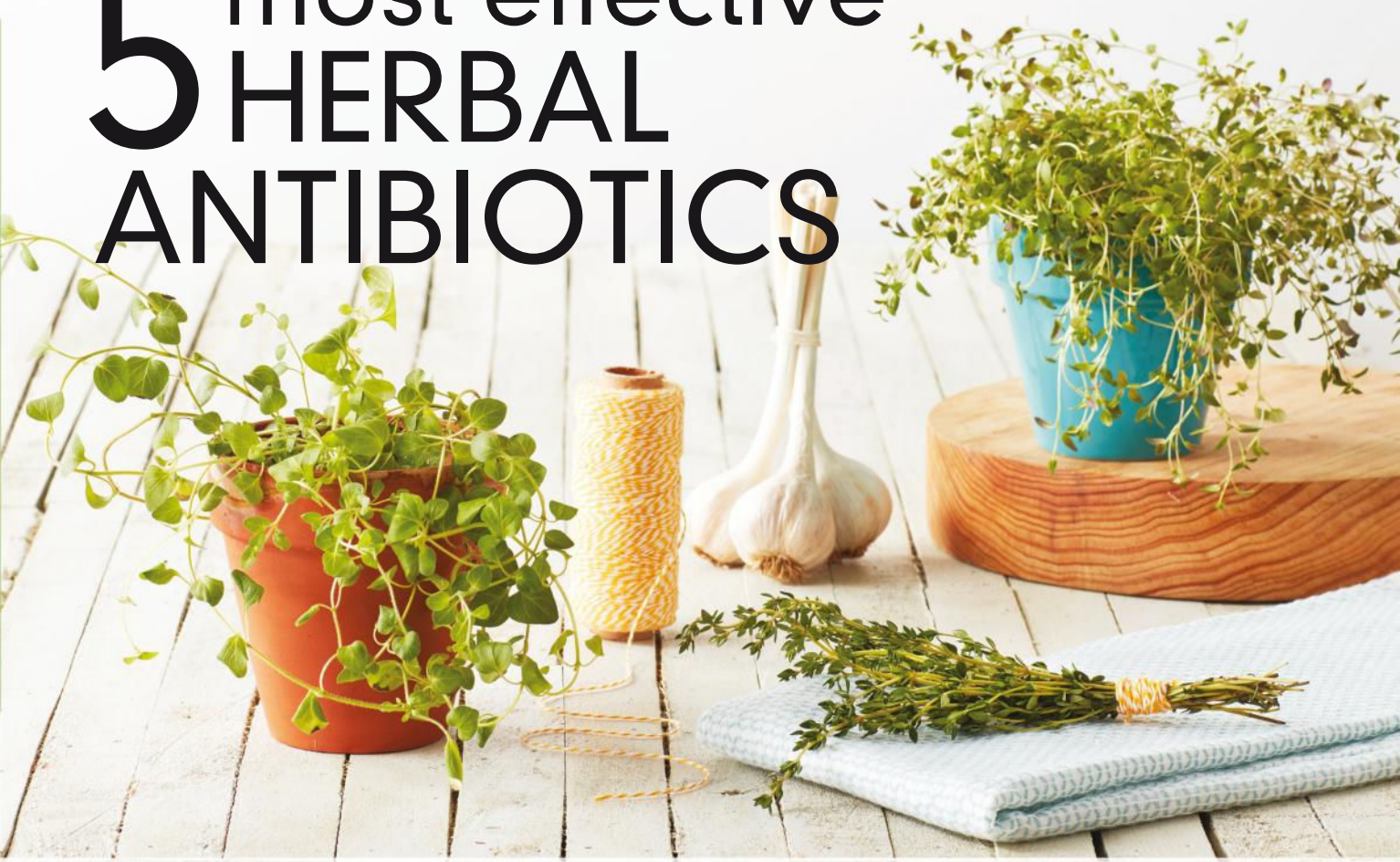

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Circle #28; see card pg 81

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MARCH/APRIL 2017

ON THE COVER

Cover photo by Anneka DeJong, Ben Pieper Photography; photo styling by Ginevra Holtkamp

In Every Issue

Best for Gardening

Natural Health

Real Food

Organic Garden

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Inside this issue

Jessica Kellner,
Editor-in-Chief

Growing Connections

I WILL NEVER FORGET the day a few years ago when I visited the Seed Savers Exchange farm in Decorah, Iowa. It was November, so the farm's expansive gardens weren't in bloom, but still I left the place in total awe. I was most struck by the meeting of past and present—the farm houses thousands of seeds that have been saved and handed down from gardener to gardener, many for hundreds of years, yet it's also home to sophisticated labs where white-coated technicians tend seedlings growing in test tubes in climate-controlled incubators.

Combining the technological and communications capabilities of today with the wisdom of the past to improve our world always makes me feel a little giddy. I love honoring our generations of collective human wisdom and experience while also utilizing the marvels of modern technology.

We can connect the past with the future in this way in our own gardens by growing heirloom crops, many of which have been passed down for generations. When we do, we preserve a piece of the past, honoring our ancestors by growing, preparing and eating the very same plants they grew in their gardens and served on their tables. And with the same action we help safeguard the future by contributing to the preservation of our planet's agrobiodiversity. We build upon the work of our predecessors to help shape the future we want for our posterity.

For many of us, the present feels like a momentous time in history. Some long for a past that seemed simpler and easier, while others are eager to move toward a more progressive future. Whatever mix of these feelings lies within you, the garden may help ground you. Physically connecting with the earth can offer comfort, providing a link to our human history, our place in the world, and hark back to the past. Growing food for ourselves and our communities can also feel revolutionary: After all, by tending and sharing crops, we circumvent the industrial food system, and reach across tribal divides toward a shared prosperity. Gardening is also scientifically proven to calm us, reduce anger and stress, and soothe the senses—which is why it's used therapeutically for everyone from elementary school students to soldiers suffering PTSD and prison populations. Plus, it yields nutritious food we can gather together to prepare and share, one of humanity's most deep-seated cultural touchstones.

This season, whether you're motivated to plant a garden for the flavor of homegrown tomatoes; to physically connect with memories of the past; or to take a small step toward a sustainable future, working in the garden is certain to offer good medicine indeed.

Three things I love this issue

Ideas for a happy spring season, a bountiful garden and a healthy future

1 Eight simple lifestyle habits we can incorporate to increase everyday happiness (page 23)

2 An examination of our planet's shrinking agrobiodiversity and what we can do about it (page 62)

3 A clever gardening method to make the harvest more practical and productive (page 71)

MEGAN AXELSSON

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Volume 5, Number 3

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your Remarks

"Sharing your beautiful post on wisdom, inspirations and affirmations. With love and gratitude."
—MEL CUDDY, VIA FACEBOOK

"Always love the clever and conscious tips from @mthrearthliving"-
—LAURA CONNOLLY, VIA TWITTER

"Enjoying the latest edition of *Mother Earth Living* and a cup of dandelion tea."
—HOLLIE SCHINDLBECK, VIA INSTAGRAM

"The National Health Service in the U.K. recommends the Mediterranean diet. I love it. I may be overweight but the olive oil and other healthy fats are doing me good."-
—SARAH HICKLIN, VIA FACEBOOK

Amygdala Effects

I appreciated Jessica Kellner's article "The Art of Living" (Jan/Feb). However, a quote in it from Kim Rossi stopped me in my tracks—enough that I've pulled out my laptop at 2 a.m. to write. According to Rossi, among the benefits of meditation are the shrinking of "the amygdala, the brain's center for anxiety, stress and fear." While it's been my experience that meditation does indeed render all the benefits listed in the sidebar, I've never read it shrinks the amygdala. In fact, in my reading of Alzheimer's literature, a loss of mass in the amygdala may be a sign of the disease. I'm not going to stop meditating, or teaching it in my yoga classes, but I'm puzzled and would appreciate some clarification. Are we talking about a difference in terminology about the physical effects or alteration of amygdala, by either meditation or Alzheimer's?

JAN DIAL, Willis, Texas

EDITOR'S RESPONSE: We're happy to hear you experience and share the benefits of meditation and yoga. Rossi's statement is backed up by several studies: In one published in the journal *PLOS One*, researchers found that greater dispositional mindfulness is associated with decreased gray matter volume in the amygdala. Read more in *Scientific American*: blogs.scientificamerican.com/guest-blog/what-does-mindfulness-meditation-do-to-your-brain.

Rosemary Rx

I purchased a potted rosemary plant from a grocery store this summer. It did well for several weeks. When the weather turned chilly, I brought it inside. I watered it just enough to keep the soil damp, but it seemed to stop growing. I tried repotting it, but within two weeks, it was dead! What did I do wrong?

OLIVENE CLAVON, Perry Hall, Maryland

EDITOR'S RESPONSE: Three culprits are most often to blame for rosemary's death indoors. 1) Lack of sunlight: Put rosemary on a "sunlight diet" before moving it indoors. Without acclimation, the shock of going from outdoor light to limited indoor light can kill plants. Rosemary needs at least six hours of sun or fluorescent light a day. 2) Overwatering: It sounds as if you didn't overwater, but in winter rosemary grows much more slowly and requires less water. Overwatering can cause root rot. 3) Powdery mildew: This disease can become worse indoors with poor air circulation. Protect plants indoors by blowing a gentle fan on them for a few hours a day.

Essentially Grateful

Thank you for the article "How to Use Essential Oils" (Sept/Oct 2016). Thanks for highlighting the fact that you should not take oils internally except under careful physician direction. Some companies push essential oil use internally and externally with no respect for their potency.

Your article also provided some new information I had not previously known. I will now be much more careful with what lotions I mix essential oils into, knowing they have been shown to increase the absorption of many drugs and chemicals.

KAITLYN SMITH, Franklin, Indiana

Salt Dough Caution

I loved the new tradition ideas in the Nov/Dec 2016 issue. I would like to add to be certain to hang salt dough ornaments out of reach of pets. The salt content is extremely high and can be harmful for dogs/cats/birds/etc. Hang them in out-of-reach areas or don't leave pets in the area unattended. If a pet does eat an ornament, call your vet right away.

TAMARA NEARBER, Anoka, Minnesota

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THERE AREN'T MANY BETTER FEELINGS than getting into the garden in spring, feeling the rich soil in our fingers and delighting at new growth. Perhaps the only thing better is knowing the benefits of our garden bounty extend well beyond the bounds of our own yards. Use the tips in the following pages to ensure your garden efforts serve others as well, from neighbors and community members to our critical pollinators.

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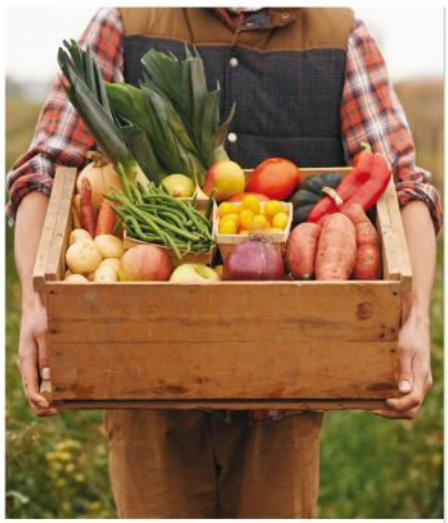
Circle #35; see card pg 81

| TRY THIS |

Gardening with a Purpose

Use your green thumb to help your community.

Gardening connects us with nature, and provides us with food, visual delight and even stress relief. But the benefits of gardening can spread even further when we put our efforts to work to help our communities. Here are a few ways to turn gardening skills into local activism.



START A COMMUNITY GARDEN. Community gardening is an activity people of all ages can enjoy. Not only do community plots provide a great space to grow crops, they also create an opportunity for neighbors to meet and learn from each other. Organizations such as the American Community Gardening Association (communitygarden.org) can help you start or find a community garden in your area, and provide resources to help your shared plot flourish.

CREATE OR VOLUNTEER WITH A SCHOOL GARDEN. Studies show that students who have helped in gardens do better on science achievement scores in school. Getting kids directly involved in their own garden also teaches responsibility, and helps them understand where food comes from. For ideas and inspiration, visit earth911.com/home-garden/school-garden-how-to-start.

DONATE PRODUCE TO A FOOD BANK. One in eight Americans doesn't have enough food for an active, healthy life. Consider donating your excess garden produce to a food bank—or planting an extra row in your garden with the specific intent of donating it. Contact food pantries in your area, and ask for their policies on donating fresh produce. For more resources on donating your garden's bounty, visit grit.com/extra-produce, or check out the USDA's guide at usda.gov/documents/usda_gleaning_toolkit.pdf.

START A SEED LIBRARY. A seed library is just what it sounds like: A communal store of a variety of seeds, often maintained through a public library. Local gardeners can check out seeds, plant them, then save seeds from the resulting plants to return to the library. Talk to your local public library about starting a program or, if one already exists, volunteer to donate, pack or organize the collection.

CERTIFY YOUR GARDEN AS A WILDLIFE HABITAT. Adding wildlife-friendly features to your garden helps local fauna survive habitat threats. To make sure you're providing the shelter and nourishment needed for your area wildlife, get your garden officially certified by the National Wildlife Federation. To be certified, you just need to demonstrate that your yard or garden uses sustainable gardening practices, and provides food, water and shelter. Learn more about the process: nwf.org/garden-for-wildlife/certify.aspx.

| GIVE BACK |

Featured Charity

THE FARM SCHOOL
(farmschool.org)

WHY THEY'RE CRUCIAL: Sustainable food practices are essential to maintaining our food system. But the continued success of good farming practices requires new generations of farmers to make it work. The Farm School encourages farmers of all ages by creating educational programs that connect people with the land. Spread over four family farms in rural Massachusetts, the school teaches sustainable farming practices to students ranging in age from middle school to adult. Its year-long Learn to Farm program allows adult students to live and work on the school's farm. Students grow their own food, learn business management techniques, and operate summer vegetable and winter meat CSAs.

WHAT THEY DO

* Run a year-long residency program for adults looking for hands-on experience in forestry, animal husbandry, propagation, soil science and more.

* Host short-term visits and summer camps for students and teachers to stay at the farm and get hands-on experience raising animals and growing crops.

* Operate The Chicken Coop School, a full-time middle school for local children.

DID YOU KNOW?

* Farmers older than 65 outnumber farmers younger than 35 by a margin of six to one.

* 63 percent of all farmland (573 million acres) will need new farmers over the next 25 years as older farmers retire.

* The Farm School hosts more than 2,000 children each school year as part of its classroom programs.

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Circle #30; see card pg 81

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TO BUY: $45, etsy.com/shop/farmerjaysshop

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This indoor composter uses Bokashi, a natural compost starter, to speed the breakdown process. A strainer and spigot separate waste from liquid, creating compost and liquid fertilizer.

TO BUY: $55, uncommongoods.com

4. SORT IT OUT

Get fine, lump-free compost with this steel-mesh sieve, which can also help shake out plant bulbs for storage or remove rocks from potting soil.

TO BUY: $20, gardenersedge.com (select "garden tools," then "harvesting tools")

5. WORKIN' WORMS

Let your whole family explore the science of vermiculture with this sleek and practical worm farm composter. Add up to a half-pound of scraps a day, and let the worms do the rest.

TO BUY: $139, gardeners.com

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| CONSERVATION |

Preserving our Pollinators

Bees are critical to sustaining healthy ecosystems. Learn what you can do to save them from population decline.

We talk about preserving bees a lot in this magazine. That's because bees and other pollinators are a vital part of our environment, from backyard gardening to agriculture. The amount of agriculture reliant on insect pollinators has increased by 300 percent over the last 50 years, and the estimated global economic value of insect pollination is $295 billion. According to the USDA, pollinators are responsible for generating one out of every three bites of food in the United States.

Honeybees carry out 80 percent of insect crop pollination. Bees are considered a keystone group in an ecosystem, meaning their role is so important that their removal can cause the entire system to collapse. However, over the last 50 years, the number of managed honeybees (hives maintained by beekeepers) has declined. Each winter since 2006, about 30 percent of beehives have collapsed due to a variety of factors. These include pesticide exposure, a loss of genetic diversity due to overbreeding of certain strains, and single-crop planting, which leaves little room for wild pollinators.

Each of us has a role to play in conserving bee populations. Fortunately, we can take many actions to help stop the epidemic of bee colony collapse. Here are a few things you can do to get involved:

PLANT FOR POLLINATORS. While many gardens are bee-friendly, a little planning can turn them into a pollination paradise. Bees prefer simple flowers such as bee balm, butterfly weed and asters. Some ornamental plant varieties have the nectar and pollen bred out, so do some research before you plant. Find a list of drought-tolerant pollinator plants: motherearthliving.com/drought-tolerant-pollinator-plants.

PROVIDE BEE HABITATS. Many yards lack suitable places for bees to nest. Consider leaving a few bare patches of earth in the garden for mining bees, or leaving a few dead tree branches for solitary bee species. You can also try building your own bee house. Get instructions at motherearthliving.com/diy-bee-house.

SUPPORT LOCAL BEEKEEPERS. Buy only local, raw honey. Most farmers markets include beekeepers. Or, look for grocery store products marked "pure" and "raw" and that explicitly state they are from chemical-free hives.

JOIN A CONSERVATION CAMPAIGN. Many regional and national groups are committed to conserving bees. Become a citizen scientist by noting bee sightings and reporting them to a local conservation group, or a national one such as Bumble Bee Watch: bumblebeewatch.org.

RESOURCES

Check out these organizations for information on habitat stewardship, reporting bee sightings and supporting educational events and programs that spread the word about bee and pollinator conservation:

The American Beekeeping Federation
abfnet.org/

The Xerces Society for Invertebrate Conservation
xerces.org

The Honeybee Conservancy
thehoneybee conservancy.org

Pollinator Partnership
pollinator.org

The Great Sunflower Project
greatsunflower.org

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Circle #12; see card pg 81

| HANDY HINTS |

8 Household Uses for Chives

Bright, flavorful chives are a welcome sight in spring. But the usefulness of this plant goes further than its highly prized role in the kitchen. Here are a few of the ways chives can be of use around the home, from the kitchen to the garden, and health to home décor.

1 MULTIPURPOSE HEALTH BOOSTER

Chives and chive flowers are high in vitamin C, folic acid, potassium, calcium and iron. Their benefits include improving digestion and metabolism, immune support and even lowering cholesterol levels. Chives provide their best benefits when eaten raw. Add fresh, uncooked chives to salads, or include them as a garnish in other dishes for maximum effectiveness.

2 SUPER SALADS

Chive blossoms make lovely additions to salads, whether the blossoms are in the salad itself (they have a subtle onion flavor), or are used to make a homemade flavored vinegar for dressings. Visit our Herbal Living site for a recipe: herbs.motherearthliving.com/chive-flowers-for-cooking.

3 FLAVORED BUTTER

Combine minced fresh chives, gorgonzola dolce cheese and unsalted butter to create a delicious compound spread. Blend 4 ounces gorgonzola dolce, 2 tablespoons minced fresh chives, ⅛ teaspoon kosher salt and 1 stick of softened unsalted butter in a medium-size bowl. Form the mixture into a log and refrigerate until firm. Use this compound butter to accompany grilled meats, such as steak or hamburgers, or use it as a sauce for gnocchi.

4 HERBAL BOUQUET

European brides in the Middle Ages carried pungent herbs such as garlic and chives in their bouquets to prevent jealous spirits from disrupting their happiness. Whether you use them in bridal bouquets or around the house, purple or pink chive blossoms make a unique addition to floral décor. Combine them with other garden blossoms and herbs for a fragrant and attractive seasonal arrangement.

5 COOPERATIVE COMPANION

Chives are helpful as companion plants for tomatoes, carrots, apple trees and roses. At first growth, the plants will repel aphids from tomatoes, mums and sunflowers. After about three years of growth, they've been known to prevent apple scab and rose black spot.

6 CHIVES FOR BAKING

Try chives in your biscuit batter for a baked good that's bursting with flavor. Visit motherearthliving.com/cheddar-chive-biscuits for the recipe.

7 DAIRY-FREE TREAT

Add chopped fresh chives to a probiotic-rich dairy-free cheese from doctor and author Michelle Schoffro Cook to get all the flavor and health benefits the herb offers. Find the recipe at motherearthliving.com/dairy-free-cheese-with-chives.

8 BYE-BYE, MILDEW

Try this gardening trick from the blog Little House Living to protect garden plants from mildew: Combine chopped chive leaves and water. Boil the mixture for several minutes on the stove, then let cool. Once it's reached room temperature, pour the chives and water into a spray bottle, and spray on garden plants.

Making Homemade Medicines

Use this guide to make your own simple, effective herbal remedies, and add medicine-making to your self-sufficiency repertoire.

MAKING OUR OWN herbal medicines and body-care products can save money and improve our health, and it's much easier than you may think. If you already make herbal teas, then making infusions, decoctions, tinctures, salves and poultices can quickly become part of your repertoire, too. Don't worry if they sound confusing; you'll soon discover how to prepare a variety of plants to make a range of simple but effective herbal medicines.

One very important note before you begin making herbal medicines: Always make sure you are using the correct plant (check the Latin name) and the correct part of the plant (flower, leaf, roots), as some parts may be toxic if used internally.

Internal Medicines

TEA TIME

Making herbal tea may seem fairly straightforward, but to reap the greatest medicinal value from herbs, we need to do more than dunk a tea bag in hot water. There are two main forms of herbal tea: infusions and decoctions.

✻ **INFUSIONS:** Infusions are the commonly known form of herbal tea, in which herbs are literally infused in hot water, usually one heaping teaspoon of dried herb (or one teabag) per cup of hot water for 10 to 20 minutes. This is the ideal method for extracting the medicinal compounds in most berries, flowers and leaves. You can also use fresh herbs, but because of their higher water content, you usually need to double the amount of herbal matter per cup of water (two teaspoons per cup of water instead of one).

✻ **DECOCTIONS:** To extract the medicinal compounds from seeds, roots or stems, you'll want to make a decoction, which involves boiling the herbs and allowing them to simmer for about an hour, usually allowing one heaping teaspoon of dried herb per cup of water. Note that this method is less suitable for berries, flowers and leaves because it tends to destroy many of the delicate medicinal compounds they contain. As with infusions, you can use fresh herbs, but you typically need to double the amount of herb matter per cup of water.

What if you want to make a tea from some combination of roots, berries, seeds, stems, flowers and leaves? Start by making a decoction with the roots, seeds or stems. Bring it to a boil, then reduce to a simmer to continue brewing for an hour. Turn off the heat and add any berries, flowers and leaves. Allow the mixture to steep for an additional 10 to 20 minutes. Now you've extracted the best medicinal compounds from all of the herbal components you're using.

An herb poultice is made by combining chopped or powdered herbs with warm water and applying directly to the skin.

TINCTURES

Tinctures are alcohol extracts of fresh or dried herbs. They're highly effective at preserving a plant's active constituents. You can make a tinctures from roots, leaves, seeds, stems or flowers.

To make an herbal tincture, finely chop the fresh, clean herb you are using. You can also use dried herbs. Either way, the idea is to chop the herb as much as possible, to give the alcohol as much surface area to act upon as you can. Some herbalists recommend grinding dried herbs in a coffee/spice grinder before making a tincture.

Place the chopped or ground herb in a half-quart or quart-sized glass jar. Fill the jar with as much plant matter as possible to ensure the medicinal value of your tincture, keeping in mind that you'll need enough alcohol to completely submerge the herbal matter. Top with vodka or pure grain alcohol, making sure all of the plant matter is submerged in the alcohol to prevent mold growth. Note that different kinds of alcohol will produce different kinds of tinctures. Visit mountainroseblog.com/guide-tinctures-extracts for more information. Date and label the jar, and allow the mixture to sit for two weeks, shaking daily to encourage extraction. After two weeks, strain the contents through a cheesecloth-lined sieve. After most of the liquid has gone through the sieve, pull up the corners of the cheesecloth and, using clean hands, carefully wring out any remaining liquid. Store the herbal tincture in a dark glass jar or dropper bottle away from heat or sunlight to preserve its healing properties. Tinctures will usually keep for a few years. You can make an herbal tincture out of any medicinal or culinary herb that can be used internally. A typical tincture dose is 30 drops (about one dropperful) three times daily, but we recommend looking up specific dosage recommendations for the herbs you use. Avoid tinctures if you are pregnant or nursing, or if you have liver disease, diabetes or alcoholism.

Skin-Healing Medicines

INFUSED OILS

Infused oils are made by infusing herbs in oil, rather than alcohol as in tinctures. The infusion technique works to transfer the healing properties of herbs to oils. Infused oils are excellent for massage; as skin or bath oils; or as a basis for balms and salves, which I'll explain in the next section. Never ingest these oils.

Infused oils are easy to make. Choose any type of vegetable or carrier oil, other than petrochemical-based oils such as baby oil or mineral oil. It is also best to avoid oils that break down quickly when exposed to heat, such as flaxseed oil. I prefer olive oil or sweet almond oil, which can be warmed to encourage the transfer of healing compounds from the herb matter to the oil.

You can make many types of infused oils, but two of the most common are St. John's wort and calendula oils. St. John's wort oil, made from the flowers of the plant, can be used for treating bruises, swellings, hemorrhoids, scars and sprains. It is also recommended as a topical treatment for eczema. Avoid sun exposure for a few hours after using this oil on your skin as it can cause photosensitivity. Calendula oil, also made from the flowers of the plant, aids wound healing and alleviates various skin conditions. >>

| EXPERT ADVICE |

Some of My Favorite Healing Herbs

All of the herbs listed here are safe and effective. However, before making specific remedies on your own, make sure to research the herb you plan to use to ensure you're using the right parts and amounts, as well as contraindications that may apply specifically to you and your circumstances.

CALENDULA (flowers): Skin healer extraordinaire

CHAMOMILE (flowers): Relaxant and dental antimicrobial (use tea as a mouthwash)

DANDELION (roots or leaves): Osteoporosis preventer and anticancer powerhouse

ECHINACEA (roots): Immune booster

FEVERFEW (flowers and leaves): Headache and migraine alleviator

GARLIC (cloves): Amazing germ buster

GINGER (root): Muscle and joint pain healer

HORSETAIL (leaves): Nail, teeth and bone builder

JUNIPER (berries): Urinary tract antimicrobial

LAVENDER (flowers): Anxiety and depression alleviator

LICORICE (root): Chronic fatigue syndrome solution

NETTLES (leaves): Allergy remedy

OREGANO (leaves): Antimicrobial antidote

PEPPERMINT (leaves): Headache remedy and sinusitis aid

RED CLOVER (flowers): Relieves menopausal symptoms such as hot flashes

ROSEMARY (leaves): Memory booster

ST. JOHN'S WORT (flowers): Anxiety antidote and anticancer therapy; skin healer

THYME (leaves): Cough and antibacterial medicine

Adapted from *Be Your Own Herbalist: Essential Herbs for Health, Beauty, and Cooking* by Michelle Schoffro Cook, PhD, DNM.

Making herbal infused oils is particularly suited for the delicate flowers and leaves of plants. Simply add fresh flowers or leaves to a jar and fill it with oil, such as sweet almond oil, apricot kernel oil, almond oil or olive oil. You'll want enough plant matter to ensure the medicinal value of the infused oil, but not packed so tightly that the oil cannot penetrate the plant material. The plant material must be completely submerged in the oil to prevent mold from forming. Label and date the jar, including the herb and the oil used. Allow the infusion to rest for two weeks, shaking the bottle periodically to encourage the infusion process. After two weeks, strain the herbs from the oil, squeezing out any remaining oil with clean hands. Cap and label the jar, and store away from light and heat.

SALVES

Salves are basically herbal balms or ointments made by thickening herbal oil infusions with melted beeswax. Most health-food stores sell plain beeswax, which can be shaved with a potato peeler or grated with a cheese grater and then melted over low heat. You can also buy beeswax pastilles, which are ready to melt. Be sure to avoid other types of wax, as they are made of petroleum byproducts.

Allow two tablespoons of shaved, melted beeswax to one cup of infused oil after the herbal material has been strained off. Melt the oil and beeswax over low heat, preferably in a double-boiler, to prevent overheating. Stir regularly. Remove from the heat as soon as the beeswax is melted and well-incorporated into the oil. Immediately pour into small, shallow jars, tins or lip balm containers. Let cool undisturbed to allow the ointment to set. Use for skin irritations and other skin conditions, and for dry or chapped lips. Similar to herbal infusions, calendula and St. John's wort are excellent choices to use in salves.

POULTICES

A poultice is a paste made with herbs that is applied to the skin. It is typically applied while hot or warm, except when made with herbs that are naturally chemically hot, such as chilies or ginger. To make a poultice, fill a natural-fiber cloth bag with powdered or chopped fresh herb matter. Tie it closed, and then place it in a bowl of hot water just long enough to soak and heat the herb. Remove it from the water, and apply to the affected area until the poultice has cooled and until you experience some relief. Reheat and reapply the poultice. It is best to use a fresh poultice each day.

Poultices are particularly effective in soothing aching or painful joints or muscles, as is the case with ginger. Calendula helps bruises and damaged skin, while echinacea boosts the immune system to help heal long-lasting wounds.

MICHELLE SCHOFFRO COOK is the international best-selling author of *Be Your Own Herbalist* and *60 Seconds to Slim* and *The Probiotic Promise*. Visit drmichellecook.com and worldshealthiestdiet.com to learn more about her work.

Habitually Happy: 8 Habits of Happy People

Use these quick, simple practices to boost your happiness every day.

FOR MOST OF US, brushing our teeth at least twice a day is a habit and doesn't require much effort or discipline. We wake up in the morning and do it without deliberation. Forming good habits makes things easier, and it is possible to create ones that can increase positive emotions. Here are eight habits you can incorporate in your day-to-day routine that can make you feel happier.

1 Give Thanks

In his book *The Happiness Equation*, Neil Pasricha writes, "If you can be happy with simple things, then it will be simple to be happy." He suggests writing down three to five things you're grateful for from the past week. He wrote five a week on his popular blog 1000awesomethings.com while processing the loss of his marriage and a close friend. What started as a journey toward finding happiness in his life led to a series of books, a TED Talk and speaking around the world about the power of optimism. What you write down can be relatively small in importance (see #840 from the blog, "Popping bubble wrap") or relatively large (#829 "Smiling and thinking of good friends who are gone"); it doesn't matter. What's important is that you are tuning in to what is good in your life—a habit that trains your brain to scan for positives instead of negatives. Furthermore, when you write about a positive experience, you relive it, and then relive it again each time you read it, thus exponentially increasing your happiness.

2 Say Something Nice

The next time someone asks, "How are you doing?", think of something positive and specific to say instead of automatically replying "OK" or "tired," says Michelle Gielan, author of *Broadcasting Happiness*. You could say something simple like, "I'm great! This cup of coffee is really hitting the spot." Or, delve deeper and share a more meaningful experience. A simple shift in how you communicate can help you get in a positive mindset and create contagious optimism, causing the person you're speaking with to share something positive as well.

3 Get Some Exercise

We all know exercise is good for us both physically and mentally. It wards off health problems, keeps weight in check, and can help us feel less stressed and anxious. Then why is it so hard for many of us to make exercise a habit? In *Happiness is a Habit*, author Michele Phillips suggests doing something that moves your body every day, but not to exercise just for the sake of exercising. "It will be boring, tedious and you won't stick to it," she writes. Think about exercise activities you love—perhaps gardening, hiking, swimming, biking or dancing. Find a workout buddy. It will be more fun, and you'll be more likely to keep it up. You can also find or form fitness groups on meetup.com for anything from tai chi to salsa dancing. >>

4 Know How to Unplug

Technology has some wonderful benefits, but the constant stream of incoming emails, text messages and social media posts can take its toll, leaving us feeling distracted, stressed and even depressed. Simple changes in the way we use technology can help. Here are some suggestions: Limit checking email and social media to only a few times a day and deactivate alerts on your cell phone; unplug from all electronics at least 30 minutes before bed; use social media to deepen existing connections rather than comparing yourself to your peers; choose one day a week to take a complete break from email and social media; or do something once a day without your cell phone.

5 Connect With Nature

Growing research suggests people who interact with and appreciate nature experience more life satisfaction. A large-scale campaign in the UK called 30 Days Wild challenged people to engage with nature every day for a month by performing a "Random Act of Wildness." Walking barefoot through grass, feeding birds, and climbing a tree are a few of the simple and fun ways an estimated 18,500 participants connected with nature. In an analysis published in the journal *PLOS One*, researchers found a significant increase in participants' happiness and health—not just throughout the challenge but also for months after it had been completed. For more ideas on how to get wild, visit mywildlife.org.uk/30dayswild.

6 Be Mindful

Many of us go through life rehashing the past or worrying about the future without enjoying the present. Practicing mindfulness can help.

Mindfulness is simply being aware of our thoughts, feelings and bodily sensations in the moment—without judging them as good or bad. Research shows it can reduce stress, enhance our connection with others and increase positive emotions. One study published in *Archives of General Psychiatry* found it may be as effective as antidepressants in fighting depression. Although mindfulness can be cultivated through formal meditation, you don't have to spend hours sitting in lotus position to tap the benefits, says psychologist Elisha Goldstein, author of *Uncovering Happiness: Overcoming Depression with Mindfulness and Self-Compassion*. Try weaving mindful moments into your daily routine, while you're showering, waiting in line or even washing dishes. Focus your attention on your breathing and senses, and be fully present in the moment.

7 Get Things Done

Procrastination is draining. Tackling nagging tasks can set us free and help us feel happier. Author Gretchen Rubin, who writes about happiness and habits in *Better Than Before*, says if you're feeling overwhelmed and ineffective about the

Try unplugging and enjoying the moment to encourage positivity and satisfaction.

things you need to accomplish, just take one step today. Tomorrow, take the next step. The forward motion is encouraging, and will help you get things done. And remember, most decisions do not require extensive research, she says. If you are paralyzed by your inability to make a decision, remind yourself that often, one choice isn't that much different from another, make a decision, and move on.

8 Nurture Relationships

Happiness researcher and author of *The Happiness Advantage*, Shawn Achor suggests starting each day by sending a short email or text praising or thanking someone you know, a different person each day. Not only does it make us and our recipients feel good, but it also strengthens our social support network, so when challenges and stress arise, we have people who can help. Achor's research has found that deepening our connections with friends, family and peers is one of the greatest predictors of long-term happiness—with a correlation stronger than the connection between smoking and cancer.

—GINEVRA HOLTKAMP

Ease Back Pain Naturally

Try these herbs and techniques to ease symptoms of chronic and acute back pain.

IF YOUR BACK FEELS bent out of shape, you're not alone. Back pain is the second leading cause for doctor visits in the United States. According to the National Institutes of Health, in a three-month period, more than one-fourth of U.S. adults experience at least one day of back pain. The causes of back pain are many. Sometimes it's brought on by slouching at our desks, sports injuries or sedentary lifestyles. In older people, conditions such as osteoarthritis may be the cause, making spinal joints stiff and sore, and creating pressure on the nerve roots.

Back pain can be divided into two basic categories: acute pain and chronic pain. Acute pain comes on quickly, but often ends quickly too—for example, lifting a heavy load or falling from a ladder. Chronic pain may develop suddenly or slowly, but it lasts longer—weeks and even months. In both cases, however, it's best to address and treat the underlying causes of back pain, rather than simply alleviating symptoms.

Whether you're dealing with long-term chronic pain, a sudden back injury or painful tension, here are a few herbs, specific remedies and techniques that will help you loosen up and relieve aches and pains.

| RECIPE |

GINGER COMPRESS FOR BACK INJURY

Herbalist Christopher Hobbs says this recipe—which can be made with either fresh or powdered ginger—works wonders for back strains, sprains, bruises and injuries. Apply it two or three times a day for several days to a week.

½ cup fresh ginger root, grated, or 5 to 10 pinches powdered ginger
1 tablespoon powdered cinnamon (optional)
2 cups water

1. Place ingredients into a small saucepan and simmer for 5 minutes.
2. Let steep for 15 minutes, then soak a washcloth with the strong tea.
3. Apply to painful or stiff muscles until cool, then reapply several times. Two or three sessions a day is most effective.

For inflamed muscles and intense pain, try applying ice the first day, then alternating the ginger compress with a cold or even icy compress (4 minutes of the hot to 1 minute of the cold) thereafter.

—CHRISTOPHER HOBBS

Herbs for Acute Pain

When it comes to acute pain, it's tempting to reach for seemingly simple pain remedies in the form of over-the-counter (OTC) drugs such as ibuprofen or aspirin. However, frequent doses—even small ones—of OTC painkillers are hard on the liver, and they can lead to serious side effects such as stomach bleeding or increased risk of stroke. Instead of drugs, try these simple natural remedies for short-term back pain.

GINGER is a natural inhibitor of COX-2, an enzyme that uses stored fat to inflame injured areas and lead to pain. In a lab study conducted at the University of Sydney, Australia, researchers discovered that ginger was just as effective as aspirin at inhibiting this action. For best results, take 2,000 to 4,000 mg of ginger per day, or drink three to four cups of ginger tea.

ARNICA has anti-inflammatory compounds that can treat sore muscles, sprains and other related pains. It comes in many forms for topical use, including tinctures, creams, salves, ointments, gels and oils. Note that arnica should never be ingested, or applied to an open wound.

CHAMOMILE can soothe tense, knotted muscles. Steep a tablespoon of chamomile flowers in a mug of boiling water for 15 minutes. Drink one to three cups of the tea a day for as long as the pain persists. Chamomile essential oil is also often recommended for pain relief by clinical aromatherapists, and is gentle enough to be used with children.

Physical Treatment for Acute Back Pain

Unfortunately, no specific exercises have been shown to improve acute back pain, or increase functional ability. However, doctors often recommend exercise for those who have recently suffered a lower back injury, usually starting with gentle, low-impact exercises, and gradually building up intensity. If you've suffered a back injury, stretching or activities that cause additional strain are discouraged, so be sure to consult your physician regarding treatment and activity.

If acute back pain is injury-related (for example, after a fall, car accident or blow to the spine), it's important to see a doctor immediately. However, most non-injury related acute back pain can be treated without professional help. If the pain interferes with normal daily activities, and doesn't improve after one or two days, consult a physician. If mild to moderate pain persists after two weeks of home treatment, your doctor may want to check for other problems that could be causing the pain. >>

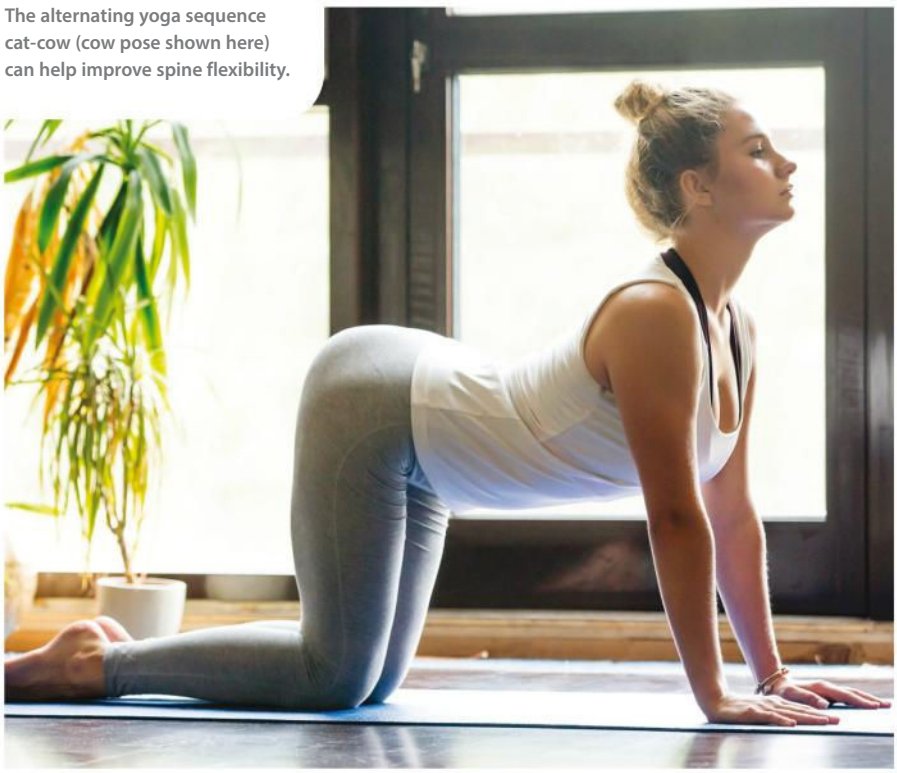
Herbs for Chronic Pain

While herbal remedies can take longer to effectively relieve pain, for chronic sufferers, natural solutions can help reduce dependency on prescription drugs and OTC painkillers. Here are a few herbal options to help ease recurrent back pain.

WHITE WILLOW BARK has been used as an analgesic dating back to 500 B.C. in China. Modern research shows that it helps both chronic and acute back pain, as well as osteoarthritic and nerve pain. Willow bark contains natural compounds that make it an anti-inflammatory, analgesic and anti-neuralgic. White willow bark can be purchased as standardized extracts and teas. To make white willow tea for pain relief, add one to two teaspoons of bark to one cup of water. Boil, simmer for 10 minutes, and then allow to cool slightly. Note that willow bark should not be given to children, and may interact adversely with blood-thinning medications. It may take several cups to get the desired pain relief.

DEVIL'S CLAW contains iridoid glycosides that, according to researchers, give it powerful pain-relief properties. In one double-blind placebo-controlled trial, 63 participants with lower back pain took devil's claw or a placebo for four weeks. At the study's conclusion, participants who took devil's claw reported a significant improvement in muscular pain and stiffness. To relieve pain, take 100 to 250 mg of devil's claw three times a day. Avoid this herb if you suffer from ulcers or gallstones, or if you're taking warfarin.

EUCALYPTUS helps numb pain, and can be used to relieve spinal stiffness. To help with morning back pain, add two drops of eucalyptus oil to your morning shower, and breathe the steam to relax and get a direct dose of therapeutic herbs to your spine, or any other area that's causing pain.



The alternating yoga sequence cat-cow (cow pose shown here) can help improve spine flexibility.

Physical Treatment for Chronic Back Pain

Studies have found that massage can be helpful for persistent low back pain, as well as for neck pain. In some cases, massage may even provide a stronger benefit than common OTC anti-inflammatory drugs.

Stretching can also help sufferers of long-term chronic back pain, in addition to regular exercise. Here are two stretches that can help relieve chronic back pain.

RECTUS FEMORIS MUSCLE STRETCH

The *rectus femoris* muscle, one of the four quadriceps muscles, runs above the hip, down through the kneecap and into the front of the tibia. It is one of the most common muscles associated with back pain caused by posture problems, as tightness in the quadriceps can lead to an excessive amount of lumbar curve, or swayback, according to Doug Lewis, former chair of the Physical Medicine department at Bastyr University. Stretching this muscle can relieve tension in the legs, and help correct excess curve.

| RECIPE |

STIFFNESS RELIEF LOTION

To ease a stiff back, mix up this simple combination of unscented lotion and essential oils recommended by reflexologist and aromatherapist Kymberly Keniston-Pond.

2 tablespoons unscented lotion
1 drop eucalyptus essential oil
2 drops geranium essential oil
1 drop peppermint essential oil

Add essential oils to lotion and blend. Massage onto the bottoms of your feet, from your big toe down to your heel on the inside of your foot, where your spinal reflexes, nerve points and acupressure points are located.

Adapted from Essential Oils for Health: 100 Amazing and Unexpected Uses for Tea Tree Oil, Peppermint Oil, Eucalyptus Oil, Lavender Oil and More *by Kymberly Keniston-Pond, CIR, CFR, CCMA.*

To do a rectus femoris stretch, stand next to a chair and put the knee of the leg you want to stretch on the seat, holding the back of the chair for balance. Pull the heel of the leg on the chair toward your buttocks, and push your pelvis back. You should feel the stretch all the way from the knee, up the leg, to the front of your thigh.

CAT-COW POSITION

According to Dr. Andrew Weil, this alternating yoga sequence, which stretches the lower spine, hips, back and core muscles, may promote a healthy, flexible spine. Begin with cow pose, starting on hands and knees. Make sure knees are directly below your hips, and your shoulders and elbows are in line and perpendicular to the floor. Inhale, lifting sitting bones and chest toward the ceiling, and sinking your belly toward the floor. Broaden your shoulder blades, drawing shoulders away from your ears. Lift your head to look straight forward. As you exhale, move into cat pose: Draw your belly toward your spine, round your back toward the ceiling, and release the crown of your head toward the floor. Repeat the sequence five to 20 times.

Alternative Therapies

Alternative pain-relief therapies such as spinal manipulation, acupuncture and cupping therapy have a mixed record. Medical and scientific opinions on spinal manipulation and acupuncture differ, and spinal manipulation remains controversial. Research on cupping therapy has been scant and inconclusive. If you choose to use any of these therapies, make sure to go to a licensed professional.

—ABBY OLCESE

Yoga & Back Pain

A 2011 clinical trial at the Group Health Research Institute in Seattle studied 228 adults with moderate low back pain that had persisted for at least three months. Participants were randomly assigned to one of three groups. Two groups received 12 weekly classes of yoga or stretching. The others received a self-care book suggesting lifestyle and exercise changes. After three months, outcomes for the yoga group were better than the self-care group. Improvement continued at six months. Compared with the self-care group, more yoga and stretching participants reduced pain medication use. These participants were also more likely to rate their back pain as better or completely gone during follow-up appointments.

Circle #17; see card pg 81

Circle #18; see card pg 81

Mediterranean One-Pot Meals

These simple dinners are incredibly nutritious, come together quickly and won't dirty many dishes. Win, win and win!

MY SOPHOMORE YEAR in college began with three questions from roommates and friends: "How did you lose the weight so fast?!" "What magic pill did you take?!" "What diet did you follow?!" The secret to losing the wicked freshman 15 (or in my case, the freshman 30) was not a magic pill, nor a starvation diet. It was simply returning home to my mother's Mediterranean kitchen. That summer break, I traded newly acquired college habits for the foods of my childhood—and

almost effortlessly returned to my healthy weight.

The benefits of the Mediterranean diet go far beyond weight loss—from reducing the risk of heart disease and cancer to maintaining brain health and even elevating overall mood. With the variety of foods the Mediterranean offers, and in the absence of a long list of restrictive rules, it's hard to even think of it as a diet. It's just the Mediterranean way.

There are three simple elements to eating this way: First, eat in-season, mostly plant-based foods, such as vegetables, fruits and whole grains. Second, enjoy lean proteins from fish, eggs, legumes and nuts. And for your cooking fat, use olive oil. Perhaps the most exciting part about eating the Mediterranean way is the big flavor. Naturally flavorful ingredients are emphasized: garlic, onions, citrus, fresh herbs and so many spices.

Although I grew up in a family that prized home cooking and big gatherings, our weeknight meals were always simple. My working parents had three rules: easy, quick-cooking, one pan. And my Mediterranean recipes today take the same no-fuss approach. Here are some of my favorite light spring eats that fulfill my parents' rules. Enjoy!

ISRAELI COUSCOUS WITH CHOPPED VEGETABLES, CHICKPEAS AND ARTICHOKES

This fresh version of couscous is salad-esque, with a zesty lemon-dill vinaigrette. If you don't happen to have basil on hand, cilantro, mint or parsley will work just as well. Same goes for the choice of vegetables—feel free to make it your own. To make the salad a heartier meal, pair it with grilled salmon, chicken or tempeh.

FOR LEMON-DILL VINAIGRETTE

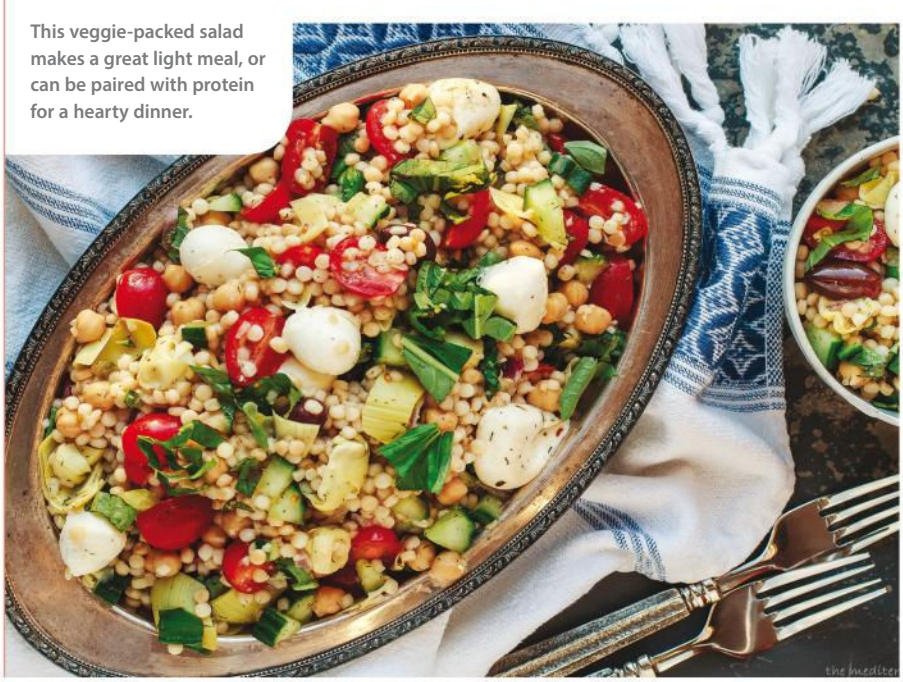
Juice of 1 large lemon
½ cup extra virgin olive oil
1 teaspoon dill
1 teaspoon garlic powder
Salt and freshly ground pepper, to taste

FOR COUSCOUS

2 cups Israeli couscous (whole-wheat pearl couscous)
2 tablespoons olive oil
2 cups grape tomatoes, halved (or substitute sun-dried tomatoes)
⅓ cup finely chopped red onion
½ English cucumber, finely chopped
One 15-ounce can chickpeas
One 14-ounce can artichoke hearts, roughly chopped
½ cup pitted Kalamata olives
15 to 20 fresh basil leaves, roughly chopped, plus more for garnish
10 mini fresh mozzarella balls or 1 cup chopped fresh mozzarella

1. Whisk vinaigrette ingredients in a small bowl to combine. Set aside.
2. In a heavy pot over medium heat, heat 2 tablespoons olive oil. Sauté couscous in oil briefly until golden. Add 3 cups boiling water (or amount indicated on package), and cook according to package directions. When ready, drain in a colander and set aside to cool.
3. In a large mixing bowl, toss to combine couscous with remaining ingredients, mixing gently.
4. Give dressing a quick whisk, and stir gently into salad. Taste and adjust seasoning, if needed. For best results, let salad sit in vinaigrette for a few minutes before serving, garnished with more fresh basil. **Serves 4 to 6.**

This veggie-packed salad makes a great light meal, or can be paired with protein for a hearty dinner.



SUZY KARADSHEH (2)

This elegant and comforting dish is ready in 30 minutes.

MEDITERRANEAN FISH FILLET, SHAKSHUKA STYLE

Traditional *shakshuka* is a North African dish in which eggs are poached in a sauce of fresh tomatoes, peppers and Middle Eastern spices. In this easy alternative version, spiced fish fillets are cooked in the tomatoes and peppers—all in the same skillet—and dinner is done in about 30 minutes. Serve with rice and a simple chopped salad.

2 teaspoons ground coriander
2 teaspoons sumac
1½ teaspoons ground cumin
1 teaspoon dill
1 teaspoon ground turmeric
1 large sweet onion, chopped
2 tablespoons olive oil
1 head garlic cloves, peeled and minced
1 to 2 jalapeños, chopped (remove seeds to reduce heat)
5 medium ripe tomatoes, diced
3 tablespoons tomato paste
Juice of 1 lime
Salt and freshly ground pepper, to taste
2 pounds cod fillets, cut into 5- to 6-ounce pieces (or choose any fish with dense, flaky texture)
½ cup chopped fresh parsley, for garnish
1 tablespoon chopped fresh mint, for garnish

1. In small bowl, combine coriander, sumac, cumin, dill and turmeric to make spice mix. Set aside.
2. In a large, deep skillet (that has a lid), heat olive oil over medium-high heat. Sauté onions in oil for 2 minutes, then add garlic and jalapeño. Cook, stirring regularly, until mixture is fragrant and garlic is golden, about 2 minutes.
3. Add tomatoes, half of spice mix, tomato paste, lime juice, salt and pepper, and ½ cup water. Bring mixture to high simmer, then reduce heat to medium-low. Cover and cook for 10 minutes, stirring occasionally.
4. Meanwhile, season fish fillets on both sides with salt, pepper and remaining spice mix.
5. Nestle fish fillets gently into tomato mixture. Cook over medium-high heat for a minute, then reduce heat to medium. Cover and cook for about 10 minutes more, or until fish is cooked through and flaky. Remove from heat and top with fresh parsley and mint. Serve immediately in bowls atop rice or with crusty bread or toasted pitas, and top with plenty of sauce.

Serves 4 to 6. >>

| RECIPES |

MIDDLE EASTERN ZUCCHINI BAKED OMELET (*EGGAH BI KOUSA*)

Egyptians will recognize this dish as *eggah*. In other parts of the Middle East, it's called *ej'jah*. Persians call it *kookoo*. By any name, this baked egg pie with zucchini, onions and lots of fresh mint is delicious, healthy and ready in 30 minutes. Serve for brunch with a side of tabouli salad.

2 zucchini, thinly sliced into rounds
Salt
2 tablespoons olive oil, more if needed
1 small onion, thinly sliced
½ teaspoon garlic powder
1 bunch fresh mint (about 30 leaves) with stems removed, torn
8 large eggs

Pinch red pepper flakes, to taste
½ teaspoon baking powder
2 slices toast, crust removed and soaked in ⅓ cup milk
Feta cheese, for serving
Sliced tomatoes, for serving
Lemon wedges, for serving

1. Preheat oven to 350 degrees.
2. Sprinkle zucchini slices with salt; set aside for 15 minutes. Pat dry with towels.
3. In a 10-inch cast iron skillet (or oven-safe skillet), heat oil over medium-high heat and add zucchini and onion. Sauté vegetables for 5 to 7 minutes, or until tender. Add most of the torn mint leaves. Turn heat off and let mixture cool.
4. In a medium mixing bowl, whisk eggs, salt, crushed red pepper and baking powder. Squeeze toast to drain excess milk, then break it apart with your hands. Stir bread pieces into egg mixture. Remove cooked zucchini and onions and add to egg mixture, but do not wipe out skillet.
5. Add olive oil to skillet if more is needed to coat it. Pour in egg mixture. Bake omelet for 15 to 20 minutes, or until surface looks cooked.
6. After it cools slightly, cut into wedges and sprinkle each with optional feta cheese and mint leaves. Serve with sliced tomatoes and lemon wedges. **Serves 6.**

SUZY KARADSHEH

SUZY KARADSHEH was raised just blocks from the Mediterranean Sea in Port Said, Egypt. She shares easy and healthy recipes from all over the Middle East on her blog, The Mediterranean Dish (themediterraneandish.com).

Buy the Best Olive Oil

You may have heard many olive oils aren't what they claim. Learn how to identify healthful, high-quality oils, including some of our favorite North American producers, plus how best to cook with them.

OLIVES ARE FRUITS, so real extra virgin olive oil is technically a fresh-squeezed fruit juice. Like any juice, it's both seasonal and perishable, and is best when consumed as soon as possible after being freshly squeezed from high-quality fruits.

When olives are pressed fresh and without heat for the first time (which can happen in a centrifuge and not an actual press), and the oil is not overly filtered or processed, the resulting extra virgin olive oil can contain at least 30 beneficial phenolic compounds—strong antioxidants that neutralize dangerous free radicals in our bodies and help reduce inflammation.

One way to tell if an extra virgin olive oil is rich in phenols is its flavor: fruity but slightly bitter with a peppery bite. The healthiest extra virgin olive oils taste like this, and the tastiest olive oils balance all these flavors in a complex but harmonious way. Light, heat and oxidation damage phenols, so always choose olive oils packaged in dark bottles, store them in a cool place, and use them quickly.

Of course, when we're standing in front of rows of bottles marked "extra virgin olive oil" at the grocery store, we're not sure how the product tastes. And unfortunately, there's no real guarantee that what's in that bottle is what the label claims. There is so much fraud in the olive oil business that it's hard to know where to start when discussing the potential crimes. Olive oils are often adulterated with cheaper and less healthful oils—and then sold as extra virgin olive oil. They might also be subjected to chemical deodorizers to remove off flavors that would never be present in a quality extra virgin olive oil—and then sold as extra virgin olive oil. The oil in a bottle might not be from a first pressing that was done mechanically through a press or centrifuge, and might instead have come from chemical extraction of leftover olive pomace—and then be sold as

RECOMMENDED

HIGH-QUALITY OLIVE-OIL PRODUCERS

DAVERO FARMS & WINERY

davero.com

If you're lucky enough to be in California wine country, stop by the tasting room at this certified biodynamic farm in Sonoma to try their delicious Italian olive oil varietals.

FANDANGO OLIVE OIL

fandangooliveoil.com

The certified organic Spanish 'Arbequina' and Greek 'Koroneiki' varietal olive oils grown by this small family farm near Paso Robles have racked up numerous tasting awards, including 15 gold medals and 14 silvers.

GEORGIA OLIVE FARMS

georgiaolivefarms.com

This small group of farmers is responsible for resurrecting the cultivation of olives in Southeast Georgia. Their extra virgin olive oil is the first one harvested east of the Mississippi since the 1800s, and it just so happens to be the very best olive oil our food editor has ever tasted, including many from California, Greece, Italy and Spain.

GLOBAL GARDENS

globalgardensonline.com

Owner Theo Stephan has been passionately educating consumers about quality olive oil for the past 15 years, since she began pressing her own olives in Santa Barbara county. Learn more about real extra virgin olive oil from her website or her tasting room; or simply order a bottle of the good stuff to taste it for yourself.

extra virgin olive oil! An oil might be intentionally mislabeled as hailing from a location where the olives never grew, or mislabeled in any number of other ways.

The United States has standards in place for what can be considered real extra virgin olive oil, but they are voluntary, and reports from the University of California, Davis, have found that most olive oil labeled "extra virgin" failed to meet these standards. (To learn more about this, visit truthinoliveoil.com.)

The best way to be sure we are buying true extra virgin olive oil is to buy olive oil directly from its source. Follow the advice of Tom Mueller, author of *Extra Virginity: The Sublime and Scandalous World of Olive Oil*, and avoid all olive oils whose precise point of production—a specific mill—is not specified on the label.

Opt for oils that are recently harvested (the current year's harvest is a good choice), and that smell and taste crisp and fresh rather than greasy or rancid. Also look for products labeled with their acidity—the lower, the better. Anything higher than 0.5 percent is likely to be inferior, Mueller says.

Many American producers are dedicated to making fantastic, real olive oils, despite the flood of substandard products they must compete with. We recommend several throughout this article; some are straight-from-the-source, made-in-America operations we love and have personally tried (page 35), while others are reliable grocery store brands (page 37). But these recommendations are by no means exhaustive: Hundreds of high-quality olive-oil producers make oils from more than 700 varieties of olives, so the choices are almost limitless.

—TABITHA ALTERMAN

GOOD TO KNOW

So You're At The Store ... An Olive Oil Buyer's Guide

While you can find many of the best olive oils by purchasing them directly from a supplier, you will inevitably find yourself staring at a row of bottles at your local grocery store at some point. Although a label can never guarantee an excellent olive oil made at the highest standards, a tipoff to lower-quality bottles would certainly be the absence of the following information. Check the label!

WHAT: At the very least, the label should read "extra virgin" rather than "pure," "light," "olive oil" or "olive pomace oil," all of which indicate the oil has been refined chemically.

WHERE: Quality olive oil should include on the label the exact mill where it was produced. Note that this is not the same as being "packed in" or "bottled in" some location other than where the olives were actually grown and harvested.

WHEN: Freshness is the biggest determinant of both nutrition and flavor. If possible, choose bottles with a date of harvest within the previous year. If the precise harvest date is not listed, your next best bet is to look for a "best by" date as far out as possible. "Best by" dates should be about two years after the oil was bottled (though, unfortunately, not necessarily when the olives were harvested).

HOW ACIDIC? OXIDIZED? POLYPHENOLIC? If the bottle includes a free fatty acidity (FFA) rating, look for a number as close to zero as possible. Levels above 0.5 are likely to be inferior. A peroxide value, which reveals how much an oil has been oxidized, should also be as low as possible, and ideally below 10 meq/kg (milliequivalents per kilo). If an oil's polyphenol levels are high, this indicates healthfulness and flavor. Below 300 is low; above 500 is high, and also carries more bitterness and pepperiness.

MORE BUYING TIPS

- Avoid bottles with sediment on the bottom, which can spoil the oil and make it taste muddy.
- If you want strong-flavored oils, look for "robust" or "early harvest" on the label. For milder flavors, look for "delicate" or "late harvest."
- Though high cost never guarantees quality, if you're paying less than $10 for a liter of olive oil, it is probably inferior quality. >>

| RECOMMENDED |

SUPERMARKET BRANDS
Tom Mueller, olive oil quality expert, recommends the following modestly priced olive oils he has personally tasted to consumers who are mainly interested in buying their cooking oils from supermarkets and big box stores.

- California Olive Ranch (available widely in the United States)
- Cobram Estate (Cost Plus World Market and other large chains)
- Corto Olive (Costco and other retailers)
- Kirkland Toscano (Costco)
- Oleoestepa (slowly arriving in more U.S. stores)
- O-Live (select stores)
- Ottavio (select stores)
- Omaggio (Sam's Club)
- California 365 (Whole Foods)

FIND EXCELLENT EXTRA VIRGIN OLIVE OILS ONLINE
These retailers all offer superb selections of olive oils that meet stringent quality standards. The oils come from Greece, Italy, Spain and other areas with Mediterranean-like climates, such as California.

GUSTIAMO
gustiamo.com

LOCAL HARVEST
localharvest.org (Search for individual farms producing olive oil.)

OLIVE OIL LOVERS
oliveoillovers.com

THE OLIVE PRESS
theolivepress.com

ZINGERMAN'S
zingermans.com

MegaFood®

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megafood.com/multis

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Take the pledge to close your nutritional gap and we'll donate a bottle of multis to someone in need.
#curenutritionalpoverty

Available at your natural products retailer.

Circle #24; see card pg 81

*This statement has not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

| HOW TO |

Guide to Olive Oil Varieties

Just like wines, olive oils come in a huge array of shades and flavors, depending on the olive varietal or blend of olives that go into them. Most of the types you'll find in North American grocery stores are pretty bland. This is OK for applications in which heat might destroy the flavor nuances anyway, such as high-heat sautéing. If, on the other hand, the oil's flavor has the chance to come through in the finished dish—such as in salad dressing or tapenade—you might consider seeking out one of the following single-varietal olive oils.

- Ascolano: Fruity
- Koroneiki: Fruity
- Kalamata: Juicy
- Manzanilla: Assertive
- Coratina: Fruity
- Frantoio: Assertive
- Mission: Grassy to mild
- Farga: Peppery
- Castelvetrano: Spicy

COOKING WITH OLIVE OIL

For maximum health and economic benefits, it makes sense to reserve the best pungent extra virgin olive oils for fresh uses: drizzled on cooked foods; used as a dip for bread; or as a salad dressing. For an olive oil dressing, try this classic vinaigrette: Blend 3 parts olive oil with 1 part vinegar or citrus juice. Whisk in a little Dijon mustard—to help the vinaigrette stay in emulsion—and season with salt and pepper. This vinaigrette also works as a marinade.

When it comes to cooking with oil, you may have heard olive oil is unsafe at high temperatures. It is actually a stable cooking oil for high-heat sautés and frying, with a smoke point above 400 degrees (but only real extra virgin olive oil will stand up to higher temperatures). But even if you're sure of quality, you might choose to cook with more refined oils rather than your priciest, most flavorful ones. Esteemed food scientist Harold McGee compared 15 types of olive, nut and seed oils at high temperatures with a panel of trained judges. "We were surprised at how thoroughly heat obliterated the flavors in cooking oil until they all tasted more or less the same," McGee writes on his website, www.curiouscook.com. "Even prize-winning, and costly, extra virgin olive oils lost much of what makes them special...To get food with the green and fruity flavor of good olive oil, it seems more economical and effective to fry with an inexpensive refined oil and drizzle on a little fresh extra virgin olive oil after cooking."

With any oil, McGee recommends tasting it before you cook with it—every time—so you "learn to taste the difference between good fresh oils and stale or funky ones." Freshness affects food flavor more than the type of oil you choose. Oils should not taste or smell rancid, metallic, moldy, cooked or like cardboard.

Herb Butter and Herb Salt

These two easy methods turn flavorful herbs into handy and healthful seasoning staples.

HERBS ARE A HEALTHFUL and delicious way to flavor foods. While sprinkling fresh herbs onto dishes is the easiest way to use these beneficial plants, these simple seasonings take only a little more effort to make, and are a great addition to any kitchen. Use these incredibly easy recipes to preserve and make the most of the flavors of your herb plants, and add a new level of sophistication to your favorite dishes.

—EDITORS

Herb Butter

Herb butters look elegant and taste luxurious, but they are actually so easy to make and use that they deserve to become part of your everyday meals. Excellent herb candidates include chervil, chives, parsley, rosemary, sage and thyme. Use herb butter with steamed vegetables, baked potatoes, fish, and anything else that a savory butter flavor might enhance.

½ cup unsalted butter
1 to 3 sprigs fresh herbs
½ teaspoon grated lemon zest (optional)
½ to 1 teaspoon salt

1. Leave butter at room temperature for 30 minutes to soften.
2. Mince fresh herbs and grate lemon zest, if using.
3. Use a fork to mash together all ingredients.
4. Put herb butter on a piece of parchment or waxed paper. Roll it up in the paper so that it forms a log. Put wrapped herb butter log into a food storage container. After it firms up, slice butter as needed. Herb butter will keep in the refrigerator for up to 2 months, or in the freezer for up to 6 months. It will still be edible after that, but flavor quality will decline. When using frozen herb butters, transfer them to the refrigerator 24 hours before you plan to use them. **Makes ½ cup.**

Herb Salt

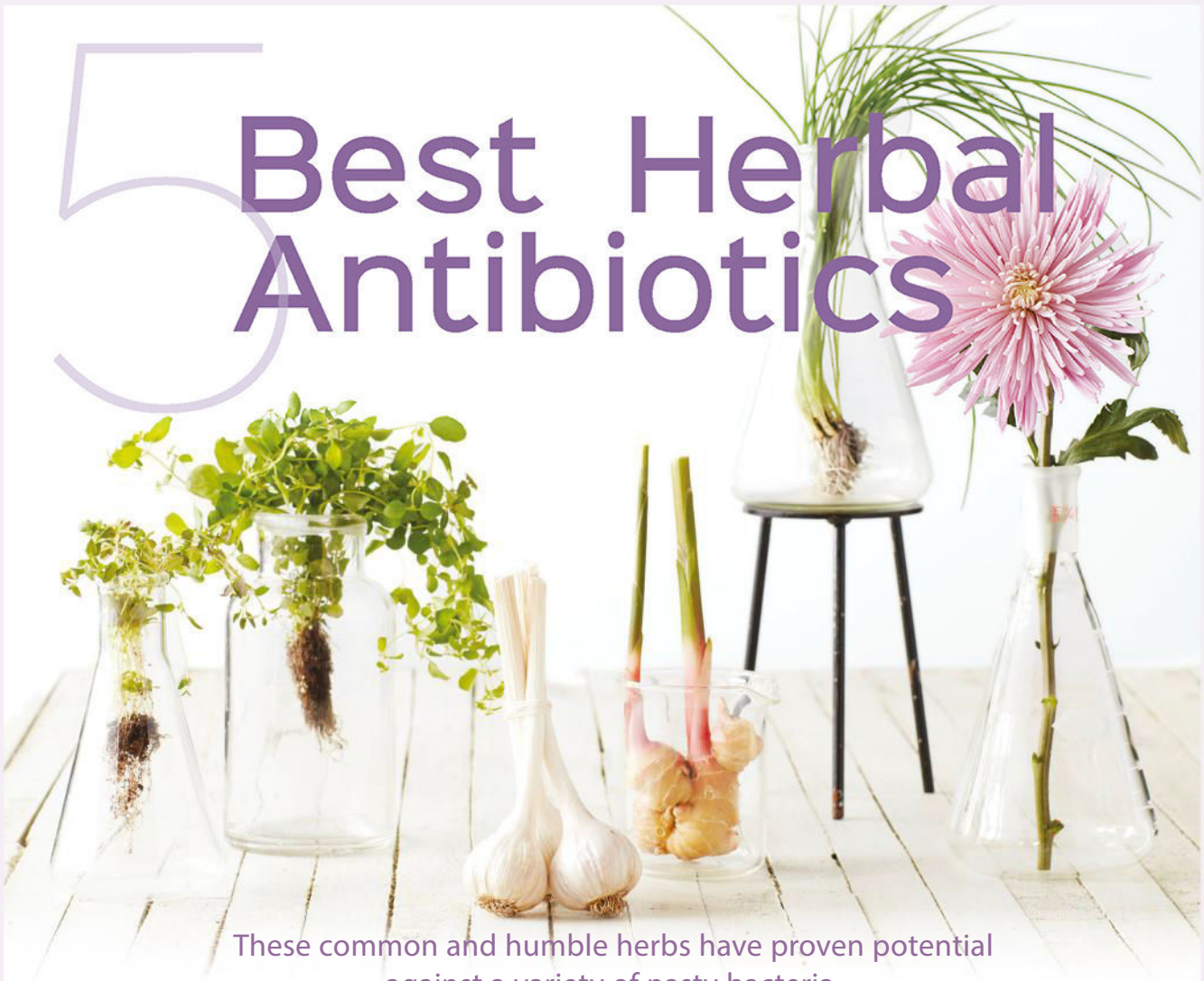
Herbed salts are a great way to preserve all kinds of fresh herbs, especially those that don't dry well on their own, such as chives, cilantro and rosemary. They couldn't be simpler to make. Use herb salts on roasted root vegetables, meats and popcorn; mixed into dips, salad dressings and marinades; and anywhere else you're inspired to add flavor.

4 parts finely minced herbs, fresh or dried
1 part kosher or fine- to medium-grain sea salt

1. Stir herbs and salt to combine, and pack the mixture in clean glass containers with extra plain salt at the bottom of the jar and over the top of the mixture. This will ensure that the salt is able to extract all the moisture from the herbs. (Alternatively, you may dehydrate your herbs completely before mincing and combining them with salt. Let herbs dry in an oven set to the warm setting in a single layer on a sheet pan.)

2. Cover herb salt tightly and store jar in a cool, dark place indefinitely. The flavor intensity will diminish after a few months, but the salt will still be usable.

5 Best Herbal Antibiotics



These common and humble herbs have proven potential against a variety of nasty bacteria.

BY MICHELLE SCHOFFRO COOK

Back in the 1970s, some experts believed we'd all but defeated infectious disease thanks to our rapid leaps in the development of antibiotic medicines. But this view has proven woefully mistaken, as illness-causing bacteria have evolved to resist modern medicine. Today, antibiotic overuse and misuse is common, both in farm animals and in modern medicine. Antibiotics are often prescribed for colds and flu, which are caused by viruses, so are not treatable with antibiotics. As a result, we are experiencing a serious rise in antibiotic-resistant superbugs (for example, in 2014 the World Health Organization estimated that there were about 480,000 new cases of multidrug-resistant tuberculosis).

Interestingly, many herbs have proven antibacterial properties, and researchers are turning to these herbs as they work to discover new ways to counter resistant illnesses. This list includes some of my favorite antibiotic herbs: German chamomile, garlic, ginger, oregano and thyme. In time, these ancient herbs may become some of the most potent medicines of the future, but they can also prove useful now to help prevent illness. Keep in mind, much of the research discussed in this article is very preliminary. We recommend consuming these herbs for general wellness and for use in the treatment of mild infections. For serious illness or infection, it is critical to consult a medical professional.

ANNEKA DEJONG (OPPOSITE)

Chamomile

This seemingly delicate flowering plant is actually potent medicine, particularly when it comes to skin and dental infections. The German Commission E monographs approve German chamomile as a skin treatment for bacterial infections. Researchers assessed the antimicrobial activity of a German chamomile extract against the fungus *Candida albicans* and the bacteria *Enterococcus faecalis*. *Candida albicans* is a common fungus associated with yeast infections, and *E. faecalis* is an antibiotic-resistant and often life-threatening infection that sometimes inhabits root canal-treated teeth. The *Indian Journal of Dentistry* published an assessment of a lab study of a high-potency chamomile extract and found that it helped kill both microbes. This study could help explain German chamomile's longstanding reputation for healing dental abscesses and gum inflammation.

Chamomile goes by many names but the two main types are German chamomile, known as *Matricaria chamomilla* or *M. recutita*, and Roman chamomile, known as *Chamaemelum nobile*.

It is best to avoid using chamomile if you are allergic to ragweed. Also, the drug warfarin has been found to interact with chamomile. Additionally, other blood thinners may interact with chamomile, so it is best not to use chamomile if you are taking these drugs.

SOOTHING CHAMOMILE CREAM

This silky cream soothes inflammation as it glides across the skin. It is simple to make and requires few ingredients. Because no chemical preservatives are used, it's a good idea to store this cream in the refrigerator. You will need a medium-sized wide-mouth glass jar or a few small glass jars for storing the lotion.

1 cup purified water
2 teaspoons dried chamomile flowers (or 4 teaspoons fresh chamomile flowers)
¾ cup sweet almond or apricot kernel oil (available in most health-food stores)
2 tablespoons grated beeswax

1. Boil water and pour over chamomile flowers. Cover and let brew for 10 to 20 minutes. Strain out flowers, reserving herbal infusion.
2. Pour oil into a heat-safe glass measuring cup and add shaved beeswax. Set it in a saucepan of water that reaches about halfway up the side of the measuring cup. Heat on stovetop over low heat until beeswax melts.
3. Immediately after beeswax melts, remove pot from stove. Allow to cool for a minute or two but not longer as beeswax will begin to harden.
4. Pour herbal infusion into blender and blend on high speed with lid on (with a hole left in lid for pouring beeswax-oil mixture). Slowly pour oil-beeswax mixture into infusion. It will begin to emulsify as you continue pouring oil. It normally begins to thicken after about three-quarters of the oil has been incorporated. Continue adding oil until you've incorporated all of it.
5. Immediately pour lotion into glass storage jars. Use a spatula to remove any remaining lotion from blender.
6. This lotion lasts about 3 months and is best kept in the fridge.

Adapted from *Be Your Own Herbalist: Essential Herbs for Health, Beauty, and Cooking* by Michelle Schoffro Cook.

Garlic

Garlic (*Allium sativum*) is best known for its heart-protecting and antiviral properties, but thanks to a growing body of studies on its other medicinal properties, we also know it is antibacterial. According to James Duke, botanist and author of *The Green Pharmacy*, garlic contains several antimicrobial compounds, including allicin, a powerful, natural broad-spectrum antibiotic.

Research in the *Journal of Parasitic Diseases* found that in the lab, garlic was effective at inhibiting bacteria involved in urinary tract infections. Other research showed that garlic penetrates the dentin, which forms the bulk of the tooth, where it works as an effective dental antimicrobial.

Most savory dishes benefit from the addition of garlic. Cooking or roasting garlic helps mellow both its flavor and aroma to enhance soups, stews, stir-fries, curries, sauces and pastas. It is a staple in many European and Asian cuisines and continually grows in popularity in North America.

The many types of garlic range in size from quite small to the giant cloves of elephant garlic. But when it comes to garlic, it appears good things come in small packages; the smaller Italian or Mexican varieties seem to be the most potent. Choose organic U.S.-grown garlic, grown mostly in California. In recent years, Chinese imported garlic has come to dominate the market, but taste tests show California garlic to be superior for flavor. Some also question the quality and safety of Chinese garlic. Look for garlic that is firm and free of black mildew on the skin. Or grow your own, as garlic is incredibly simple to grow. Store whole garlic heads at room temperature in a well-ventilated spot such as a garlic keeper. Many experts suggest consuming at least one clove a day to reap maximum health benefits.

Studies have shown that beneficial compounds in garlic can be destroyed or decay faster when cooked or processed so it's a good idea to eat some raw garlic on a regular basis. That's fairly easy to do by adding a clove of garlic to your next salad. But, eating cooked garlic is better than none at all, and is still a great way to keep harmful bacteria at bay.

ROASTED GARLIC

For those worried about offending significant others or friends with garlic breath, try roasting whole garlic by cutting off the stem, exposing the top of each clove and drizzling a bit of olive oil over it. Wrap it in foil or place in a garlic roaster and bake at 350 degrees for about an hour. This greatly minimizes its powerful aroma but creates a fabulous-tasting spread that has the consistency of butter.

Ginger

While it's a staple in holiday baking, don't overlook the potent antibacterial activity of ginger (*Zingiber officinale*) the rest of the year. More and more exciting research showcases ginger's potency against bacteria, even when antibiotic drugs fail. That's important news as we collectively cope with resistant superbugs. Research in the journal *Nutrition* found that ginger was highly effective against *Pseudomonas aeruginosa*—a type of bacteria that can cause a wide range of infections, including those of the blood, lungs and ears. The lab study found that ginger even worked against resistant strains of *pseudomonas*.

There are so many amazing culinary and medicinal uses for ginger that you'll always want to have a supply on hand (fresh is superior to powdered). It's easy to integrate ginger into the diet. You can add fresh ginger to curries, soups, stews, vegetable or meat dishes, stir-fries and desserts. Or, add an inch or two of fresh ginger to your juicer when making your next vegetable or fruit juice.

THAI GINGER-COCONUT SOUP

This is one of my favorite soups. It is perfect for dinner on a cool day, but it's so good you'll probably want to make it year-round. Plus, it's one of the easiest soups you'll ever make. It takes about 45 minutes to prepare and cook but the actual prep time is closer to five or 10 minutes.

1 tablespoon coconut oil
1 cup brown rice
2 large carrots, chopped
2 stalks celery, chopped
1 large onion, chopped
3 cups water
½ fresh chili or ¼ teaspoon dried chili
2-inch piece of fresh ginger
1 organic chicken breast
1 can full-fat coconut milk
Celtic sea salt or Himalayan crystal salt, to taste

1. In a large pot or Dutch oven, melt coconut oil over medium heat. Add brown rice, carrots, celery and onion. Add water and cover.
2. Dice chili and cut ginger into matchsticks, then add to pot. Cover again.
3. Let cook over medium heat for 30 minutes. If soup starts to boil, reduce heat.
4. Cut chicken into thin slices and add to soup. Add coconut milk and resume cooking for another 15 minutes, or until chicken is cooked through. Add salt to taste. Serve immediately. **Serves 4 to 6 as a main dish.**

Thyme

Thyme is not only a welcome addition to meat, poultry and vegetable dishes—it is a welcome antibacterial remedy for anybody looking for a powerful herb in the fight against a variety of infections. Its effectiveness is largely due to the compound known as thymol, which is found in the miniature leaves of this plant. But don't underestimate these tiny leaves. Thyme has been found to be one of the most antibacterial herbs available.

In one lab study assessing the antibacterial action of essential oils from seven herbs against *E. coli* bacteria, researchers found that thyme oil was among the most effective. *E. coli* bacteria are responsible for many cases of food poisoning every year.

Another lab study published in the *Journal of Oleo Science* found that the essential oil of the species of thyme known as *Thymus vulgaris* was highly effective against harmful bacteria that are found in contaminated food. The researchers concluded that "thyme oil exhibited broad-spectra activity against food-borne bacteria, including: *S. aureus,* [and] *E. coli*…"

While the researchers used the oil extracts of the plants, it is likely that similar antibacterial properties can be found in the fresh or dried herb or an alcohol-based tincture of thyme. Keep in mind that dried herbs tend to lose their potency within six months to a year. To make a thyme herbal tea, simply add 1 teaspoon of dried thyme (or 2 teaspoons fresh) to one cup of boiled water and let steep for 10 to 15 minutes. Strain and drink one cup three times daily.

NATURAL ALL-PURPOSE CLEANER

With its penchant for knocking out food-borne bacteria such as *E. coli*, thyme essential oil makes a handy helper in the kitchen, where it can be used in this all-purpose blend to wipe down countertops, faucet handles and more.

1 gallon hot water
½ cup liquid castile soap
10 drops thyme essential oil

Combine all ingredients and pour into a spray bottle. Shake before using.

Oregano

Most people think of oregano as a staple in their favorite Greek and Italian dishes, but study after study showcases oregano's potent antibacterial properties, as well. Scientists published their research exploring the effectiveness of oregano (in conjunction with savory) in the journal *Helicobacter*. The journal is named after the bacteria known as *Helicobacter pylori*, which is a harmful bacteria and the cause of many gastrointestinal infections, ulcers, gastritis and a possible precursor to cancer of the gastrointestinal tract or lymphatic system. In this animal study, the researchers found that the "essential oil mixture has great potential as a new, effective and safe therapeutic agent against *H. pylori*."

In another study published in the journal *Natural Products Communications*, researchers explored the capacity of oregano essential oil to inhibit the growth of various bacteria, including MRSA, which stands for methicillin-resistant *Staphylococcus aureus* due to its resistance to the antibiotic known as methicillin. These resilient bacteria have been linked with systemic infections of the blood, heart, spinal cord and bones. The researchers found that in the lab oregano oil was effective against *Staphylococcus aureus* and other bacteria linked with respiratory conditions.

Other lab research found that oregano was also effective against bacteria that cause strep throat. Published in the journal *Frontiers in Microbiology*, oregano essential oil was found to be effective against strep bacteria.

Not all oregano essential oil is created equal. Be sure to check the Latin name of the product you choose, as some companies use marjoram or other varieties of oregano in their products. The oil should be extracted from *Origanum vulgare*. Of course, you can also use fresh or dried oregano in your cooking by adding the herb to salads, soups, stews, poultry and meat dishes, just to name a few.

HEALING OREGANO TEA

Oregano tea is often recommended to help ward off congestion and sinus problems. It's simple to make: First, bring 2 to 2½ cups water to a boil. Add 4 to 6 tablespoons fresh oregano leaves, reduce heat to medium and simmer for 10 minutes. Strain, add honey to taste, and enjoy. Drink several cups daily, as needed.

MICHELLE SCHOFFRO COOK is the international best-selling author of *Be Your Own Herbalist* (New World Library), *60 Seconds to Slim* (Rodale) and *The Probiotic Promise* (DaCapo). Visit drmichellecook.com and worldshealthiestdiet.com to learn more about her work.

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Zone-by-Zone GARDENING GUIDE

Use our regional guide to choose the best varieties and most prolific producers for every garden zone in the U.S.

BY BARBARA PLEASANT

One of the surest ways to grow a successful vegetable garden is to emphasize crops and varieties that are proven performers in your climate. Using well-adapted varieties gives your garden a strong backbone, which frees you up to try some fun crops on the side—a guaranteed formula for a satisfying season. It also gives you a leg up when it comes to your garden's health and productivity, meaning you'll be able to harvest more food with less work.

Begin by finding your gardening zone, using the map on page 51. The United States Department of Agriculture's Plant Hardiness Zone Map divides North America into zones based on minimum winter temperatures, which we will use as a starting point. Long-lived trees, shrubs and perennials are given a range of zones in which they grow best, and because a zone number also reflects the length of the growing season and intensity of summer heat, knowing your zone helps vegetable gardeners, too.

In addition to using the map here, the Zone Map website (planthardiness.ars.usda.gov/PHZMWeb) includes a pull-down menu where you can see your state's Zone Map. Once you know your zone, commit it to memory, and read on to learn about the most unstoppable crops for where you live. The growing seasons listed here are averages typical of the various zones. You can find the specific length of your growing season, plus your specific first and last frost date at almanac.com/gardening/frostdates.

In these chilliest areas of the country, the focus is on cool-weather crops such as peas, potatoes, onions & carrots.


'Red Express' cabbage, johnnyseeds.com

Zones 3 and 4

- **GROWING SEASON:** Less than 140 frost-free days
- **AVERAGE MINIMUM WINTER TEMPERATURES:** -20 to -40 degrees
- **SUREFIRE FRUITS:** Juneberries, raspberries

The upper Midwest, northern mountains and New England have short, cool summers and long, cold winters, which make them the ideal climates for peas, potatoes and other cool-season crops. An asparagus patch is valuable because the plants are ready to start growing as soon as the ground thaws, but some varieties emerge so early they can be damaged by cold. The Canada-bred 'Guelph Millennium' variety emerges a week later than other all-male asparagus varieties, making it a top choice.

Peas of all types are prime picks, but make sure to grow an elegant 'Green Arrow'-type shell pea because they are so beautiful and delicious. Use snow peas with colorful yellow or purple pods as edible ornamentals, and fill your freezer with long-vined 'Sugar Snaps'.

Potatoes thrive in cool summer climates, and the most interesting harvest includes two or three varieties. High-quality russet potatoes such as 'Gold Rush' are great baking and frying potatoes, so they are ideal when accompanied by boilable 'Dark Red Norland'. For early potatoes, try 'Yukon Gem', a more productive and disease-resistant spin on 'Yukon Gold'.


'Ailsa Craig' onion, rareseeds.com


'Purple Haze' carrots, johnnyseeds.com

This is the best climate on the continent to grow huge 'Ailsa Craig' onions from seed or locally purchased plants. The big, sweet onions do not store well, but they are a delight in the garden and the kitchen. For storage onions, simply grow 'Stuttgarter' from inexpensive sets, or try 'Copra' or 'Red Wing' from seeds.

Carrots can be spectacular in these zones when grown in deeply worked, organically enriched soil. Indulge in long, crunchy Imperator types including beautiful bicolored 'Purple Haze' or sweet and crisp 'Sugarsnax', a superior variety for flavor and texture.

Broccoli can stay productive for a long time if you grow 'Green Goliath' or 'Green Magic,' which produce a large primary head followed by numerous secondary side shoots. 'Stonehead' makes a great early cabbage, and red cabbage varieties such as 'Red Express' are not preferred by cabbageworms.

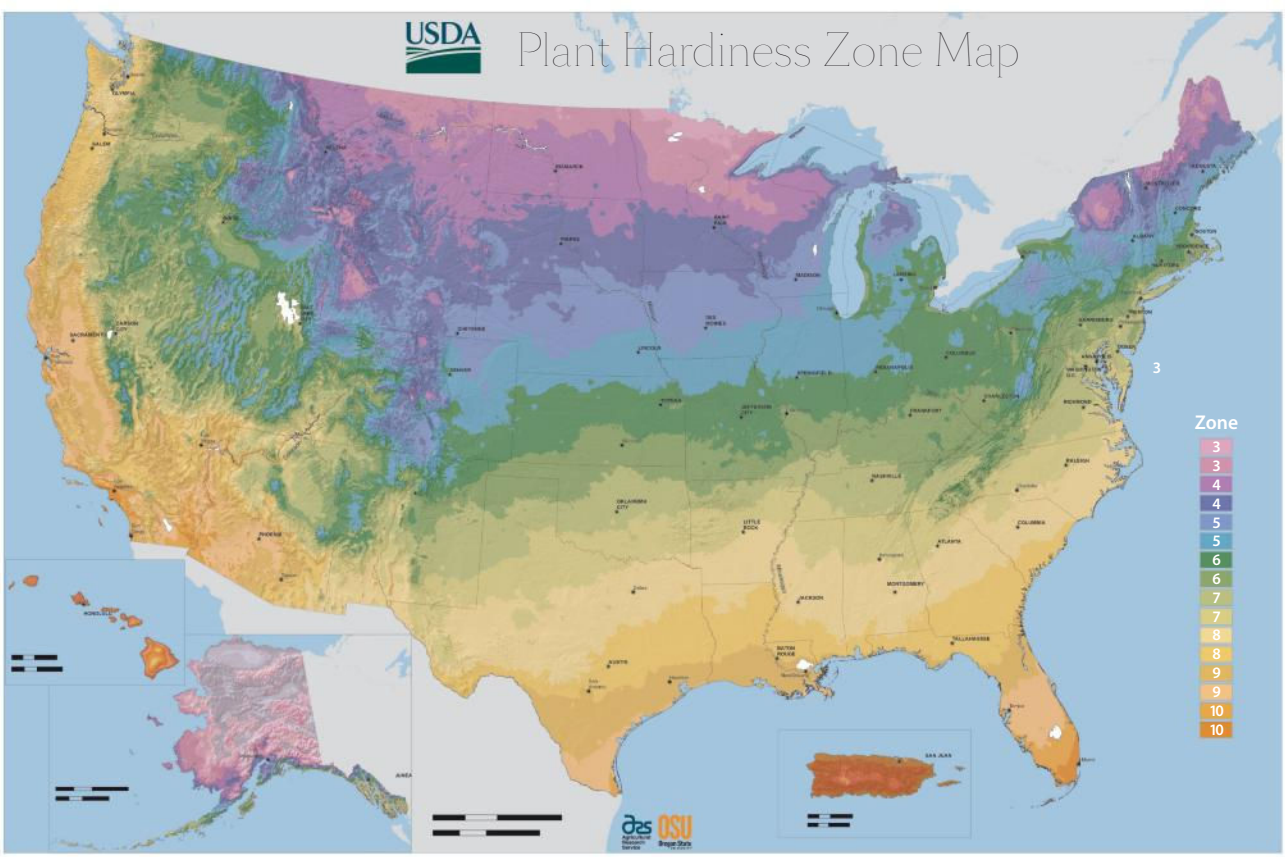
| EXPERT ADVICE |

Why Organic Seeds are Better

Seeds from plants grown under organic conditions are more likely to prosper in your organic garden, because the parent plants met the challenges of the environment and prevailed. The plants that produce organic seeds (and the people who grow them) are never exposed to toxic pesticides, and the seeds are free of chemicals. Organic seeds are never the product of genetic engineering, nor can genetically modified substances or risky pollutants be used in their culture. And the best part? Most organic garden seeds are grown by small farmers who specialize in growing a few seed crops extremely well.

0.7%

the portion of U.S. farms classified as organic. Supporting organic agriculture is a top reason to purchase organic seed.



| RESOURCES |

Sources for Seeds & Plants

The varieties named in this article can be found through these and other seed companies.

Baker Creek Heirloom Seeds
rareseeds.com

Botanical Interests
botanicalinterests.com

Fedco Seeds
fedcoseeds.com

High Mowing Seeds
highmowingseeds.com

Johnny's Selected Seeds
johnnyseeds.com

Salt Spring Seeds
saltspringseeds.com

Seed Savers Exchange
seedsavers.org

Southern Exposure Seed Exchange
southernexposure.com

Territorial Seed
territorialseed.com

'Cream of the Crop' squash, rareseeds.com

'Adirondack Blue' potatoes, johnnyseeds.com

In unpredictable weather, choose resilient varieties of beans, potatoes, squash & tomatoes.

Zones 5 and 6

- **GROWING SEASON:** 140 to 180 frost-free days
- **AVERAGE MINIMUM WINTER TEMPERATURES:** 0 to -20 degrees
- **SUREFIRE FRUITS:** Blueberries, raspberries, strawberries

Spring can start early or late, depending on the year. Summer delivers heat, followed by a leisurely fall. Every season brings unexpected bouts of stressful weather, so choose productive, resilient varieties that do well in a range of soil types.

Unstoppable 'Provider' bush beans are a great example. The long, crisp snap beans fill a harvest basket quickly, and happy plants bear two or three sets of pods. All summer squash do well in these zones, so have fun growing 'Gold Zucchini' or 'Sunburst' yellow scallop squash. If you have space for sweet corn, the gold standards for flavor and overall quality are 'Ambrosia' (bicolor) and 'Bodacious' (yellow).

These are familiar names to experienced gardeners, but have you tried 'Adirondack Red' and 'Adirondack Blue' potatoes? The vigorous plants produce bumper crops of colorful spuds with high levels of antioxidants—perfect partners for an early crop of yellow 'Yukon Gem'.

'Black Krim' tomato, johnnyseeds.com

Heirloom tomatoes rule in Zones 5 and 6, where there is less disease pressure than farther south, but with a long enough season to grow early- and full-season varieties. Diversify based on your end-use plans: You might open the season with early, cold-tolerant 'Moskvich' or 'Stupice'; grow some 'Amish Paste' for canning; and pick 'Sungold' cherries and luscious 'Black Krim' slicers all summer from caged plants.

Winter squash should be on your list, too. 'Bonbon' is a great space-saving buttercup, or try the long-vined 'Burgess' strain. Acorn squash are fast and easy to grow, with heirloom varieties such as nutty 'Thelma Sanders' and ivory-skinned 'Cream of the Crop'. Butternut squash and related 'Long Island Cheese' pumpkins are naturally resistant to squash vine borers.

You can grow good-quality 'Stuttgarter' onions from inexpensive sets, but start your own seeds of 'Red Bull' or long-storing cipollinis—an excellent use of grow lights until space is needed for tomatoes grown from seed.

DIANE GUTHRIE

'Pink Eye Purple Hull' peas, rareseeds.com

'Lipstick' pepper, rareseeds.com

Mild winters and long summers call for heat-loving okra, sweet potatoes, peppers & peanuts.

Zones 7 and 8

- **GROWING SEASON:** 180 to 240 frost-free days
- **AVERAGE MINIMUM WINTER TEMPERATURES:** 20 to 0 degrees
- **SUREFIRE FRUITS:** Blackberries, blueberries, muscadine grapes

Mild yet chilly winters in these zones give way to long, hot summers best filled with vegetables that know how to handle heat, such as okra, sweet potatoes and peppers. Summer is bookended by cooler spring and fall seasons. Spring weather is volatile and tends to not last long, while fall lasts longer and is usually less stressful to growing plants.

The soil seldom freezes in winter in zones 7 and 8, so nematodes and common soil-borne diseases can easily persist season after season. As a primary defense, choose tomato varieties with some disease resistance, for example 'Roma VF' or 'Heinz 1350' for processing, and 'Ozark Pink VF' for slicing. In the Southeast where Tomato Spotted Wilt Virus (TSWV) is common, growing TSWV-resistant varieties such as 'Bella Rosa' or 'Mountain Glory' will help ensure a strong growing season.

'Beauregard' sweet potato, johnnyseeds.com

DAVID PAPAZIAN

Peppers are always strong performers in zones 7 and 8, whether you grow super-productive 'Hungarian Wax' hot peppers, crispy and sweet 'Lipstick' pimento or disease-resistant 'Carmen'. If you prefer blocky, sweet bell peppers, 'King Crimson' (red) and 'Sweet Sunrise' (yellow) were top producers in recent field trials in North Carolina.

It is true that a single plant of a colorful okra variety such as 'Burgundy' can be stunning, but none of the newer varieties can rival 1938-vintage 'Clemson Spineless' for productivity in warm-climate gardens.

'Covington' and 'Beauregard' are the sweet potato varieties most likely to produce bountiful crops of uniform, orange-fleshed sweet potatoes in a home garden. But some special sweet potatoes have white flesh, and roasted 'O'Henry' white sweet potatoes are uniquely smooth and savory. Beautiful varieties from Japan and Korea with red and purple skins such as 'Violetta' and 'All Purple' are easy and interesting to grow, too.

Peanuts can be terrific fun to grow in zones 7 and 8, and the plants thrive in hot summer weather. Lima beans love heat, too, and often escape damage from pests because they are defended by hooked leaf hairs. Yet the most productive summer legumes are 'Pink Eye Purple Hull' peas, which will practically grow themselves, provided you remember to plant them.

In these tropical growing zones, many familiar vegetables are grown during the winter months, or during the shoulder seasons of spring and fall. In early spring, most gardeners are switching from cool-season greens and root crops to warm-natured tomatoes, peppers, eggplant, sweet potatoes and watermelons.

Small-fruited cherry tomatoes set fruit even in high heat, so varieties such as orange 'Sungold' or red 'Sweet Million' are dependable choices. The 'Heatwave II' red slicing tomato sets fruit in hot weather, and 'Southern Star' (also known as 'BHN 444') stands up to TSWV and several other diseases.

'Sun Gold' tomato, johnnyseeds.com

'Sugar Baby' watermelon, rareseeds.com

'Nadia' eggplant, available from johnnyseeds.com

In spring in the hottest parts of the country, swap cool-season winter growers for summer's peppers, eggplants, citrus & melons.

Zones 9 and 10

- **GROWING SEASON:** 240 to 365 frost-free days
- **AVERAGE MINIMUM WINTER TEMPERATURES:** 40 to 20 degrees
- **SUREFIRE FRUITS:** Meyer lemons, satsuma oranges

Whether you call them chayote, mirlitons or vegetable pears, the fruits of this Central American vine can be eaten like summer squash, and the plants come back year after year. Eggplants sometimes survive winter in mild years, too, but you will get better yields by setting out vigorous young 'Nadia' eggplant seedlings in a fertile, well-drained bed.

Sweet potato foliage forms a vibrant green ground cover, and these warm climates provide plenty of time to grow long-season varieties such as 'Centennial', which also has very long vines. Where space is tight, 'Vardaman' is easier to keep in bounds, and the lovely red-blushed new leaves qualify it as an edible ornamental.

A Florida heirloom dating to the 1500s, the 'Seminole' pumpkin is like a small, teardrop-shaped butternut with fruits that can keep for a year. The yellow-orange flesh cooks into nutritious soups and baked goods. Small-fruited watermelons often do well from spring planting, and space-saving 'Sugar Baby' or yellow-fleshed 'Early Moonbeam' produce a mature crop quickly, so there is less time for them to be troubled by pests and diseases.

BARBARA BOURNE; KATHRYN SIMMONS, COURTESY PAM DAWLING, SUSTAINABLEMARKETFARMING.COM

Grow-Anywhere Varieties

Are there some vegetable varieties that grow almost anywhere? Based on our review of dozens of cooperative extension publications, these varieties appear on lists of recommended vegetable varieties in a wide range of climates. They are easily available in seed racks in many retail stores.

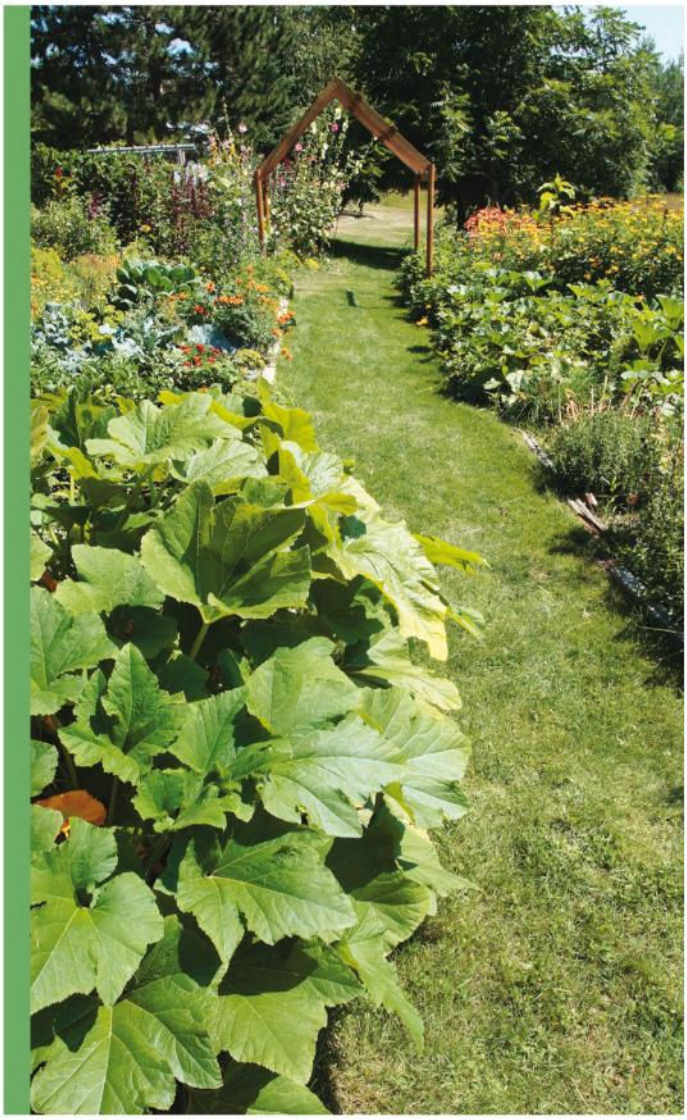
'BUTTERCRUNCH' LETTUCE stands up to heat and cold, and produces small heads of crisp leaves.

'PACKMAN' BROCCOLI matures so quickly that it's ready before weather arrives. In cooler climates, the plants produce numerous side shoots after the main head is harvested.

'CHAMPION' is a traditional red salad radish that matures in only a month. Thin the seedlings and keep them watered to harvest terrific crops.

'EARLY WONDER' BEETS have been around for more than 100 years, and gardeners keep planting them because they quickly develop tender roots with great flavor.

'BRIGHT LIGHTS' SWISS CHARD is so beautiful that every garden needs a few plants. The seedlings show the colors of the mature plants, which may be white, orange, pink or red, so you can thin them to your preferred color palette.



'Early Wonder' beets, rareseeds.com

'Buttercrunch' lettuce, rareseeds.com

'Bright Lights' Swiss chard, johnnyseeds.com

STEVE FOSS

BARBARA PLEASANT lives and gardens in Floyd, Virginia. Her newest book is *Homegrown Pantry: A Gardener's Guide to Selecting the Best Varieties and Planting the Perfect Amounts for What You Want to Eat Year Round*.

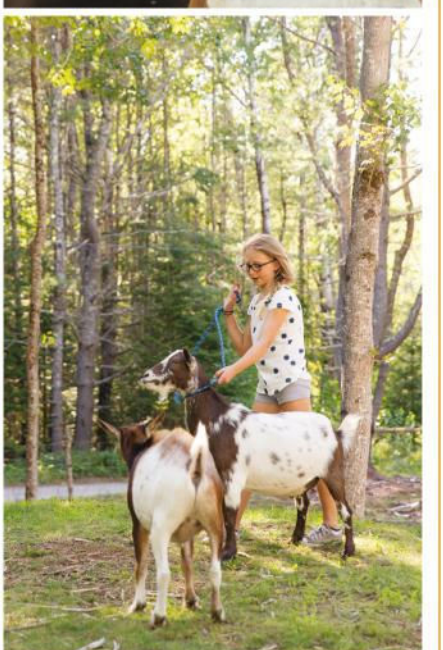
A Flexible Home

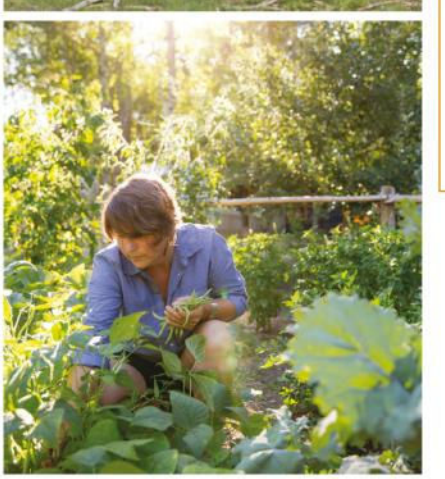
When it comes to creating their best life in their dream home, Kimberly Sampson and Adam Maltese have found flexibility to be their family's greatest asset.

BY JESSICA KELLNER PHOTOGRAPHY BY ERIN LITTLE

Educator Kimberly Sampson and architectural designer Adam Maltese were driven to design their small, efficient and hyperfunctional dream home on a wooded lot in Maine by a common parental desire—to do the best they could for their children. Having grown up in upstate New York, Kimberly says she took a childhood spent in nature for granted. But as her children grew up in a coastal Maine town and she saw the emphasis on busy schedules and technology in so many modern lives, she realized she wanted to give her kids the opportunity for something more.

Kimberly and Adam's desire to create a home in nature led them to a neglected, off-the-beaten-path tract of land a few miles from the Maine coast that had been something of a dump site for area residences, as well as a nearby sawmill. It had housed gravel pits and was completely overgrown after having been clear-cut in the 1950s. But Kimberly and Adam liked its size, manageable at four acres; its diverse ecosystems, which include pine forest, wetlands, ponds and bogs; and its seclusion, a few miles outside the small town of Damariscotta.





CLOCKWISE FROM UPPER LEFT: Kimberly Sampson and Adam Maltese were dedicated to living in harmony with nature, and cleared as few trees as possible for their small home and schoolhouse. The buildings are clustered at the far end of the property, creating a sense of seclusion. ■ A clean, minimalist design ensures both building and maintenance remained efficient and affordable. ■ The family goats, Forest and Leaf, are tended by many, including Kimberly and Adam's children and Kimberly's students. ■ Before moving, Kimberly helped run a two-acre community farm. Now she calls her expansive kitchen garden "small." ■ The Sampson-Maltese home has had to be flexible as the kids have grown from children to teens. ■ Enabling their children to grow up amid nature was the driving factor behind building this home.

Jumping In

Adam and Kimberly say they both have a knack for jumping into projects with both feet, and they certainly did when it came to building the house. They bought the land and built the house in less than a year, with Adam handling nearly every task himself (along with a few days' help from generous family members), from setting the foundation piers to building the extensive front porch (one of Kimberly's aesthetic requests). Adam's father was a general contractor, so Adam has a lifetime of experience with building projects, and his work as an architectural designer (he worked freelance at the time the house was built and now works for design-build firm Knickerbocker Group in nearby Boothbay) meant he had plenty of design ideas for the couple's own home. "This was a chance to try some building techniques I'd wanted to try but hadn't had the opportunity," Adam says. "The concept was to keep the building as clean and crisp as possible and with as few components as possible, and to make each component do multiple jobs."

They chose to keep the house small, in part for construction practicality. By sticking with the size of the largest commonly available building materials, Adam was able to construct the home in a modular style, keep costs down, and source supplies as close to home as possible. While Adam and Kimberly wanted the home to be efficient, they valued an adaptive, workable design over aiming for net-zero. "I see it time and again," Adam says. "People will build these houses that are wonderfully efficient, and five years later they remodel and they kind of undo the resources they've tried to be conservative of. They haven't used a lot of heating oil, but then they cut a hole in a wall and replace windows with new ones and upgrade other systems—it sort of blows the whole idea."

So instead of aiming for state-of-the-art, they chose to aim for functional, durable and flexible—a home that would last for many years. There were also livability reasons they wanted the house to be small. By staying small, they would minimize their home maintenance requirements, and they'd be able to opt for higher quality—even on their trim budget. "I didn't want to take care of our house often," Kimberly says. "We're pretty tidy, and I didn't want to spend a lot of time maintaining a tidy home. So we knew we wanted a small home. But there were also a few beautiful things we wanted. If it was small, we could have the beautiful rug or sofa."

A Natural Education

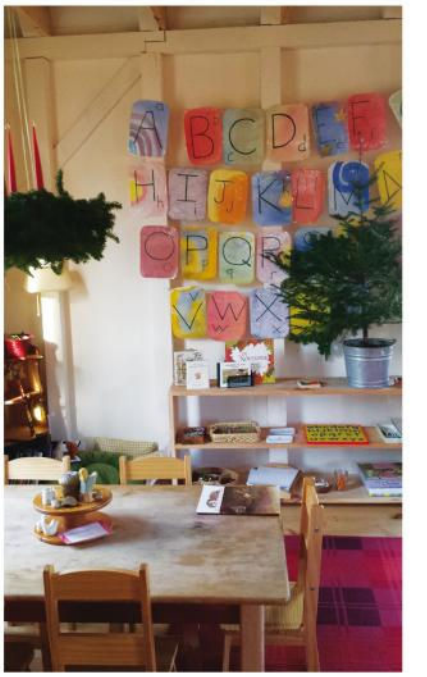
After the family moved and started settling in, Kimberly, a lifelong educator, began to envision a new purpose for their land—a new project to dive into. "Here our children have this lovely experience of being able to have their early years outside," she says. She wanted to share that experience with more than just her own family. "I've been caring for children and families for more than 20 years, and now more than ever I see the benefits of children spending time outside. I have seen that outdoor time helps children grow strong and helps build their imaginations. Conflict resolution is rarely needed between children, and I feel in the long run children perform better academically. In addition, children who spend time in nature regularly are shown to have a deeper lifelong appreciation of the environment."

Kimberly decided to open a nature-based preschool out of her home. Adam built a small, efficient schoolhouse next to the main house, styled to match. Today, about eight students aged 3 to 6 gather at the Little House

A Home for Wildlife

Kimberly Sampson and Adam Maltese worked to minimize the material inputs that went into building their dream home. The two were also conservative when it came to developing their plot of land. Keeping the building site small and clustering buildings together meant they could preserve the forests, wetlands and bogs on the remainder of their four acres. They worked to enhance these natural areas, clearing away brush, and opening up land that enabled animals to migrate through their property. The old gravel pits have been cleaned up and become ponds. Today, their land is home to a huge array of migrating birds, including a variety of ducks, geese, loons, blue herons and songbirds. Frogs sing from the ponds. And the property is regularly visited by foxes, fishers, coyotes and even moose. "I feel like there's been a resurgence of life here because of clearing and opening and putting the good work in," Kimberly says. "It has such a good energy, all the animals want to come and visit."

CLOCKWISE FROM OPPOSITE LEFT: Open, flowing spaces, lots of light and exposed ceiling beams help the small space feel expansive. ■ Though it's not large, the kitchen was designed to maximize storage and efficiency. ■ A built-in dining nook saves space and enables conversations with the cook in the adjoining kitchen. ■ Kimberly says the functional kitchen allows her family to take on elaborate meal preparation or food preservation projects. ■ An outdoor dining table on the covered porch helps the family live more daily life outdoors.



School (littlehouseschool.org) to spend their days exploring the forest and caring for the school's chickens, ducks and goats. They spend about 70 percent of their time outdoors during spring and fall, and about 40 percent of their time outdoors throughout winter, with activities that range from collecting wild cranberries to watching salamanders and toads in the pond. Inside, they do work drawn from both Montessori and Waldorf educational philosophies, and learn practical crafts such as baking bread. "It's a forest-based curriculum," Kimberly says. "It's a forest and farm school. One of the girls calls it a goat school."

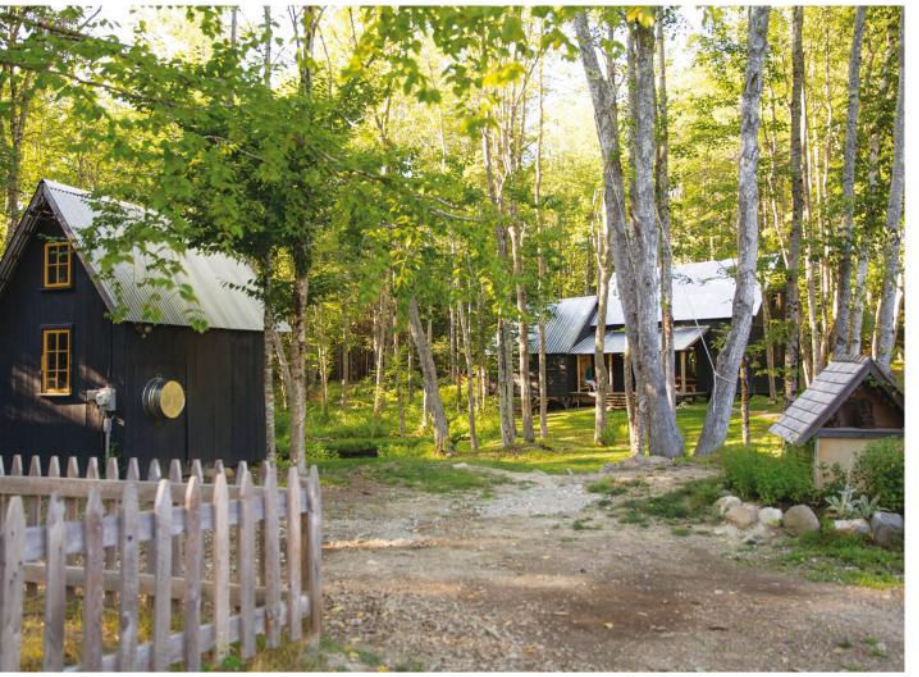
Kimberly's main goal is to take children out of the hectic pace of modern living and let them move more slowly, give them time to be curious. "One of the things the parents appreciate is how slow our day is," Kimberly says. "If it takes this much time to gather the eggs, it takes that time. Sometimes for 15 minutes we are just looking at the pond. In this world, we're often rushing from A to B so quickly. We're rushing from soccer to dance to swim lessons; there's this feeling of anxiety. When you come here, all of that just stops."

Flexible Lifestyle

When it comes to a homesteading lifestyle, Kimberly and Adam look to flexibility as well. Although they grow a kitchen garden, preserve some of their own food, own goats and collect eggs from their chickens, they also both have careers they love, so they look for a happy balance of self-sufficiency and livability. "It's been this constant evolution," Adam says. "It gets easier and things start finding a more steady rhythm, and then we want more. We say, 'Let's do this or that.'"

The couple continually looks to add new endeavors that enrich their family's life. Each year, they take on new projects (last year, they cleared a new field for potato planting, and this year they're considering taking on a rescue donkey and pony)—but they don't pressure themselves to live entirely self-sufficiently. And just as their lives have evolved over time on the property, so too has their home. When the blended family first moved in, the four at-home kids were 6 and 9, two of each age; today they are 12 and 15 (Kimberly's oldest son lives and works in upstate New York). As the children have grown, they've shifted their home, adding a 16-by-20-foot addition that includes a master bedroom and some much-needed storage spaces, and reworking the children's spaces from one large room into four smaller compartment rooms and back to two bigger rooms, to accommodate changing needs as the kids grew. This dynamic aspect has worked especially well thanks to the home's modular design.

"What this house has taught me, or maybe it's age or wisdom, as we're starting to see the kids grow up, is how dynamic our house had to be," Adam says. "In a larger house, with enough space, there is forgiveness built in. We've had to change the house multiple times because it's so small, we're constantly tweaking and changing the system. The kids change on us—wait a minute, you guys are bigger now. It was almost like this was a lesson on the dynamics of how things change. We're looking at our future, too, projecting into when the kids are in college, and our house will change again. We've tried to make portions of the house so they can be reconverted again, when it won't have to be broken into two big bedrooms. We used the flexibility built into that system in ways we may not have expected at first. Small forced us to be continually flexible."



CLOCKWISE FROM OPPOSITE LEFT: The large, open loft structure of the children's bedrooms has allowed them to rework the space numerous times to suit evolving needs for privacy and togetherness. ■ In Kimberly's nature-based school, work from Montessori and Waldorf traditions combine with real-life outdoor skills. ■ The home, buildings and garden are nestled in amid the forest for total immersion in nature. ■ Kimberly's students model masks made with fall leaves. ■ Kimberly and her students sometimes play with a horse cart her family found for free from an area farm. ■ Kimberly and Adam's two 12-year-old daughters enjoy relaxing on the house's large porch.

In this article, *Mother Earth Living* Editor in Chief JESSICA KELLNER has striven to demonstrate to Adam and Kimberly's two 15-year-old children that their parents are cool—a tall order no matter the family! She is happy to once again showcase the beautiful work of Maine photographer Erin Little, whose home, family and photography were featured in the May/June 2015 issue.

Slow Loss

Explore how shrinking biodiversity affects the foods we love—and what we can do about it.

BY SIMRAN SETHI,
FROM *BREAD, WINE, CHOCOLATE: THE SLOW LOSS OF FOODS WE LOVE*

"Eating," author, farmer and philosopher Wendell Berry says, "is an agricultural act." Food connects us to all living things, and to the lineage of who we are and where we come from. It isn't nameless farmers in fields and workers in factories who bring us our food; it's people like us. People who dedicate their lives to creating something that we take into our bodies. They transform nature into culture, as what they touch becomes part of us. This intimacy is astonishing and humbling.

We treat our food system as an abstract thing; however, it's a dynamic entity made up of these relationships. I have learned, by traveling to the places where some of our favorite foods and drinks began, that our food is precious.

I had no idea how hard it was to get a coffee bean from a forest in Ethiopia to my local café, or how much work and care went into making a premium bar of chocolate or a hearty loaf of bread. I had no idea how endangered the best, most delicious versions of these things are. Understanding what it takes to sustain and save those foods—in farms, on our plates and in life—lies in the recognition that how we eat is a reflection of how we live. By sustaining agricultural biodiversity, we sustain ourselves.

"Eating with the fullest pleasure—pleasure, that is, that does not depend on ignorance," Berry adds, "is perhaps the profoundest enactment of our connection with the world. In this pleasure we experience and celebrate our dependence and our gratitude, for we are living from mystery, from creatures we did not make and powers we cannot comprehend."

The Standardized Diet

For millennia, we've made decisions about what to grow or not grow—and what to eat or not eat. That's what agriculture is: a series of decisions we, and our ancestors, have made about what we want our food and food system to look and taste like. But our ability to make these decisions—and indulge in our pleasures—is being compromised in ways that are unprecedented.

While some places in the world are experiencing an increase of diversity in certain parts of their diet, the general trend is the same one we see in phones and fashion: standardization. Every place looks and tastes more similar—and the country that sets this trend is America. The refined carbohydrates, animal proteins and added fats and sugars that make up the majority of our diets have also become the template diet for the world.

I know it feels counterintuitive to contemplate loss, particularly against the backdrop of floor-to-ceiling aisles in supersized supermarkets. In a Walmart (the No. 1 grocery chain in the United Staes) in Winston-Salem, North Carolina, I counted 153 flavors of ice cream and eight brands of yogurt. But then I looked further. The choices are superficial—primarily in flavor and secondarily in brand, most of which are owned by the same company. At least 90 percent of all containers of yogurt, milk and ice cream made in the U.S. are made with milk from one breed of cow, the Holstein-Friesian, known as the highest-producing dairy animal in the world.

This increase in sameness is what conservationist Colin Khoury and co-authors of the most comprehensive study to date on the diversity (and lack thereof) of our food supply call our "global standard diet." The researchers analyzed 50 years of data on major crops eaten by 98 percent of the population. They found diets around the world have expanded in terms of amount, calories, fat and protein, with the greatest number of our calories now coming from energy-dense foods such as wheat and potatoes.

But this availability obscures the more challenging truth that Khoury and his colleagues discovered: Globally, foods have become more alike and less diverse. As the amount of food around the world has shrunk to just a handful of crops, regional and local crops have become scarce or disappeared altogether. Wheat, rice and corn, plus palm oil and soybeans, are what we all eat now—the same type and the same amount.

ABOVE LEFT: Heirloom plants offer much greater diversity in flavor and appearance than conventional grocery store choices. ■ ABOVE RIGHT: America is the trendsetter in the growth of the "global standard diet."

| CASE STUDY |

Expanding Wheat Varieties for Flavor and Sustainability

In an effort to reduce shipping inefficiencies, a group of geneticists, farmers and bakers brings more wheat diversity—and tastier breads—to the East Coast.

In the United States, wheat is distinguished by season, color and hardness. Hard wheats, such as bread grains and durum, are largely grown in Midwestern states including Kansas, Nebraska, Oklahoma and Colorado. Soft wheats, primarily used for cakes, pastries and biscuits, are grown in the South.

Understanding that the more popular U.S. market is for hard wheat, local growers in Maryland, Virginia, and North and South Carolina approached wheat breeder and plant geneticist David Marshall and asked if there was a way they could expand into those types. "And my first reaction was... no," Marshall says. "But then I said, 'We'll take a look at it.' So we did."

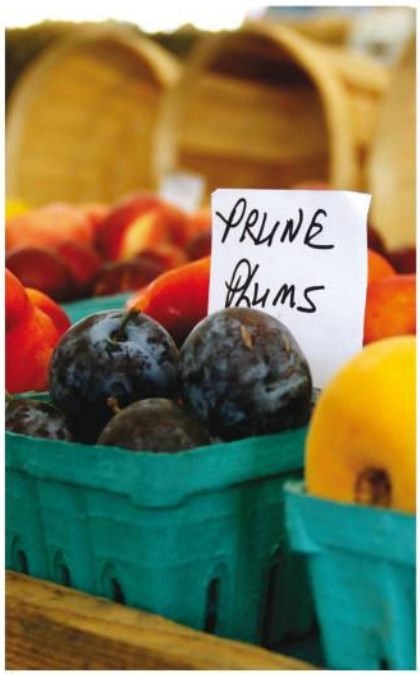
After much research, in 2009 Marshall and his colleagues developed two lines that did particularly well in North Carolina and Virginia and were released as premier varieties of hard winter wheats by and for the East Coast. One of the project's long-term goals, Marshall explains, was to see if they could greatly reduce East Coast millers' and bakers' reliance on trucking or shipping in tons and tons of flour that had been produced in the central U.S. So far, it's working.

But the project also helped the East Coast develop new grains, and better food. Brewmaster and author Garrett Oliver explains, "We knew back in the 1970s, as we walked through the supermarket, that something was wrong—but we didn't know exactly what it was. Somewhere in our hearts we knew bread was supposed to be made of just a few ingredients and probably go stale in a day. We knew it wasn't supposed to be full of ingredients we couldn't pronounce...chemicals. We knew bread wasn't supposed to be Wonder Bread. People learned to take food and make it into food facsimiles: something that reminds you of food but isn't real food."

The antithesis to this flavorless, chemical-filled bread is bread made with minimally processed local, heirloom grains. Carolina Ground, the only mill in the southeastern United States dedicated to the exclusive processing of regional grains, grinds local, heirloom grains in small batches with the germ crushed into the endosperm flour, spreading its oils and flavor. When sifting, Carolina Ground "removes larger bran particles but doesn't fully separate the three components of the grain berry," says founder Jennifer Lapidus. "What we offer to the bakery is a distinctly different flour, with flavors not detected in a roller-milled product."

Chef and co-owner of Blue Hill restaurant Dan Barber clarifies, "Using freshly ground whole-grain flour allows you to taste things in the grain you otherwise would have missed. Each new grain—even each new harvest—we receive is very different. So, in that sense, there is very much a terroir to bread—a story that's being told not only about the soil but also about a larger community of breeders, millers and bakers."

ABOVE: Most of the variety in grocery store products involves flavoring or branding, not differing ingredient varieties. ■ BELOW: In the U.S., the Holstein-Friesian cow breed provides at least 90 percent of milk, yogurt and ice cream.



Yes, this increase in carbs, fats and proteins has helped feed hungry people, but on a global scale it's also increased our chances of becoming what author Raj Patel calls "stuffed and starved." The world overconsumes energy-dense foods but eats fewer foods rich in micronutrients (the small but essential vitamins and minerals we need for healthy metabolism, growth and physical development). While 795 million people go hungry, more than 2 billion people are overweight or obese. And both groups suffer from micronutrient malnutrition.

The global standard diet is changing the biodiversity of nearly every ecosystem, including the 100 trillion bacteria that live in our guts, part of what's known as our microbiome. The foods and drinks we consume add to or, increasingly, detract from the diversity of our intestinal flora and have implications for how healthy or unhealthy we are over the long term.

The factors that contribute to this change are complex and interconnected, but the main reason for this shift is that we've replaced the diversity of foods we used to eat with monodiets of megacrops, funneling resources and energy into the cultivation of megafields of cereals, soy and palm oil. As farmers from all over the world move toward growing genetically uniform, high-yielding crops, local varieties dwindle or disappear. This is why we're now facing one of the most radical shifts we've ever seen in what and how we eat—and in what we'll have the ability to eat in the future.

More Food, More Hunger

According to the Food and Agriculture Organization of the United Nations (FAO), 95 percent of the world's calories now come from 30 species. Of the roughly 30,000 edible plant species, we cultivate about 150. And of the more than 30 birds and mammals we've domesticated for food, only 14 animals provide 90 percent of the food we get from livestock. The loss is staggering: Three-fourths of the world's food comes from just 12 plants and five animal species. While these numbers are rough estimates, they speak to a startling trend: We rely on fewer species and varieties for food and drink—a treacherous way to sustain what we need to survive. It's dangerous for the same reason investment experts tell us to diversify our financial holdings: Putting all our eggs in one basket (figuratively or literally) increases risk.

The loss of agrobiodiversity has and will transform not only what and how we eat but who will have the resources to eat at all. Because behind every one of these foods and drinks are the people who rely on them for their livelihoods—from field hands and factory workers to grocery clerks and chefs.

How do we feed one another? And how will we feed one another? It's impossible to escape the headlines and news reports expressing concern about future food security for our growing population. But 805 million people are hungry today. This includes more than one in five American households with children that are food-insecure. A statistic that, when broken down by race and ethnicity, becomes even more heartbreaking: Almost 40 percent of African-American kids and 30 percent of Latino-American children are undernourished.

ABOVE LEFT: Although we produce more than enough food to feed the global human population, one in five American households with children is food-insecure. ■ ABOVE RIGHT: Buying unusual and heirloom varieties from local producers is a great way to impact diversity on a local level.

| CONSIDER THIS |

7 Things You Can Do to Support, Sustain and Savor Agricultural Biodiversity

1 **LOOK AT THE INGREDIENTS** on your favorite foods and purchase outside of the "global standard diet" trajectory of wheat, rice, corn, soybean and palm oil.

2 **GET OUTSIDE YOUR COMFORT ZONE** and cook unfamiliar varieties of foods and a range of types of foods. Curiosity is a key part of the conservation of diverse crops and breeds. A delightful starting place is Slow Food's Ark of Taste (slowfoodusa.org/ark-of-taste-in-the-usa), a listing of foods that celebrate a wide range of biological, cultural and culinary traditions.

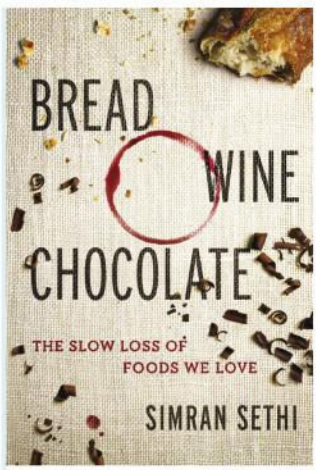
3 **FREQUENT FARMERS MARKETS** and support farmers growing heirloom varieties. In produce, start with fruits and vegetables in colors and shapes different than the uniform ones on grocery store shelves. With meat, eggs and dairy, ask where and how livestock was raised. (Rearing practices impact soil diversity and diversity in breeds.)

4 **SUPPORT ORGANIZATIONS THAT ARE SUSTAINING DIVERSITY** throughout the food chain: Bioversity International (bioversityinternational.org) aims to support smallholder farmers in the developing world through sustainable agriculture and conservation. The Center for Food Safety (centerforfoodsafety.org) promotes food systems that are safe, sustainable and environmentally sound. The Christensen Fund (christensenfund.org) is dedicated to promoting biological and cultural diversity, particularly agrobiodiversity and food sovereignty, providing resources for indigenous and local farming communities to protect and enhance local food systems. Spikenard Farm Honeybee Sanctuary (spikenardfarm.org) uses sustainable beekeeping methods to restore the health and vitality of honeybees. Wild Oceans (wildoceans.org) emphasizes conservation of the ocean's top predators. La Via Campesina (viacampesina.org) focuses on small- and medium-scale agricultural producers, defending the rights of farmers to grow culturally appropriate food produced through sustainable methods.

5 **JOIN A LOCAL CSA** and purchase a farm share that provides farmers funding before the growing season. It helps ensure a more stable income and allows farmers to cultivate lesser-known varieties.

6 **EXPLORE CRAFT AND SPECIALTY FOODS.** This might mean asking a local roaster about a coffee origin or choosing a craft beer over, say, a Bud Light. All foods can exhibit a taste of place. Support makers who highlight those unique characteristics and take time to savor the array of flavors these foods offer. (The tasting guides in *Bread, Wine, Chocolate* are designed to help.)

7 **GROW YOUR OWN.** Seed Savers Exchange and Baker Creek Heirloom Seeds, among others, offer extensive catalogues of heirloom varieties that will help you get started. Once you do, save seeds and share or swap them with other area gardeners.



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Journalist and educator Simran Sethi's book *Bread, Wine, Chocolate: The Slow Loss of Foods We Love* is about the rich history—and uncertain future—of what we eat. The book traverses six continents to uncover the loss of agricultural biodiversity, told through an exploration of the senses and the stories of bread, wine, coffee, chocolate and beer. Released in paperback in fall of 2016, this fascinating book is available for purchase at motherearthliving.com/shopping.

For the past 20 years, the rate of global food production has increased faster than the rate of global population growth. The world produces more than one and a half times enough food to feed everyone on the planet, which is also enough to feed the population of 9.6 billion we anticipate by 2050.

This matters because a lot of the changes we see in food and agriculture have been made in the name of feeding hungry people. But the challenge isn't simply an issue of production; it's one of access. Food and the resources required to buy food aren't efficiently or equally distributed. That's why the hungriest people in the world are smallholder farmers—the more than 500 million people responsible for feeding the majority of the world's population. The people who grow food are too poor to buy it.

The majority of these farmers are women, most of whom live in extreme poverty, which is why they are moving to cities and entering the formal workforce in higher numbers. (Women have always worked, but they aren't always recognized or paid for it.) Add to this fewer home gardens; less time to grow food; the exponential growth of supermarkets and fast food joints; and a bit more money with which to buy cheap, processed food. You've now got a recipe for the global standard diet.

Reversing the Trend

Soon after I started researching this book, I saw a bumper sticker that read "Extinct is Forever." It's true. It's what we face every time we shrink agrobiodiversity from thousands of varieties down to a handful. We stop growing it, we stop eating it and, slowly, it disappears. The loss of genetics is accompanied by the loss of knowledge on how to grow foods and how to prepare and eat them. It's the cultural erosion that accompanies the genetic one: Our culinary traditions are going extinct, too.

Fortunately, a lot of these changes have occurred in the last few decades, which means they can change again. That is, of course, as long as we sustain the diversity found in the wild, on farms and in stored collections that contain the traits we might need: immunity to a disease, greater adaptation to a changing climate, the possibility of higher yields or greater nutritional value—and delicious taste.

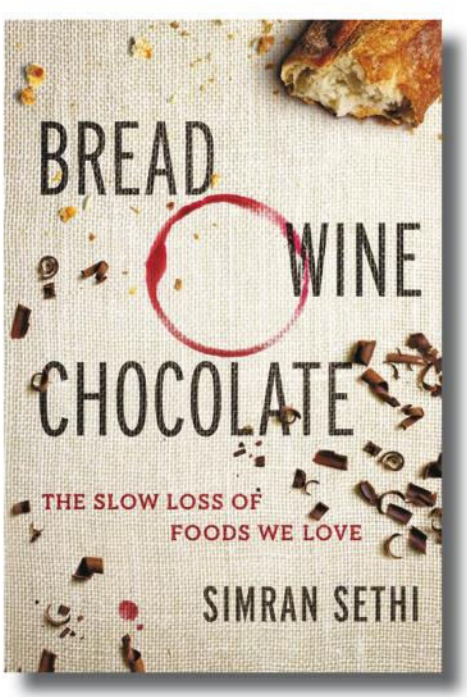
But in order to support this diversity and facilitate change, we have to start thinking differently about the food in our fields and on our plates, and be more discriminating about its sources. "How do we buck the system just a little bit?" Khoury asks. "Think of oil. We're definitely eating more of it: soybean oil, then palm oil—much more than other oils around the world. Although it isn't immediately obvious that eating olive oil would be radical, in the big picture that's exactly what it is. Eating olive oil is now a radical act. Eating anything that's not rice, wheat, corn, soy or palm oil is radical."

The revolution starts here, on our plates, by looking at the pillars of our own diets and by making simple changes. The way to take back this power for ourselves is to understand why we eat what we eat. And to understand what we're losing—so we know what to reclaim.

Bread, Wine, Chocolate

The Slow Loss of Foods We Love

Part love letter to the ingredients that give us daily pleasure, part wake-up call to the homogenization that is threatening to wipe out the diversity of our food supply, *Bread, Wine, Chocolate* explores the history and cultural importance of our most beloved tastes and the modern challenges they face.



Food has always been connected with joy, desire, and comfort. Love—in the culinary sense—can be found in extreme and exotic places but also (or even more so) in the most simple of everyday pleasures. Taste is both primitive and sophisticated, inherent and evolved. Our response to sweet, salty, bitter, or sour reflects biological characteristics as well as emotional connotations.

Bread, Wine, Chocolate shows us not only what it means to pay attention to these things, but what it means to lose them. Simran Sethi explains how the foods we hold dear are under threat of genetic erosion—a slow and steady loss of diversity in what we grow and eat. American food is beginning to look and taste the same, whether you're strolling through a San Francisco farmers market or at a Midwestern potluck. In fact, 95% of the world calories now come from only 30 species. Even when faced with what seem like endless options in the potato chip aisle or ice cream freezer, a deeper look reveals the superficial differences, primarily in flavor and brand.

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Plant a Patchwork Garden

Rather than getting stuck in linear thinking in the garden, try the quilter's frame of mind to harvest a variety of food all season.

MANY GARDENERS SEE the progression of a growing season as fairly straightforward and linear: They do all their soil prep in spring, then plant the entire garden around May 1st. Throughout the year, they'll harvest what's ready, but may not follow up with more planting. But using this method, we end up with 12 heads of cauliflower at once, then none the rest of the season. That's not how we shop for food, and it makes the garden less useful than it could be.

For the past several years, I've taken a different approach. To make full use of my relatively small growing plot and harvest a wide variety of vegetables every week, I've gardened via what I call the "patchwork" philosophy. I take advantage of my space by sowing little patches of crops wherever possible, whenever possible. I spread out the planting of any given crop so that I'm not putting it all in the garden at once. The idea is to maximize production and diversity, and to never leave a spot empty that could be growing food—even a small amount. Growing my patchwork garden not only yields more overall food, but introduces a fun element of strategic planning.

I invite you to see your whole garden as a colorful patchwork quilt that's constantly changing. Forget straight rows or one "planting date" for each season or each crop, and think more in terms of an evolving network of different-sized rows and patches that you're continually sowing throughout the year.

The Strategy

There's no single prescriptive plan for planting a patchwork garden. Rather, this is about seeing your garden in a new and unusual way. To help you visualize some possible planting progressions, I've divided several popular garden crops into "Rotating Crops," "Fixed Crops" and "Canopy Crops," organized in the chart on page 73.

"ROTATING CROPS" comprise fast-maturing crops; "one and done" crops that don't offer a continuous harvest; cool-weather crops that only take up space from spring to summer or from summer to fall; and overwintering crops, such as garlic, that will only take up space during late fall of one season, and then until midsummer the following season.

"FIXED CROPS" generally need to stay put—or "fixed"—longer than Rotating Crops. That's because they either need a long growing season and plenty of warmth to mature, or they continually put on a harvest once they reach maturity, meaning you'll benefit from keeping them in the garden until frost.

In a patchwork garden, take advantage of vertical growing spaces whenever you can.

"CANOPY CROPS" will be in the garden a relatively long time, like Fixed Crops, but they lend themselves well to interplanting. This means they're spaced far enough apart when they're first planted that you can tuck in another fast-maturing crop between them. For instance, in late spring if I transplant five tomato starts, I have to space them appropriately so they have plenty of room to mature. That leaves temporarily empty space between and along the plants when they're young, where I can sow patches of fast-maturing greens and radishes, which I'll harvest right about the time the tomato plants get big enough that they need that space. Corn can work the same way, and can also function as a living trellis for pole beans and a canopy for squash, such as in the traditional three-sisters planting technique.

In general, with patchwork gardening, you'll have an advantage if you choose quick-maturing varieties. Long-season broccoli, for instance, can take more than 90 days to mature, but much faster varieties have been developed that produce in 55 to 65 days. The quicker your crops mature, the sooner you'll be able to fill those patches with new crops, and the more overall food you'll harvest. Using season-extension devices, such as cold frames and mini low tunnels, will also give you extra time to fit more patches into your plan.

There's a temptation to cram too many plants into a given spot with this method in an attempt to grow more. That won't pay off. Although you're tucking in small patches, take care to plant crops far enough apart that they have the space they need to mature and thrive.

Because patchwork gardening is all about maximizing space and potential, it goes hand-in-hand with vertical growing. Any time you can save space by growing up a trellis or support, such as with cucumbers, do so.

If you can, start your own seeds. Days to maturity is one thing, but "days

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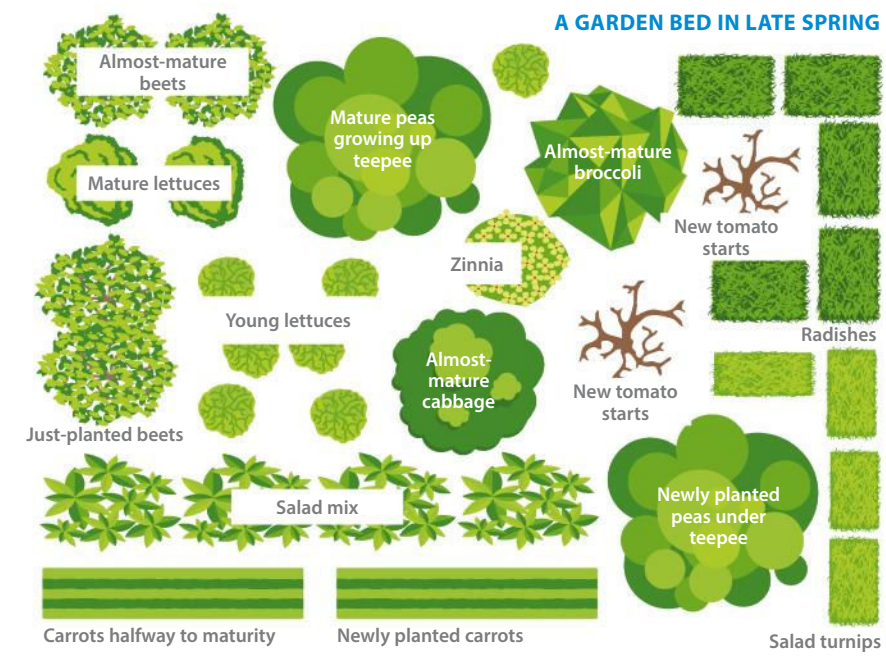
Your Quilt Patches

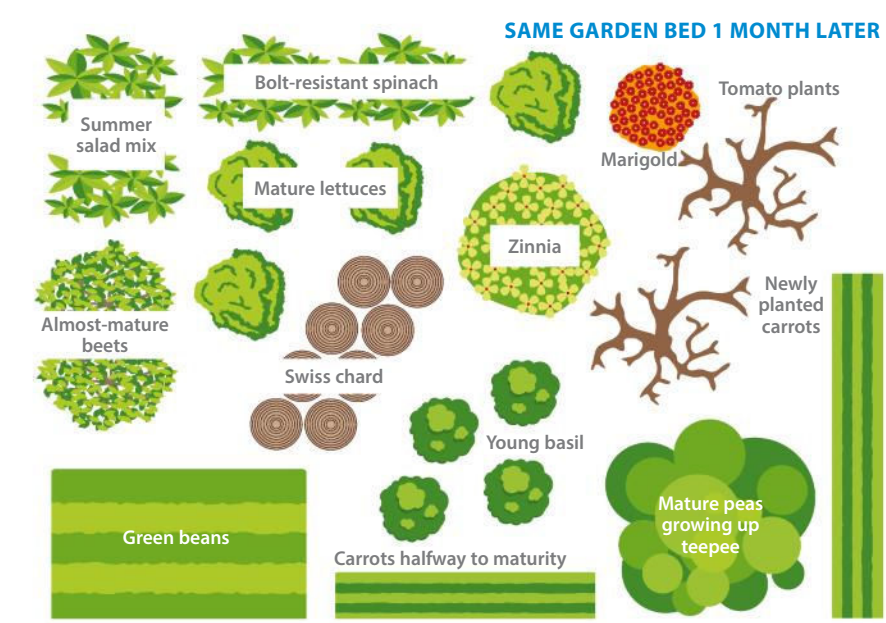
Let this chart of popular crops guide you in selecting planting patches throughout the year. The times to maturity listed are estimates. I've included tips on whether to transplant or direct sow, but in some cases, you can make either work.

ROTATING CROPS	HOW TO PLANT	TIME TO MATURITY	SEASONALITY
Arugula	Transplant if possible; otherwise direct sow	20 to 25 days from transplant; 30 to 40 days if direct sown	Best in spring and fall
Beets	Transplant if possible; otherwise direct sow	35 to 50 days from transplant; 50 to 70 days if direct sown	Common in spring and fall, but will grow all year in many regions
Broccoli	Transplant	55 to 70 days from transplant	Common in spring and fall, but try a heat-resistant variety in summer, too
Cabbage	Transplant	50 to 70 days from transplant	Common in spring and fall, but try a heat-resistant variety in summer, too
Carrots	Direct sow	50 to 75 days	Common in spring and fall, but will grow all year in many regions
Cauliflower	Transplant	60 to 70 days from transplant	Common in spring and fall, but try a heat-resistant variety in summer, too
Collard greens	Transplant	55 to 65 days from transplant	Common in spring and fall, but will grow all year in areas with mild summers; can be harvested in snow
Garlic	Direct seed individual cloves	Overwinter	Plant in September or October and harvest the following summer
Kale	Transplant	50 to 60 days from transplant	Common in spring and fall, but will grow all year in areas with mild summers; can be harvested in snow
Lettuce	Transplant if possible; otherwise direct seed	20 to 40 days from transplant; 30 to 50 days if direct sown	Common in spring and fall, but try a bolt-resistant variety in summer, too
New potatoes	Plant seed potatoes	About 65 days	Plant in early spring
Peas (snow, snap and shell)	Transplant if possible; otherwise direct sow	35 to 45 days from transplant; 50 to 60 days if direct sown	Plant in early spring and try a fall planting as well
Radishes	Direct sow	22 days	Best in spring and fall
Salad mixes	Direct sow	30 days	Best in spring/fall; try warm-weather mix in summer
Spinach	Transplant if possible; otherwise direct sow	25 to 35 days from transplant; 40 to 50 days if direct sown	Common in spring and fall, but try a bolt-resistant variety in summer, too; can be harvested in snow
Swiss chard	Transplant	35 to 45 days from transplant	Common in spring and fall, but will grow all year in regions with mild summers
FIXED CROPS			
Eggplant	Transplant	50 to 80 days from transplant	Plant in late spring and leave until frost
Flowers	Transplant	Variable	Plant in spring and leave until frost
Green beans	Transplant if possible; otherwise direct sow	45 days from transplant; 60 days if direct sown	Succession sow from spring through summer and leave until frost
Herbs	Transplant	Variable	Plant in late spring and leave until frost
Onions	Transplant	85 to 115 days from transplant	Plant in spring and harvest in late summer
Peppers	Transplant	65 to 85 days from transplant	Plant in late spring and leave until frost
Potatoes (full-season)	Plant seed potatoes	90 to 110 days	Plant in early spring and harvest as plants die back
Zucchini	Transplant	30 to 45 days from transplant	Plant in late spring and leave until frost
CANOPY CROPS			
Cucumbers	Transplant	40 to 55 days from transplant	Plant in late spring and leave until frost
Melons	Transplant	65 to 80 days from transplant	Plant in late spring and leave until frost
Pumpkins/ winter squash	Transplant	65 to 100 days from transplant	Plant in late spring and leave until frost
Sweet corn	Direct sow	70 to 90 days	Succession sow in blocks in spring/early summer
Tomatoes	Transplant	55 to 90 days from transplant	Plant in late spring and leave until frost

spent in the garden" is another. You can sublet a lot of days to your seed-starting pots. Even try transplants for crops like beets, which are often direct-sown, to decrease time in the garden and increase the patches you can squeeze in. Seed-starting also offers you more control over timing. Instead of transplanting all your fall cauliflower on one day, you can start a small number each week for several weeks, and then spread out those transplant dates over time.

I've left perennial crops out of this discussion, but that doesn't mean they can't make up permanent patches in your overall quilt. In fact, they should! I simply plant around my perennials, such as rhubarb and strawberries.





'Sowing' Your Quilt

You'll want to know your first and last average frost dates. You can look yours up by ZIP code at davesgarden.com/guides/freeze-frost-dates. I suggest writing your dates at the front of a gardening journal that you store right with your seed stash.

As soon as your ground is workable in spring, you can begin sowing patches of cool-season crops, such as peas, salad mixes, radishes, spinach and turnips. Even with these, don't put all of any one crop in at once. To keep a continuous harvest flowing, break crops up in succession patches. For instance, plant a little patch of salad turnips each week for several weeks. Or, plant a patch each of snow peas, snap peas and shell peas around a few teepees as early as possible. Then, about four weeks later, plant another teepee of each. This is the strategy market gardeners use to ensure continuously available produce at market over many weeks, and you can make this work on a micro scale at home so the fresh produce you're harvesting represents a beautifully diverse mix.

As soon as any crop is harvested, refresh that spot by working in a rich soil amendment, such as composted manure. Then, fill the spot with a new planting. In a single spot, you can generally grow at least two crops in one season—sometimes even three or four, depending on crops' days to maturity and on the number of frost-free days in your region. For example, you might sow salad mix and spinach in a cold frame to harvest in spring, then sow carrots to harvest in late summer, and then transplant kale and collards to harvest in fall and into winter.

Any time you're using Fixed Crops, you'll likely only be able to fit one other crop into the mix in that patch. For instance, you might plant your spring snap peas in one spot, and then about the time those are done producing, you could plant some sweet and hot peppers in the same spot, which will stay in the ground until frost.

DEVELOPED BY SHELLEY STONEBROOK

You can always mix and match what goes into your patches. Let's say you've harvested all your early spring lettuces that were growing in a 2-by-4-foot patch. Next, you might replace that one crop with two or three other crops, depending on how much you want of each to ripen at a given time. Perhaps you'll sow a 2-by-2-foot patch of carrots and a 2-by-2-foot patch of beets to fill that 2-by-4 spot.

Then, a few weeks later, when space opens elsewhere, you could sow more small patches of carrots and beets. In some seasons, I might sow any given Rotating Crop as many as six or seven different times throughout the year. For me, there can hardly be a patch too small. Even if I have five individual beets growing in a single square foot, that's fine! That's the perfect amount to harvest for a delicious side of roasted beets for dinner.

Because you'll be rotating so many different crop families through many little patches, you'll want to stay mindful about crop rotation. From year to year, I especially try to rotate my Fixed and Canopy crops, so that I'm not planting, say, tomatoes or other nightshades in the same spot until a few seasons have passed.

You'll notice in the list of Fixed Crops, I've added flowers. I'm a fervent proponent of popping in long-season blooming plants wherever possible to draw a diversity of insects and pollinators to my garden.

Join a 'Quilting Circle'

When you buy a six-pack of broccoli starts from your favorite garden center and take them home to plant, eventually, you'll have six mature broccoli heads ripen at about the same time. That doesn't fit with how we shop for and use produce. If I go to the farmers market to buy broccoli, it's unlikely I'd buy six heads on the same day (unless I'm planning to freeze them). I'd rather spread them out over the course of several weeks.

One strategy for getting around this conundrum is to form a small patchwork gardening group with friends or neighbors. You can make a date to go shopping for plant starts every couple of weeks or so. Then, split up what you buy. For instance, if you have three gardeners in your group, and you take home that six-pack of broccoli starts, everyone plants two that week. You can also swap seeds within the group to try new varieties and further elevate your garden's diversity.

—SHELLEY STONEBROOK

Grow Ginger and Turmeric

Ginger and turmeric are tropical plants, but you can grow these supernutritious roots in North America by mimicking the heat of the tropics in aboveground containers.

YOUR FIRST GLIMPSE of "baby" ginger or turmeric probably took place at a farmers market. Pink-blushed knobs of ginger seemed to jump into your shopping bag, and you had to try a few dimpled turmeric roots, too. You marveled at the tender crispness of the young ginger, which needed no peeling, and what fun you had using grated bits of turmeric as if it were saffron! Now you are wondering about growing your own.

Yes, you can. Anyone can grow baby ginger or turmeric, which are less fibrous than their fully grown counterparts, by adapting methods used by farmers from Maine to Missouri, who use high tunnels to mimic the tropical growing conditions these crops require. But even without a greenhouse, you can expect success if you get an early start indoors and grow the plants in containers. As true tropical plants, ginger and turmeric actually like having their roots heat up in above-ground pots. Your reward will be a five- to eight-fold increase in the root weight at the end of the season, plus the summer company of these pest-free, heat-loving plants. (Note that seed-saving is difficult for some growers of ginger, because bacterial problems can eventually take hold.)

Know Your Roots

Ginger (*Zingiber officinale*) probably originated in India and Southern China, where it has been valued as a spice for thousands of years. Closely related turmeric (*Curcuma longa*) is native to Southern Asia, and it is essential in curry-based dishes throughout the world. A notable advantage to growing your own turmeric is that you can occasionally pick one or two of its large leaves to use as wrappers for delicate foods you want to grill.

In the 13th and 14th centuries, the value of one pound of ginger was equivalent to the cost of a sheep.

Ginger and turmeric have similar cultural requirements, so you can plant a pot of each and give them the same basic care. In North America, roots of both plants must be pre-sprouted in spring, rather like sweet potatoes, and kept indoors until warm weather prevails. Outdoors, the plants crave heat and need plenty of water, but they also like a little shelter from blazing afternoon sun. When you grow ginger and turmeric in containers, you can easily move the plants around until you find the perfect spot.

Planting Ginger and Turmeric

You can mail-order ginger and turmeric for planting (try hawaiianorganic ginger.com and rareseeds.com). You can also work with roots purchased at your health-food store. In some parts of the country where growing baby ginger and turmeric has already caught on, you may be able to buy plants from a local farmer. Vegetable farmers who grow baby ginger and turmeric as cash crops often sell potted plants in spring, which are great buys, because the roots have already been coaxed out of dormancy and begun to grow.

If you are working with pieces of ginger and turmeric that have not yet sprouted, here's how to pre-sprout little pieces yourself. Lay three-inch pieces that include one or two small fingers on their sides in a shallow bed of moist seed-starting mix, then sprinkle on

more to cover them. Water until lightly moist, and move to a warm place where temperatures range between 70 and 80 degrees, such as atop your refrigerator. Warmth is more important than moisture during the pre-sprouting process, which takes three to six weeks.

When pointed buds appear at the surface of the soil mix, move your plants to dark-colored, three-gallon pots filled halfway with organic potting soil (dark containers accumulate more solar warmth than light ones). Cover the plants with only two inches of soil at first, and add more every couple of weeks as more shoots appear. Move plants outdoors when nighttime temperatures stay above 55 degrees. In early summer, you can gently transplant them to larger 5-gallon pots or square planters.

Providing Food and Water

Ginger and turmeric thrive on plenty of water, so plan to water your plants daily in midsummer. Every three weeks, top-dress them with a balanced organic fertilizer or a few handfuls of very rich compost, such as composted poultry manure. If your plants are growing slowly or showing yellowing leaves, they are not receiving sufficient nutrients.

Both ginger and turmeric grow into upright plants three to four feet tall. The stems and leaves of ginger are narrow and bamboo-like compared with turmeric, which has broader leaves and therefore grows into a lush, full plant worthy of consideration as an edible ornamental.

Ginger and turmeric are photoperiodic plants that concentrate on growing big roots when nights become longer in August. Fertilizer becomes less important as new growth subsides, but adding an inch of fresh soil to the tops of the pots helps keep root development on track. According to the Rodale Institute, ginger should also be hilled (raised), allowing the soil's nutrients and air pockets to become more accessible.

Harvesting and Storage

Wait as late as you can to harvest your roots, but do it before freezing weather. Pull the entire plant, loosen soil around the roots with your fingers, and then clean the roots with a strong spray of water and clip off the upright stems. Baby ginger holds together in a clump until you break it apart, while turmeric roots readily detach from the mother clump.

Ginger and turmeric will keep in the refrigerator for several weeks, but the best long-term storage method is freezing. When you want a small amount of either spice, simply take out a frozen piece, grate off what you want, and return it to the freezer. You can store baby ginger or turmeric in regular freezer containers, but freezing small amounts in vacuum-sealed bags works even better.

—BARBARA PLEASANT

LEARN MORE: To learn more about the health benefits of these plants, consult these resources.

COOKING WITH TURMERIC
by Julie Hatfield

660 CURRIES
by Raghavan Iyer

THE WONDERS OF TURMERIC
motherearthliving.com/wonders-of-turmeric

THE JOY OF GINGER
motherearthliving.com/joy-of-ginger

14 USES FOR TURMERIC
motherearthliving.com/14-uses-for-turmeric

8 Great-Tasting Heirloom Veggies to Grow

Try these delicious garden heirlooms chefs and foodies love best.


'Dragon's Tongue' beans

ASK ANY CHEF what they think about heirloom vegetables, and you'll probably be met with glowing praise. Their superior taste, flavors and beauty all help transform ordinary dishes into something special—and that's the reason many chefs specifically seek out heirloom fruits and vegetables for their restaurant dishes.

We can bring those same benefits to our own kitchens by planting heirloom seeds in our gardens. But their wonderful contributions to delicious dishes aren't the only reason to grow these plants: In the 1980s, a study by Rural Advancement Foundation International estimated that 90 percent of the seeds available at the turn of the century were no longer available. In recent years, thanks to the work of gardeners and nonprofit organizations around the country, the practice of saving and reviving heirloom seeds has seen a resurgence.

"The most flavorful veggies don't always look like the traditional ones you've grown up seeing in the grocery store produce section," says April Yuds, an organic farmer, beekeeper and food enthusiast at community farm LotFotL (an acronym for "living off the fat of the land") in Elkhorn, Wisconsin. "You might have to eat a purple striped bean, a cucumber that is round and yellow, or a carrot that is not orange in order to find that outstanding taste."

So how do we know the best veggies to plant if we're growing for taste? We asked some of our favorite chefs and gardeners across the country to weigh in and gathered eight fantastic picks. Of course, this list is just scratching the surface of the dazzling array of colors and tastes available from heirloom seeds. This season, try growing some of these varieties—and experiment with other heirlooms—and your taste buds will thank you at harvest time.


Slices of bright pink watermelon radish look stunning in a salad mix.

What is an Heirloom?

Heirloom fruits, flowers, herbs and vegetables are seed varieties that have been saved and passed down for a long time—usually more than 50 years, but some are centuries old. They have been selected for flavor, resistance to pests and diseases, and other important traits. Unlike modern hybrid and genetically engineered plants, heirlooms are open-pollinated, which means they will grow true to their breed and can therefore be saved by gardeners from year to year. If you are shopping for true heirlooms, note that in practice, many open-pollinated plants end up being called heirlooms, regardless of their age.

RADISH: WATERMELON

This gorgeous, aptly named radish resembles a watermelon with its green exterior and hot pink interior. In the kitchen, the versatile watermelon radish can do pretty much anything, says Michaela Hayes, chief food preservationist, chef, farmer and co-owner at Rise & Root Farm in New York. Hayes also runs the preserved food company Crock & Jar, which features the watermelon radish in its popular spicy kraut. "They are a hard radish, so they hold up great in a pickle, staying crisp and crunchy," she says. "Their brilliant pink centers turn even more amazing as they pickle." It's delicious raw, too. Hayes recommends them julienned or sliced superthin to add flavor and color to salads. To grow this radish, which is best grown in fall, look for the name it's classified under, 'Chinese Daikon' radish.

HOT PEPPER: FISH

As hot peppers go, the fish pepper is the gold standard, says famed food historian William Woys Weaver. Weaver is the steward of the Roughwood Seed Collection, specializing in heirloom seeds. The fish pepper came from his grandfather's personal collection, so he grew up eating it. The heat of this pepper can vary from one to the next—so test first! Then experiment with it in cooking. "The fish pepper is excellent with shellfish," Weaver says. "Chef Spike Gjerde of Woodberry Kitchen in Baltimore makes a pepper sauce with it called snake oil." The pretty, variegated plant offers ornamental value, as well—try planting a couple among flowers or in containers.

BEAN: DRAGON'S TONGUE

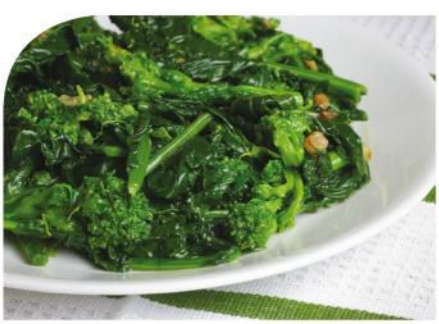
You may do a double-take if you see these gorgeous beans at a farmers market. Unlike the typical green bean, these famous Dutch heirlooms are yellow with purple streaks. But these beans are more than just a pretty face: Almost 100 gardeners at Baker Creek Heirloom Seeds have given them five-star reviews, noting their flavor and versatility. Superbly delicious, they are perfect young and fresh or lightly sautéed, but also make a great shelling bean after they mature. Gardeners say they hold up well when blanched and frozen—important because this compact plant is a hearty producer. Described as an annual favorite by gardeners from California and Hawaii to Wisconsin and Pennsylvania, these fast-growing beans are hailed by growers as one of the best gardening choices they've ever made. >>

Circle #xx; see card pg 72

BROCCOLI: BROCCOLI RABE AND SPIGARIELLO

With traditional broccoli, we eat the flowering head, but these crisp-tender broccoli cousins are used more like cooking greens and have either no florets (Spigariello) or just tiny, if any, buds at the end of a long stem (broccoli rabe).

Broccoli rabe, also known as rapini, has an earthy, bitter flavor that resembles turnip greens. Cara Mangini, executive chef of produce-based restaurant Little Eater in Columbus, Ohio, likes to pair blanched and sautéed broccoli rabe with sweet and citrusy complements, such as dried currants, lemon juice and zest, raisins, pine nuts, sherry vinegar and winter squash. Or, try broccoli rabe combined with garlic, parmesan, Pecorino, red pepper flakes, red wine vinegar, or salty and tangy ricotta salata cheese.



Spigariello is sweeter than broccoli rabe, and gardeners describe its flavor as a cross between broccoli and kale. You can harvest whole plants or individual leaves as needed for a continuous harvest. These greens can be cooked similarly to broccoli rabe or kale. Try them blanched and then sautéed with olive oil, garlic and chili flakes.

TOMATO: PLATE DE HAITI

This heirloom wasn't selected for its unusual appearance or flavor. Rather, this workhorse tomato offers classic flavor, high production and a long growing season. "It has that classic vibrant tomato flavor, so it's great for sauces," Hayes says. "It's an early producer and a late producer. We had it growing until frost hit. It's really kind of a little workhorse of a tomato." >>

EXPERT ADVICE

12 Top Heirloom Tomato Picks

The chefs and gardeners we spoke to had so many heirloom tomatoes to talk about that we had to put their best picks into a list. Mixologist Kate Brubacher uses a variety of heirloom tomatoes in her cocktail recipes for Myers Hotel Bar in Tonganoxie, Kansas. She says blending different varieties helps her achieve a slightly sweet yet wonderfully sour fermented tomato water shrub, which she combines with tequila and Mezcal for a refreshing summer sipper. Heirloom tomatoes are easy to grow, and they provide an incredible bang for your buck when compared to market prices, so consider adding a few of these favorites to your garden plot this spring.

- **AUNT RUBY'S GERMAN GREEN:** Huge and delicious with neon green flesh
- **CHEROKEE PURPLE:** A Cherokee heirloom with a dusky, purple-pink color and old-time tomato flavor
- **GERMAN JOHNSON:** Very large, flavorful and productive bright red tomato
- **GOLD MEDAL:** Firm, sweet and mild flavor with yellow and red-blushed skin
- **GREEN GAGE:** A Victorian classic, with a sweet plum flavor—perfect for cool climates
- **GREEN PINEAPPLE:** Hyperproductive with superb flavor that is sweet and smoky with a hint a citrus

- **JAPANESE BLACK TRIFELE:** Pear-shaped, deep red fruit with a rich, chocolaty flavor
- **MONEYMAKER:** Intensely red, flavorful greenhouse variety that loves hot, humid climates

- **PILCER VESY:** A classic, huge, yellow beefsteak-type tomato

- **PINK OXHEART:** An "old-timer" classic with a heart shape and pinkish red exterior
- **THORBURN'S TERRA-COTTA:** A rare treasure with honey-brown skin, orange-pink flesh and out-of-this-world flavor

- **TRUE BLACK BRANDYWINE:** The progeny of now-extinct Fejee Improved, with deep earthy flavor and dark flesh

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About the size of a golf ball, it's perfect quartered for cooking. Its bright flavors come out even more when cooked, making it ideal for tomato sauces. Hayes recommends combining Plate de Haiti with other heirlooms to create a sauce with great depth and variety of flavor. "Use all different kinds of tomatoes when you're making a sauce," she says. "It's just like when you're making an apple pie—it's best when you use lots of varieties." For more heirloom tomato recommendations, check out our list of 12 delicious options on page 80, or simply check your local farmers market.

BEET: CHIOGGIA

Named after a fishing town in Italy, these beets are savored all over the world. While the outer skins are a typical light red color, the beauty is on the inside, where its flesh is decorated with striking red and white rings. "This is a very old beet—pre-1840s," Weaver says. "Small and sweet, chefs like the size because it makes a good garnish." Another benefit? You can eat the entire plant—roots, stem, leaves and all. If you don't usually like the earthy flavor of beets, harvest these early when they're small and tender, and you just might become a beet believer.

Mangini features simple, quick-pickled Chioggias in her book, *The Vegetable Butcher*: Simmer ⅓ cup apple cider vinegar; 2 teaspoons sugar; ½ teaspoon sea salt; 1 garlic clove, halved; and 1 bay leaf over medium heat until sugar is dissolved. Pour over roasted Chioggias cut into chunks, and refrigerate overnight. Before serving, drain the liquid and toss pickled beets with 1 tablespoon olive oil, ½ teaspoon lemon zest, 1 teaspoon chopped fresh herbs, and a sprinkle of coarse or flaked salt.

CUCUMBER: METKI PAINTED SERPENT MELON

What has the versatility of a cucumber but the flavors of a melon? The Armenian cucumber. The light- and dark-green striped plant produces late into the season, making it popular with chefs aiming to serve up garden-fresh flavors well into autumn, and they grow large without producing big, mealy seeds. (Also look for the Metki White Serpent melon, which is light green with no stripes.) Mangini likes to use these thin-skinned cucumbers in raw preparations, such as in green salads. Hayes is also a fan of serving these cucumbers for raw eating, but likes them best combined with other vegetables in her fermented pickle kraut. "Pick them when they're smaller so they'll be even more tender and sweet," Hayes says. "With these and all cucumbers, you don't have to wait until they get big."

CARROT: EARLY SCARLET HORN

Named after the town of Hoorn, where it originated in the Netherlands, these small carrots are only four to six inches long, but don't let their size fool you—they're bursting with sweet, crunchy carrot flavor. The small size can be a benefit if you're looking for a variety to grow in a shallow space or container. The seeds for this carrot are somewhat rare, so you'll probably have to look online to get your hands on some (try the members' section of Seed Savers Exchange at exchange.seedsavers.org).

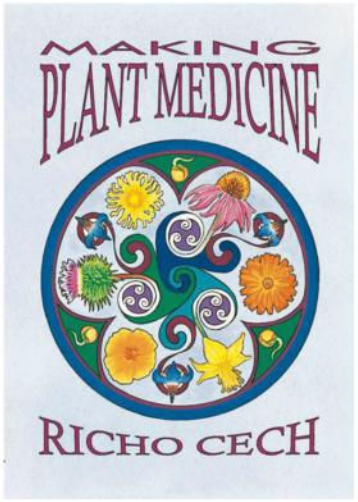
To maximize the great flavor of Early Scarlet Horn carrots, try this technique from Sean Brock, owner of the acclaimed Husk and McCrady's restaurants in Charleston, South Carolina, and Nashville, Tennessee. Brock likes to braise vegetables in their own juices and then reduce the juices into a glaze to intensify vegetables' natural flavors. Here's his method for braised and glazed carrots from his excellent cookbook *Heritage*: Juice about a pound of carrots, and run the pulp through your juicer a few times, too, to get as much fresh carrot juice as possible. Place the juice with about 3 pounds of carrots in a saucepan along with the juice of half an orange and simmer, covered, over medium-high heat until fork-tender, about 6 to 8 minutes. Increase heat to high, and when liquid is reduced to a glaze, stir butter into the sauce, and then stir in 1½ teaspoons each of tarragon and chervil. Spoon glaze over carrots and serve.

Finding Heirloom Varieties to Grow

Now that you have a new set of heirlooms to try, it's time to get growing. While we hope the list here will inspire you, branch out on your own, too. The dozens upon dozens of heirlooms out there offer an amazing variety of flavor and appearance—which will lead to a more diverse and beautiful garden and a more diverse and beautiful plate. You'll be able to find some of the more popular varieties at your local garden center. For more options, take your search online. Seed Savers Exchange (seedsavers.org) is an excellent place to start. Baker Creek Heirloom Seeds (rareseeds.com) and Southern Exposure Seed Exchange (southernexposure.com) are also highly respected. Finally, be sure to check out Weaver's company, The Roughwood Seed Collection (roughwoodseeds.org).

—STACY TORNIO

Making Plant Medicine



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EYE-CATCHING AND EASY to care for, succulents are simple to incorporate into any number of creative décor projects. This fun living picture frame project from the book *Idiot's Guides: Succulents* makes use of the plant family's diverse shapes, textures and colors by displaying the succulents vertically rather than sitting upright. All it takes are a few materials and light weekly watering to maintain this lush living decoration.

There's something appealing about plants growing vertically rather than in a pot. Succulents do especially well in vertical arrangements, so they are a popular choice for creating living pictures. A living picture can cover an entire wall, or it can be something smaller and more personal. If you're growing indoors, small and personal is a great option. Find a color palette of succulents that you like, or choose a variety of shapes and textures. Rosettes are a popular choice for living pictures, but branchy, trailing, and even somewhat tall succulents work well too. >>

CASSIDY TUTTLE

BEFORE YOU BEGIN

Remember Drainage

If your frame doesn't have drainage holes, consider drilling holes in what will be the bottom of the picture so water can easily drain out. When lying flat, water should be able to seep out the back of the frame. When standing, water can drain out the front of the arrangement, but it will last longer if there are drainage holes in the frame.

Supplies

- Wood shadowbox frame
- Wire or chicken wire
- Staple gun
- Soil
- Sphagnum moss
- Succulent cuttings (3 to 5 varieties)
- Pencil or wooden craft stick

1. Remove the top of the shadowbox frame and attach wire (make a grid or use chicken wire cut to size) to the back, using a staple gun.
2. Fill frame with soil up to wire.
3. Soak moss with water.
4. Spread a layer of moss over the soil in the frame opening.
5. Remove the lower leaves on the

succulent cuttings, creating about 1 to 2 inches of bare stem.
6. Use a pencil or wooden craft stick to create a hole in the moss and soil.
7. Insert one succulent cutting into the hole.
8. Using this method, create waves of succulents by placing several of the same succulent type in a diagonal or curved line.
9. If desired, add a larger succulent to the frame to create a focal point.
10. Use branchy or trailing succulents to add visual interest along the edge of the frame.
11. Continue to fill frame with succulents. Keep succulents close together because they will shrink slightly before growing.
12. Fill any remaining gaps with clumps of moss.
13. Leave frame horizontal for 6 to 8 weeks until succulents have fully taken root. It makes a great table decoration.
14. Once your cuttings have rooted, hang the living picture or stand it up on a shelf.
15. To water the living picture, remove it from the wall and pour water on top, completely soaking the soil. Water your living picture weekly or when the soil dries out.

CASSIDY TUTTLE

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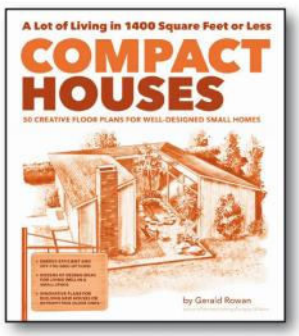

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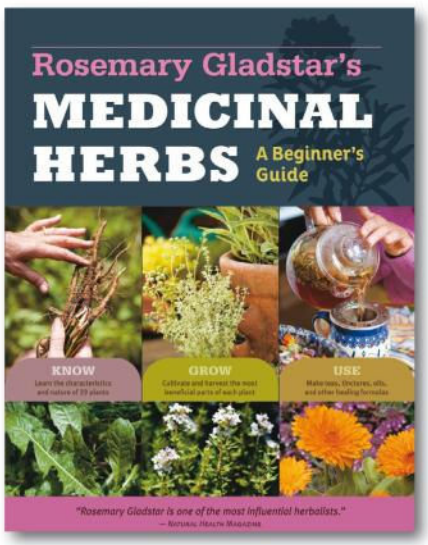

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