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## Part 1: Why A Home Garden?

#### Introduction

For the past several years, there has been a storm brewing in global food markets. Steep price increases for basic food goods began in 2007 and haven't let up since. 2008 brought food riots to every single continent across the globe.¹ In 2010, the situation was made worse by Mother Nature. Unfavorable weather patterns all over the world during the critical growing seasons led to even higher food prices. From the drought in Russia to overwhelming rains in the United States and northern Europe, the global food supply was crunched further, with supply unable to keep pace with worldwide demand.

Food prices aren't coming down any time soon. The United Nations Food and Agricultural Organization recently confirmed that global food prices hit an all-time record high in January 2011.<sup>2</sup> This latest surge was driven by huge increases in the prices of wheat, corn, sugar, and oils. Prices are expected to continue rising for months, if not for years, to come.

#### 2012: More of the Same

Economists with the USDA predict American shoppers will see a 4% rise in costs at the supermarket checkout in 2012.<sup>3</sup> But many experts think those numbers are actually too optimistic. A study released by the former chief economist of ConAgra Foods forecasts record-breaking food inflation through 2012. This report predicts food inflation at 9 percent—more than three times the average rate of food inflation in the United States in recent years.<sup>4</sup>

Rising fuel costs, a weak dollar, growing global demand, and the surge in production of ethanol are all significant players in pushing food prices higher. But, that's not the scariest findings in the report. The report concludes that Americans are now spending 19 cents of every dollar they earn on food. That number is expected to rise to 29 cents on the dollar in the next five years.

To understand why that's such a problem, you need to understand a basic economic principle: Poorer countries and poorer people spend a greater percentage of their total income on food. In countries like Egypt and Ethiopia, people spend as much as half of their income on food. In the world's poorest countries, that number can be as high as 70 percent.

#### Why Our Farmers Can't Grow More

It would seem like the answer to the global food problem would be to grow more food, right? Common sense says yes, but the facts show otherwise. In the United States, we are actually losing farmland and it's happening at an alarming rate. One *acre* of farmland is lost every *minute*. Our prime and fertile farmland is being lost to urbanization and there doesn't seem to be anything to counter the trend towards development.

And what farmland we do have is being used to grow crops for other things besides food—namely, ethanol production. More and more cornfields across the world are now being used to put gas in your car instead of food on your table. In fact, 70% of all new corn plantings go to the creation of new biofuels rather than to food supplies.

#### **Commercial Farming Creates a Cheap Product**

The nutritional value and safety of today's food supply is questionable at best. Each day there seems to be a new headline about the latest food recalls. In September 2011, a massive listeria outbreak sickened over a hundred people and killed at least 23 people in 24 states. The culprit? Fresh cantaloupe from a commercial farm. Outbreaks like these are par for the course, and the bigger the grower, the more widespread the infection.

Commercially produced food that doesn't make us sick doesn't exactly make us any healthier, though. The nutritional value of food has plummeted in the past 100 years. Modern commercial farming methods, such as using fertilizers and pesticides, have resulted in drastically lower levels of vitamins and minerals in our food supply.

Agribusiness has turned to science to create genetically modified (GM) crops that give larger yields, increase shelf life, and produce stronger plants that will withstand disease. In doing this, the commercial farmer hopes for a larger harvest—that means more money. The problem is, bigger is not better for the consumer. While the farmer's harvest might be increased, the quality of the individual vegetable suffers greatly. And then there are the health risks. While the FDA maintains that GM foods are safe—despite a lack of long term human studies—a growing body of evidence in animal studies reveals just how dangerous GM foods really are.

Importing our food from other countries isn't the right answer either. Quality control issues, food-borne illness, and other factors make importing our food an unsavory idea. Each month, the FDA rejects an average of 200 shipments of food from China alone for a myriad of reasons—repeated offenses for filth, detectable levels of unsafe drug residues, and mislabeled foods or ingredients, just to name a few.<sup>6</sup>







#### **Food Disconnect: You're Paying Hidden Costs**

When you go to the supermarket, what do you really buy?

Our groceries actually have very little *real* food in them. Let's say you walk into a supermarket and buy a box of corn-based cereal for four dollars. The actual price of the corn that's in there is very small—most likely just a few pennies' worth of actual corn. So an increase in corn prices shouldn't really affect the price of your cereal, right?

Not exactly. What you're really paying for in that box of cereal is the production, transportation, and advertising costs that go into making the cereal. You're also paying for the ambiance of the fancy supermarket and for the cashier to check you out. It's all factored into the price of the product, whether you realize it or not.

Among those "hidden" costs of your corn cereal, the transportation costs that are factored in are probably the biggest budget-busters of all. Climbing oil prices are passed along to you, the consumer. When oil prices rise, the farmer must pay more to haul the corn to market. Then, the cereal company pays more to fly or truck the boxes of cereal out to the grocery stores. Both of these scenarios drive up the price of that single box of cereal.

#### Your Very Own Grocery Store at Home: The Home Garden

Those people in the United States living on a fixed income will be the first to feel the pinch of higher food prices. If food prices in the United States rise 9 percent as some economists predict they will, it's going to cause serious hardship.

For many American families, it's not a question of buying less at the grocery store. These families have already tweaked their shopping list as much as they can, cutting out everything they possibly can do without. Unfortunately, for many families, continued increases in food prices will ultimately mean going hungry.

#### The Ultimate in Cost Containment: Your Home Garden

A garden at home allows you to directly control a large portion of your food supply. Your garden shelters you from rising food prices and global food shortages. It guarantees your family will not have to miss a meal, even in the roughest of times.

Your garden is also your ticket to better health. Unlike genetically modified "frankenfoods," fresh, home-grown produce nourishes your body and supports good health. Instead of drab and boring food, you'll be eating nutrient-dense power foods that your family can enjoy all season long. And it doesn't stop there. With just a little bit of knowledge, you can extend the harvest by canning, drying, and dehydrating the extra bounty of produce your garden gives.

#### **How Much Is Your Garden Really Worth?**

The National Gardening Association (NGA) tracks food prices and garden production. In 2009 they estimated that an average sized garden of 600 square feet directly produces \$600 worth of produce alone. Savvy gardeners just laugh at that low figure. Experienced gardeners know a home garden is worth much, much more.

One blogger named Roger, a home gardener, blogged about his gardening experience online. He wanted to calculate the real value of the produce he grew at home in his family garden. With some help from his wife (an economics major in college), Roger set up an accurate way to measure the value of his harvest. The results were astounding.

Roger originally invested around \$240 in his garden—money spent for seeds, supplies, and compost. On just 1/25<sup>th</sup> of an acre, he grew an average assortment of vegetables that most other home gardeners would also grow. In one season, he and his family harvested over **\$2,400 worth** of food!





To make this story even more exceptional, it should be noted that Roger lives in Maine, which has a shorter growing season compared to much of the country. Using Roger's calculations, had he planted a full acre, he could have grown roughly \$60,000 worth of his own food a year.<sup>7</sup>

In 2006, author Barbara Kingsolver, along with her family, tried a gardening experiment. For an entire year, they would eat only food that they were able to get locally. This included growing a good portion of their own food. Kingsolver describes what the experience was worth:

Between April and November, the full cash value of the vegetables, chickens, and turkeys we'd raised and harvested was \$4,410....The value-added products, our several hundred jars of tomato sauce and other preserved foods, plus Lily's full-year egg contribution, would add more than 50 percent to the cash value of our garden's production. That's retail value, of course, much more than we have earned from selling our goods wholesale (as most farmers do), but it's the actual monetary value to us, saved from our annual food budget by means of our own animal and vegetable production and processing. We had also saved by eating mostly at home, doing our own cooking, but that isn't figured into the tally. Our costs, beyond seeds, chicken feed, and our own labor, had been minimal. Our second job in the backyard, as we had come to think of it, was earning us the equivalent of some \$7,500 of annual income.8

I don't know about you, but I'd love to have thousands of dollars "extra" in my food budget each year!

If you have ever dreamed about money-saving harvests like these, keep reading! This publication will help you learn the secrets of maximizing your home-garden harvest, and support you in growing a bounty of healthy, nutritious food for your family year after year.

# Part 2: The 7 S's of Home Gardening

#### **#1: SEEDS—Start with the Best!**

The tomato you picked up at the grocery store is most likely grown by a commercial farmer who lives very far away from you—perhaps *thousands* of miles away from you. There's nothing at all remarkable about that tomato, except that it can stay fresh long enough to survive the long trek from the commercial farm to the grocery store.



Fresh heirloom seeds with extraordinary germination rates let you grow a lush, productive garden. Non-hybrid, non-GMO seeds let you save seed from each year's harvest so that you never have to buy seeds again.

Learn more at: www.heirloomsolutions.com

In order to maximize this desired consistency, only a few varieties of tomatoes are grown. These varieties were selected not for their taste or nutritional value, but instead were chosen for their ability to withstand mechanical picking, cross-country shipping, and tolerance to drought, frost, or pesticides.

That's why commercial farmers are increasingly turning to genetically modified (GM) seed. Genetically modified and hybrid seeds are used to guarantee high yields and consistent productions. But this comes with a cost. Health issues and control of seed distribution are just a few.

Both hybrid seeds and genetically modified seeds, when saved from your most recent harvest and replanted, will not produce good quality crops—if they'll even grow at all. This leaves commercial farmers (and anyone else who uses most commercial seed) dependent on corporate seed companies for future crops. It has nothing to do with taste or nutrition, but instead has everything to do with greed and profitability for the big seed distributors.

#### Why Choose Heirloom?

As more health problems are being traced back to our consumption of these processed and genetically altered foods, more people are waking up and doing their own research. They're finding that commercial vegetables might be pretty to look at, but they're sorely lacking in taste. They also contain significantly less vitamins and minerals than their heirloom counterparts.





Heirloom seeds are completely different. These authentic seeds produce offspring that remain true to their parentage. Year after year, heirloom seeds can be saved at harvest time and replanted the next growing season to bring forth high quality, natural vegetables that are rich in nutritional value.

## **Heirlooms Taste Better** and are More Nutritious

I still remember my first experience with heirloom tomatoes. I found the tomato at my local farmer's market. It didn't look like any tomato I had ever seen before. It wasn't completely round, and it wasn't really red Instead, it was lumpy with a few splits in the skin. The color was an odd, but lovely, bruised purplered. The skin was thin and delicate, and the tomato felt softer and lighter than any tomato I had ever handled before.



This little gem was a Cherokee Purple tomato, and it was unlike anything I had ever tasted before—sweet, rich, salty, and deep. A lifetime of boring, tasteless supermarket tomatoes had never prepared me for this kind of unique goodness.

That's the beauty of heirloom varieties. You get nothing but down-home goodness and mouth-watering taste with every heirloom seed you plant. And tomatoes are just the tip of the iceberg. When you grow heirlooms, you'll enjoy crisp and buttery lettuces, nutty Native American squash, savory beans, and more.

The development of modern hybrid seed may have increased crop production, but the great tragedy is the sacrificed taste. The truth is, home gardeners have no need for hybrid varieties. When you have the luxury of walking into your backyard and picking your produce just before you consume it, there is no need to worry about preserving the harvest to sit on a shelf. Home gardeners want tender and delicious vegetables, not tough, oversized commercial creations.

Research has revealed that in many cases, commercially grown fruits and vegetables are significantly less nutritious than heirlooms. Heirloom veggies are packed with the vitamins, minerals, and nutrients your body needs most.

#### Save Your Seed, Year After Year

Heirloom seeds are open pollinated. That's a fancy way of saying they use Mother Nature to help move things along. Birds, bees, butterflies, wind, and other natural methods will pollinate your plants year after year. Hybrid and GM seeds are not open pollinated—they have been genetically engineered to "turn on" and grow after planting. Because of this genetic modification, GM seeds are programmed to produce fruit with sterile seed. In other words, you can't save the seed and replant it the following year. It simply won't grow, and if by some stroke of luck it does, the plant will not be the same as the original.

Open-pollinated seeds will continue to generate viable seed year after year. The delicious produce you harvest this season will be identical to the produce harvested 100 years from now. Harvest seed from your mature fruit, save, and replant. It's that

#### **Stowell's Evergreen Corn**

The original strain of this favored corn was bred by Nathaniel Newman Stowell, born May 16, 1793 in New Ipswich, Massachusetts. After years of refining the strain, Nathaniel sold two ears of seed for \$4.00 to a friend who agreed to use it only for his private use. His "friend" then turned around and sold the seed for \$20,000 and it was introduced to the seed trade in 1848. His variety is still the leading white variety for home gardens and market growers. easy. When you select and save the best seeds from the heirloom vegetables you grow at home, the more reliable those vegetables will become year after year. Your heirloom seeds will become hardier and more locally adapted to your climate on their own, just the way God intended.

## Heirlooms Give You Choice ... And A Continual Harvest

Hybrids are practically "genetically programmed" to grow at the same pace, meaning that seeds planted at the same time will also be ready to harvest at the same time. This is good for commercial farmers who need to pick a crop in one fell swoop. But for home gardeners, a gradual supply of fresh produce is usually preferable and extends your growing season.

When you decide to grow heirloom vegetables, you will have many more available choices. There are thousands of





varieties of heirloom vegetables available for sale. The number of choices in tomatoes alone is staggering—there are over 4,000 varieties! Practically every shape, size, and color is represented among heirloom vegetables. You can pick and choose the right plants for your location, taste, personal preference, and more. If you want more choices and more variety in your diet, heirloom seeds will give you plenty.

#### **Heirloom Seeds Are The Least Expensive In The Long Run**

With heirloom seeds, you reap savings year after year. As you save the seeds after each growing season, your price for the "new" seed is essentially zero. As food prices continue to rise, having your own stockpile of heirloom seeds at home may prove to be the best investment in keeping your family fed in tough times.

## **Heirlooms Are A Living Piece Of History ... And A Legacy For Generations To Come**

Almost every heirloom vegetable has a story behind it—where the plant originated, how it came to the region, and so on. When you grow heirloom seeds, you're helping to save our heritage and preserve a bit of our history. Your heirloom seeds can be handed down for generations to come—like one of your family's finest antiques.

#### **Heirlooms: Raised By Small, Independent Farmers**

When you purchase heirloom seeds, you're helping small, independent farmers stay in business—not adding to the coffers of large-scale agribusiness corporations. These small farmers struggle every day to stay afloat while corporate agribusiness threatens to take over the market. So, when you grow heirloom seeds at home, you're also helping a long-time farmer keep his livelihood going. It's a great partnership.

#### #2: SPACE—You Can Garden Anywhere

While the traditional images of backyard gardens may not exactly fit into the reality of where you live, the fact is you can grow your own food just about anywhere—whether you live on a rural farm in the country or in a tiny Manhattan apartment. No matter where you live, it's all about using your space wisely to maximize the harvest.

#### **Gardening On Your Own Property**

You don't need to own a farm to be able to grow fresh vegetables and herbs. In fact, just a small plot of land will do fine. (But of course, you can grow on as much land as you've got available for a larger harvest!) Once upon a time, vegetable gardens were

confined to the back yard, leaving the front yard as a place for flower beds, trees, and other ornamental plants. But this trend is changing. More and more front yards are being turned into large-scale vegetable gardens now that growing your food at home has become popular.

No matter which part of the yard you choose, you'll want to choose a patch of land that gets adequate sun during the day. Vegetables need a good six or more hours of sun each day. Without adequate sun, the fruits will not ripen and the plants will not produce to their full potential. Some crops can grow in light shade, such as lettuces, greens, broccoli, and other cool crops. But the vast majority of vegetables are sun lovers, so plan accordingly.

Your garden will also require regular watering. Because

you can't always rely on rain, you'll want to think about choosing an area of land that is close to a hose, outdoor water spigot, or other water supply like a rain barrel. You'll be more likely to water your garden frequently as needed if you don't have to hike to bring in the water. If you choose an area where there is no access to a water spigot, don't fret. Most local plumbers can install one for less than \$100. Rain barrels are also a great investment if you've got a gutter close by.

The final consideration for your garden is probably the most essential. Vegetables need good soil that is rich in organic matter. Soil is important to the growth of all plants, but is even more critical for vegetables. The taste of your veggies is directly affected by the quality of the soil the plant resides in. That's why wine grown from the same grape tastes different from region to region, and why some peppers have a hotter flavor than those grown in other areas! It all goes back to the soil quality the plant is grown in. If you don't have good soil, consider having a truckload of rich soil brought in. This will







help get you off to a good start. Over time, as you grow more plants and add nutrients to your soil, the original soil quality will only improve.

Backyard gardens will do best when you choose a patch of land with the best combination of healthy soil, adequate sun, and water access.

#### **Gardening on a Small Plot of Land**

A small vegetable garden plot is enough space to grow great tasting tomatoes, greens, and other beautiful heirloom varieties. When space is limited, consider what vegetables you can purchase fresh and what vegetables you truly love to eat. Choose varieties of vegetables that breed well in small spaces. If you have just a small area of land, you can still grow more than you think! Even compact varieties of corn will grow well on a small piece of land. You can also choose crops that vine (like pole beans), and can be grown upwards on supports. This saves you space.

#### **Container Gardening And Raised Beds**

Container gardening gives people with small yards, patios, or balconies a way to grow almost any plant in any container that will hold soil. Container gardening has become quite "hip" as gardening has grown in popularity. You can use an assortment of gardening pots for your container gardens, or you can get a little more creative. Many people like to recycle and garden at the same time—finding new uses for their old junk. Old wine barrels, feed sacks, watering cans, buckets, boxes, kiddie pools, and even shoes have been turned into useful containers for gardening!

When selecting containers for your gardening, the rule of thumb is "the bigger the better." Bigger containers will not dry out as quickly and will give your vegetables plenty of room to grow. Some vegetables, like squashes and cucumbers, don't do well if their roots are restricted, even when they are well cared for. If a large container is not an option, try your hand at growing lettuces and herbs. These plants do well in smaller spaces. If your plant needs support cages, or stakes, be sure to provide them early on—while planting or when the plant is very small to avoid damaging the roots.

Raised beds are a great alternative to containers because they allow you to grow a lot more in roughly the same amount of space. Just like containers, your raised beds can be placed on hard surfaces like a concrete slab patio, porch, or rooftop. Raised beds can be made from wood or stones. Most often, they are made with planks of wood screwed or nailed together, and then filled with soil and compost.

No matter which method you choose, you'll need to pay attention to some important factors. First, take an assessment of your direct sunlight. For most vegetables, you'll need 6 to 8 hours of sunlight each day, and for some plants, the more the better. You



will also need to make sure your containers or raised beds have a way to drain excess water. Allowing your plants to hold in too much water may cause root rot and other diseases that can kill your plant.

#### **Perfect Plants for Container Gardens**

- Lettuces and other salad greens, like arugula and spinach
- Most herbs
- Tomatoes of all varieties
- Peppers
- Radishes
- Onions
- Carrots

#### **Window Gardening**

So, you live in a tiny studio apartment with no porch and only one window. Would you be shocked if I told you that you can still have a healthy little home garden? You can. While growing pumpkins and corn will probably not be an option for you, there are other things you can grow successfully. Any window that gets at least 6 to 8 hours of sunlight a day can support the growth of leaf crops such as lettuce and arugula, and believe it or not, will give you enough light to grow some small crops like tomatoes, peppers, and even a bush bean plant!





Growing vegetables indoors is possible, but it does require different soil and watering conditions. Things like pollination and pest control will need to be handled differently than if you were working outdoors. You will also need to consider other factors such as air circulation and the room temperature. There are oodles of books about indoor gardening on the market. Visit your library and request a few. You'll be ready to garden in no time at all.

When you garden indoors, you may also need to invest in a little supplemental lighting to help your veggies grow. There are several ways to do this. You can buy specialized grow lights for your plants. Visit your local gardening store and ask about your options for indoor gardening.

If growing veggies in your kitchen window seems overly intimidating, try growing some herbs first. Chives, basil, parsley, oregano, cilantro, peppermint, and rosemary are among the many herbs that do well indoors and they'll add a fresh flavor to your food. Once you become comfortable with growing something indoors, you may see that you're ready to try your hand at more complicated plants.

#### **Community Gardening: Rent Your Little Patch of Land**

If you don't have any space at all on your own property for gardening, consider community gardening. Many cities now have some kind of community garden program where residents can rent a plot of land for a small fee, and in some places, it's even free. According to the USDA, there are an estimated 10,000 community gardens in the United States and the trend is exploding.<sup>9</sup>

Community gardens are a great way to gather people together to enjoy the land, grow their own food, relieve stress, and connect with others in their community. With most community gardens, residents must share in the responsibility of the land upkeep. Before you take on a community plot, be sure to understand what is required of you and how the system works.

To find out if your area has a community garden, visit the American Community Gardening Association. (http://www.communitygarden.org)

## #3: SUNLIGHT—It's What Makes the Magic Happen

Sunlight plays a key role in the success of your garden. Sunshine is essential because it fuels the natural process of photosynthesis, where plants make their own food using air and water. Without photosynthesis, a plant cannot survive, much less thrive.

That's why many plants thrive in areas of bright sun, and need the sun's rays in abundance to grow well. Almost all vegetables fall into this category. While some gardeners can get away with only five hours of direct sun for their gardens, six to eight hours of full sun each day is optimal.

You should consider the differences in sunlight when planning your garden. Planting on the east and west sides of houses, buildings, or shade-casting trees can make a difference in how your garden grows. Even when east and west facing plots receive equal hours of sun, they will not produce identical results because of the shadows they cast. Before choosing where you garden, whether it's a patch of land or an apartment balcony, you should spend some time observing both the area's natural sunlight and shade patterns.

Gardens with an eastern exposure enjoy cool morning sun, and are then shaded in the afternoon. Likewise, gardens with a western exposure are shaded in the morning, but are drenched in the afternoon's hot sun. This makes the west side of a house or area the best place for sun loving vegetables, especially if you're already dealing with decreased hours of daylight.

Just like sunshine, shade also plays an important role in your garden. If your only available area to garden is shady, try to limb up trees, prune low-hanging branches, and remove any sources of shade that are under your control. Otherwise, you'll need to find a sunnier spot to garden or plant shade-loving crops only.

Sun Lovers	<b>Shade Dwellers</b>
Basil	Mint
Rosemary	Some types of basil
Sage	Parsley
Thyme	Arugula
Fruit trees	Lettuces
Tomatoes	Spinach
Squash	
Beans	
Onion	

#### #4: SOIL—Dig a \$5.00 Hole for a Ten-Cent Plant

My father, a master gardener, frequently told me that the secret to gardening was digging a \$5.00 hole for a ten-cent plant. He reasoned that well cared for soil was healthy soil, and that healthy soil could grow anything—including near-dead plants and old seeds. And, after many years of gardening myself, I'm in complete agreement with him.







The number #1 mistake new gardeners make is to think of their precious soil as nothing more than plain old *dirt*. Soil isn't dirt at all! Soil is a delicate and complex system made up of minerals, organic materials, water, and air. Next to sunlight, soil is probably the most important element to consider in your gardening efforts.

Not all soils are created equally. Depending on the geography of where you live, the type of soil will vary. There are literally thousands of types of soil, each different from the others in color, depth, size, mineral composition, and content of the organic matter. There are clay soils, sandy soils, and rich fertile soils. It all depends on where you live and what elements you have to work with. Even similar soils will differ widely in color. The color is determined by the amount of organic matter in the soil, the drainage conditions of the soil, and natural processes like oxidation and weathering.

Minerals are the largest component of any soil. These minerals make up the physical and chemical properties of your soil, while the texture and structure of the soil determine how well air and water move through your soil. All of these factors are important and directly affect plant growth.

#### **Know Your Soil**

Knowing your soil type, as well as learning as much as you can about your soil, will help you decide what steps need to be taken to make your garden as healthy as

possible. Learn about your soil's texture, mineral composition, drainage, and acidity and you will avoid the disappointment of an under-performing home garden.

There are three main classifications of common soil:

- **Clay Soil** is nutrient rich, but is slow to drain.
- **Sandy Soil** is drier and quickly drained, but has difficulty retaining precious nutrients.
- **Loamy Soil** is usually considered to be ideal, because it retains moisture and nutrients, but doesn't stay soggy.

To determine your soil type, grab a handful of lightly moist soil from your garden, and give it a squeeze. Then, open your hand and observe a few traits. If your soil holds its shape, and crumbles just a bit, you have loamy soil (lucky you!). If the soil compacts like modeling clay and feels slimy or slick, you most likely have clay soil. And if the soil falls apart all over the place, you most likely have sandy soil. Once you know your soil type, you can work on improving it.

You should also test your soil for appropriate drainage. Certain plants, like herbs, will die if their roots stay too wet for too long. To test your soil's drainage you should dig a hole, approximately six inches wide by one foot deep. Fill the hole with water, and let it drain. If the water takes more than a few hours to drain, you can safely assume you have poor drainage and will need to amend your soil or garden plan.

#### pH is Important

The pH, or acid level, of your soil is important to know as well. It will directly affect how well your plants grow. pH is measured on a scale of zero to fourteen, with zero being very acidic and fourteen being very alkaline. Almost all plants grow well in a soil with a neutral pH, between 6 and 7. When the pH level is lower than five or higher than eight, plants just won't grow as well as they should and will most likely die or have problems producing.

That's why almost every home and garden center carries home pH test kits. These kits are pretty accurate if you follow the directions carefully. You can also send a sample or two of your soil off to your local cooperative extension office for testing. Most states offer free agricultural testing on your soil—and this testing is often very comprehensive, testing pH and other important factors. Do an Internet search for your local or state extension office and request more information. Most of these offices will be more than happy to help educate you about amending your soil pH and other factors for optimal performance.





#### Soil: Don't Work When Wet

Your soil should never be worked when it's too wet. Doing so will make the soil harden and restrict root growth, forming an almost cement-like mixture. These conditions are unhealthy and will keep your plants from growing. If your soil is wet, try making a ball of soil. If the ball retains it shape, delay working with the soil until the water content goes down. If the ball of soil is easily crumbled and falls apart when touched, it is ready to be worked, tilled, spade, or plowed.

Fall is a great time to plow or work your garden soil. In most locations, working your soil in the fall will help control insects and other diseases because the ground is allowed to winter over. Also, soils that are prepared in the fall will be subjected to early spring freezing and thawing, and this natural process helps improve the general soil quality.

## **#5: SUSTENANCE—Making Your Soil as Healthy as Possible**

The nutrients in your soil are the lifeblood of your garden. They are primarily made up of decomposed organic matter—living or once-living organisms that reside in the soil. This broken-down organic matter is called *humus*, and it's essential to the health of your garden.

Adequate amounts of humus will increase the absorption of water in your soil and will allow more oxygen to circulate through. Humus also increases the nutrient retention in your soil, passing along vitamins and minerals to your veggies.

As you grow vegetable crops in your garden, the amount of natural organic matter in the soil becomes lower and lower unless new organic materials are added. Commercial fertilizers are <u>not</u> a substitute for adding organic matter to your soil. The best sources of organic matter for your garden are compost, manure, and finely ground yard waste.

#### **Composting**

Composting is one of the very best ways to improve your soil quality. Composting involves mixing yard waste and household organic waste in a way that encourages rapid decomposition. Millions of microscopic organisms like bacteria speed up the decomposition process. These bacteria continuously devour the organic material in your compost and recycle it into rich organic fertilizer for your garden. Decomposition is constantly ongoing at a slow rate around us everyday. When we make our own compost, all we're really doing is helping Mother Nature along by speeding up the process.

Compost is like gold to gardeners because it's an excellent, readily available source of humus for your garden soil. It's also a great way to recycle! Food waste and yard waste makes up nearly 30% of our trash stream. Many of these items that would otherwise be thrown away can instead be composted and easily used in your garden.

First you'll need to pick a location for a compost bin or pile. Where you put it depends on personal preference. You'll probably want to place it in a discreet location somewhere convenient, but out of entertaining areas due to the potential "natural" smell. If you have fussy neighbors or strict neighborhood bylaws, you may want to keep your bin out of sight, hidden by a fence or other structure.



Choose a spot close to the garden and a water source, if possible. You may also want to keep your compost bin within a close walking distance from the house or kitchen, as you'll be frequently adding material as you cook and eat.

Make sure your bin or heap is in a place with good air circulation and water drainage. Don't place your bin or pile too close to outbuildings or wooden fences, as the decomposition process may cause nearby wood to rot quicker than usual. And, if you are an apartment dweller or have limited space, you can still compost—you'll just need to use a specialized bin for indoor use.

You have several options to get started. Compost bins can be purchased at almost any home and garden store, or you can build your own very easily. A cheap and easy DIY bin is made of four or five old shipping pallets, wired together to form a cube-shaped structure. You can skip the bin altogether and just settle for a compost heap.





Once you've got a dedicated place to compost, you can now begin putting organic material in it. Natural and organic (living, or once living) waste is the best material for your composting. These materials can come from your yard, garden, or kitchen:

#### **Materials to Compost**

Browns = High Carbon Greens = High Nitrogen

Ashes, wood Alfalfa
Bark Algae
Cardboard, shredded Clover

Corn stalks

Fruit waste

Leaves

Newspaper, shredded

Coffee grounds
Food waste

Garden waste

Grass clippings

Peanut shells Hay

Peat moss Hedge clippings
Pine needles Hops, used
Sawdust Manures
Stems and twigs, shredded Seaweed

Straw Vegetable scraps

Vegetable stalks Weeds\*

\*Avoid weeds that have gone to seed, as seeds may survive all but the hottest compost piles.

There are some things you should avoid composting. For instance:

- **Coal Ash:** Most ashes are safe to mix into your compost pile, but coal ashes are not, as they contain sulfur and iron in amounts high enough to damage your plants.
- **Colored & Treated Paper:** Colored inks may contain heavy metals or other toxic materials and should not be added to the compost pile. Laminated or other kinds of "slick" paper and cardboard should not be used either. Most types of newspaper are okay to compost.
- **Diseased Plants:** Do not throw any sick or diseased plants onto your compost pile. Many of these diseases cannot be killed under normal circumstances and may infect your compost. If you're not sure if a plant is diseased or not, throw it out. Err on the side of caution.

- **Animal Products:** Meat, bones, fish, natural fats, dairy. These products can overheat your compost pile; causing a stench and attracting unwanted pests or animals.
- **Pet Manure:** Pet droppings from animals such as cats and dogs can contain diseases and can make your compost toxic.
- **Synthetic Chemicals:** Any lawn or plant material that's been treated with synthetic chemicals such as weed killers, pesticides, and other toxins should not be composted under any circumstance.

#### **Help Your Compost Along**

You can help the bacteria in your compost do the job a little more quickly by cutting, chopping, or shredding your larger materials, like tree branches and wood. This helps cut down on the time it takes to make the compost. Additionally, you should also turn your compost regularly. Using a shovel, turn the compost over upon itself several times to "stir" it up. This will keep the bacteria evenly distributed among the pile and will keep the natural processes flowing efficiently.

Another way to speed up the creation of compost is to "feed" your heap a "big meal" regularly. Collect all your organic waste over a couple of days and then add it to the pile in one big bunch. Adding heavier loads of organic material will cause your compost to heat up faster, thus speeding up the work of the bacteria. Sunlight will also help the process move quickly, so keep your bin or pile in the sun if possible.



www.GrowLikeCrazy.com

#### **Organic Fertilizers**

Compost is great, but it will only go so far in nourishing your plants. At some point, you may want to use a special fertilizer to give your garden plants an extra boost that compost alone cannot give. Unfortunately, too many gardeners make the mistake of using toxic chemical fertilizers in their home gardens. These harsh chemical fertilizers, found on many store shelves, can negatively affect the health of your garden, not to mention the health of your environment and your body.

Thankfully, there are a growing number of natural, healthy, and organic fertilizers now on the market that will help you grow a lush garden without the nasty chemicals.





#### N-P-K: Nitrogen, Phosphorous, and Potassium

All fertilizers show their mineral content with three bold numbers. These numbers are represented by the letters N-P-K, which stand for three different naturally occurring mineral compounds: nitrogen, phosphorous, and potassium. Nitrogen will help your plant foliage grow strong, while phosphorous helps develop root systems. Adding potassium to the soil is good for overall plant health. The three numbers listed on fertilizer labels correspond to the percentage of these materials found in the fertilizer.

Nitrogen, phosphorous, and potassium are naturally found in healthy soil, but sometimes fall to critically low levels, especially when the soil is growing garden crops year after year. That's when it's a good idea to give your soil a little "boost" by adding an organic fertilizer. By adding only *natural and organic* fertilizers to your garden, you can boost levels of nutrients and at the same time, keep your garden healthy, and free of toxins.

**ProtoGrow** is an excellent and completely organic fertilizer we recommend. Protogrow isn't just another organic fertilizer. It's a plant "superfood" that will make your garden veggies grow like no other organic fertilizer. **ProtoGrow** is made up of sea nutrients like kelp and macronutrients from North Atlantic fish, and is safe to use continuously in your gardening efforts. See the Appendix for ordering information.

## #6: SAVING SEED—Keep the Harvest Coming Back Year after Year

Open-pollinated heirloom seeds give you the option of saving your seed from one harvest to the next. It's simple to do. Keep some seed from this year's harvest, and plant those same seeds again next year. This is not just economically smart; it's the best thing for your garden. As you use your saved heirloom seed each year, your veggies will become better adapted to your local conditions. This creates *naturally* hardier plants that taste just as delicious as those you enjoyed the very first time you grew them.

#### A Beginner's Guide to Saving Seed

Saving your own seed is easy. It can be a bit messy, but it is well worth the effort.

This method of saving seed will work for almost every vegetable you want to grow. There are other seed-saving methods you can try, and if you're interested in learning more, I suggest reading the book **Seed Sowing and Saving.** You'll find more information about this book in the Appendix.

1. First, choose a mature vegetable to save seed from. Cut the vegetable open, and spoon out the seeds into a cup or container. Any juice, pulp, or other "goo" that comes out with the seed should be left in the container with the seeds to aid in fermentation.

2. Add a few tablespoons of water to this mixture. Cover the container with plastic wrap, and poke a few holes in the wrap to allow air to circulate. Sit the container in a warm location, like a windowsill, but keep it out of direct sunlight. Nature will take over and the seeds will go through a natural fermentation process. This process helps bacteria and yeast work their magic to destroy any seed-borne diseases that may be present.

3. Leave the container in the warm location for two or three days, stirring once per day. As the seeds begin to separate from the "goo,"

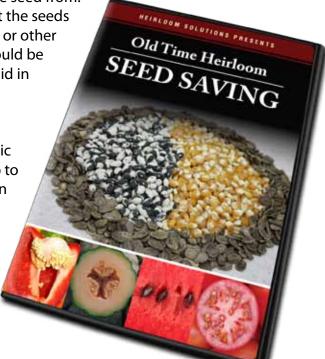
Learn howto save seeds like a pro!

Pass down your heirloom seeds from generation to generation.

you know that you're ready to wash them. Place the seeds in a kitchen sieve or colander, and wash well. Carefully remove all of the pulp, juice, and "goo".

- 4. After washing, let the seeds drain on a coffee filter, paper towel, or even an old window screen. Spread them in a single layer and leave them in a safe location to dry for a few days. Do not place them in direct sunlight as this can damage the seed.
- 5. Some seeds may take a week or longer to completely dry. Rain or humidity can lengthen the drying process. When the seeds are dry, store them in paper envelopes—but do not store them until you are absolutely sure they are bone dry. Otherwise, trapped moisture will cause mildew and there is a chance your seeds will rot and be ruined. Label the envelope with the seed name and variety, and store in a cool, dry location until it's planting time again.

When you learn how to save your own seed, you'll have more seeds than you will know what to do with. Keep some for future harvests. Share the extra seed with family, friends, and neighbors. Get creative—tuck a packet of seeds in a birthday card, or set up a trade and swap session with other local gardeners. The possibilities are endless... and best of all, saving seed is *free!* 





## **#7: STICK WITH IT—Good Gardening Habits** for a Lifetime

With a little bit of knowledge and some practice, you'll be a master gardener in no time. It's no wonder that gardening is quickly becoming one of America's most favorite pastimes—it's good exercise, rewarding, and also quite relaxing!

After experiencing just one successful harvest, most home gardeners are in it for the long haul. They keep coming back for more, turning to their gardens year after year for fresh and healthy produce. It's a great way to feed your family and never again have to worry about your own food security.

We've outlined the basics of home gardening in this publication, but we'd like to include some general "good practices" for home gardening as well. It's our hope that you'll share this report and your findings with others, and help them become successful home gardeners as well.

#### Stay on Top of Your Garden

Gardens grow quickly...and so do the weeds! Therefore, it's wise to keep a close eye on your home garden. Most of the time, a daily check of the garden will tell you what needs to be done.

#### **Watering the Garden**

Watering, especially during the hot summer months, is a critical task that must be done regularly. How often you will need to water your garden will depend on several factors, such as your soil type, your location, and what you are growing.

Gardening experts suggest watering your garden early in the morning for best results, and never watering during the hottest part of the day. This allows your plant to keep more of the water, as less is lost to evaporation. If your plants look droopy in the afternoon heat, it doesn't always mean trouble—this happens naturally and usually the plants perk up once the sun goes down. If your plants are still wilted the next morning, however, you should regard this as a signal of dehydration, and you should water them right away.

#### Weeding the Garden

Weeding is probably going to be your most demanding and least favorite task in the garden. Weeds can be persistent. Most gardeners wish their veggies grew as

well and as fast as their weeds! Keeping weeds to a minimum will help your veggies grow quicker in the long run. Weeds are plants too, so they are constantly stealing light, water, and nutrients away from your vegetable crops. Another good reason to rid your garden of the weeds—they can shelter insects and disease.

Learn to recognize what is a weed as soon as possible. It's easier to pull them up when they are young. When weeds become established, they are harder to pluck and they also can go to seed, creating



even bigger weed problems to deal with. These seeds can lie dormant in your soil for months, and then spring forth the next season, creating a vicious cycle.

Weed seeds will germinate wherever the ground is bare. To combat this weed germination, keep your garden well mulched. Mulch will keep the weeds at bay, and it will also help create healthier soil as it breaks down.

Pull weeds as frequently as possible. If a weed is dangerously close to your vegetables, don't try to dig it up, because you may also damage the root system of your vegetable plant. Instead, just remove the top of the weed. You may have to do this several times. Persistent weeds, like dandelions, may need to be cut down several times, but will die eventually.





#### When to Harvest

After placing hours and hours of work into your garden, you want to make sure you are harvesting at the best time for peak flavor and good storage. Different vegetables have different harvest times, so educate yourself as you go. The following is an partial list of optimal harvesting times. For other vegetable varieties, check with your local library or extension office for information on optimal harvesting times.

**Beans:** Beans can be harvested up until the first frost. Snap beans, like green beans, should be firm and crisp when you harvest them, and about as thick as a pencil. Pick pods frequently to keep the bean plant productive. Shell beans should be picked when the pods change color and the beans inside are fully formed but not dried out. The pods should be plump, firm, and tender. Pick shell beans every 2-3 days to keep the plants productive.

**Dried Beans:** For dried bean varieties such as navy and pinto beans, let the pods get as dry as possible in the garden before harvesting. Pick pods when they have turned brown and the seeds have hardened. You should be able to hear the seeds rattling inside the pods.

**Carrots:** Carrots are ready to harvest in approximately 2-3 months or when they are large enough for use. Some people prefer smaller, tender carrots, and others prefer larger ones. Don't be afraid to leave a carrot in the ground. Mature carrots retain their flavor.

**Corn:** Harvest corn when the silks are dark brown and soft, but not brittle. The kernels are plump and tender, and when milky liquid comes out when you prick them with your fingernail. If the liquid is clear and watery, the corn isn't ripe yet. If there is no liquid, the kernels are overripe. An old wive's tale says that corn tastes best when picked in the later afternoon because of its higher sugar content.

**Cucumbers:** Cucumbers should be harvested when they're big enough to use. Letting them get too large will result in a bitter taste. If you want to pickle cucumbers, it's best to pick them when they are small and tender.

**Eggplant:** Harvest when the skin looks glossy and feels tight. A dull colored skin means the eggplant is overripe.

**Lettuce:** Leaf lettuce takes approximately 40 days to mature. Start harvesting as soon as the leaves are big enough to eat and cut the outer leaves first, at the bottom of the leaf, to allow the plant to continue growing. Young lettuce tastes better than bigger leaves of lettuce. Heads of lettuce like romaine lettuce mature in about 70 days from seed. Harvest when the heads are firm, and cut the plant down to ground level.



**Melons:** Melons should be allowed to ripen on the vine if at all possible. Most melons will continue to ripen for 2-3 days after picked. Most home gardeners make the mistake of picking melons too early, rather than too late.

**Onions:** You can begin to harvest onions as soon as they are big enough to use as green onions. Bulb onions are ready when the tops turn yellow and start to fall over.

**Garlic:** Harvest when leaves begin to turn brown. Pull up several bulbs and break them apart. If it's too early, cloves will be hard and difficult to separate. Leave the remaining bulbs for a week a two, and check again.

**Peas:** Peas can be picked about 3 weeks after flowers appear. Pods should be plump and look bumpy. Shriveled pods are past their prime. An old wive's tale says that peas are best harvested in the early morning to retain crispness.

**Peppers:** Peppers can be harvested as soon they reach a useable size. For some peppers, like banana peppers, the heat decreases as it stays attached to the plant. For other peppers, the heat will increase over time.

**Potatoes:** When the above-ground part of the potato plant begins to die and fall back, you can start harvesting potatoes. Most potatoes will taste better when they are smaller and tenderer, but you can leave the potatoes in the ground longer if you like.





**Summer Squash & Zucchini:** Harvest summer squash when they are small and tender. For the best flavor, do not let your squash get bigger than 8 inches long and 2 inches in diameter. Keep plants continually harvested to prolong plant production.

**Tomatoes:** Tomatoes are ripe and ready when they change color. Harvest tomatoes when firm and fully colored.

#### What to Do When Gardening Season Is Over

There are some end-of-season gardening chores you should attend to as the growing season winds down. As parts of your garden finish growing, it is best to remove as much of the plant material as possible. Haul away this plant material and use it for composting (as long as the plant was healthy and disease-free, of course).

After all of the plant material has been taken down, you should work on amending your soil for the next season. Bare soil should be tilled, worked, and protected when crops are no longer growing in it. If your soil needs to be limed, fall is the best time to apply it. Spread the lime and till it in until it is well mixed with the soil. Cover your gardening beds with mulch for the winter. The mulch will protect the soil and help add nutrients as well.

You can even get an early start on the next spring's chores! Fall and winter are the perfect times to work on building new structures for your garden. Rock beds, raised beds, and cold frames can be built during the "off" season of gardening.

## **Part 3: Preserving Your Harvest**

Freezing, home canning, drying, and dehydrating your garden crops enable you to reap the rewards of your home garden year round. Learning how to preserve food will guarantee that your family can enjoy fresh and delicious produce every day of the year – even when the growing season has disappeared and the garden is lying beneath the winter snow!

The benefits of preserving your own food are numerous. Boosting your family's food security is number one. By growing *and* preserving your own food, you are able to take charge of your food supply. You're guaranteed food that is fresh and free of harmful chemicals. You will know exactly what ingredients were added to your foods, and when and where they were harvested.

Learning and using the various food preservation methods will influence your choices of which fruits, vegetables, and herbs you grow in your home garden.

#### **Home Preservation Is Safe and Savvy**

Many people are beginning to take a second look at commercial food packaging. Study after study warns about the potential harmful toxins in plastic products, such as phthalates and other chemicals. When you preserve your food at home, this is no longer a concern. The way you pack and store your food is completely up to you. You can feel good knowing that your family has taken one more step to guard against unhealthy toxins in their food. And, with home preservation methods, most of the materials you'll use to package food are reusable and also recyclable!

#### Freezing and Blanching

The best vegetables to freeze are those that are fresh out of the garden, harvested at peak ripeness. Before you freeze any vegetable, trim and wash them under cold water. You can get a jump on meal preparation at this stage, too. For instance, if you prefer diced carrots, go ahead and cut them up before freezing them.

For some veggies, it is very important to blanch them before freezing. Blanching keeps the vegetables in perfectly ripe condition while stopping enzyme activity that would change the texture or quality. It also helps get rid of bacteria, brightens color, and locks in vitamins and minerals. Blanching also helps soften the vegetables somewhat to make them easier for packing.

To blanch your vegetables, bring a large pot of water to a boil. A good rule of thumb is 1 gallon of water per pound of vegetables. Add the veggies to the boiling water. Let the water return to a rolling boil, and cook the veggies for 1-2 minutes.

Remove the vegetables from the water and transfer them immediately to a bowl of ice water. Let them sit until they are completely chilled. Then, drain the vegetables well.

Some kinds of veggies, like tomatoes, do not need to be blanched before freezing. Just wash, peel, core, and freeze.

#### **Choosing the Right Containers**

Frozen food can spoil if it's not packaged carefully to avoid contact with air. You can prevent this from happening by choosing the right kinds of containers. Use containers that are moisture proof. Glass jars, metal containers, special freezer bags or other freezer-safe plastic containers can be used. As home gardening and food preservation has become more popular, there are now a wide variety of "freezer safe" storage products on the market. If you choose to use plastic bags, be certain to remove as much air as possible before you seal the bag. You may find that purchasing a vacuum sealer is a good investment.





Common Blanching Times		
Vegetable	Time	
Asparagus	1-3 minutes, depending on size of spear	
Green Beans	3 minutes	
Beets	10-15 minutes	
Broccoli	3-4 minutes	
Carrots	cut 3 minutes, whole 5 minutes	
Cauliflower	3-4 minutes	
Corn	5-6 minutes off cob; 8-10 minutes on cob	
Eggplant	4 minutes	
Leafy Greens	2 minutes	
Okra	4-5 minutes	
Peas	2 minutes, shelled	
Summer Squash	3 minutes	

#### **Packing to Freeze**

There are two basic types of freezer packing: solid-pack and loose-pack.

To solid-pack produce, just place your prepared food in the container and freeze. This type of packing conserves precious freezer space and is useful in a hurry, or with big batches of produce, like diced soup veggies. Be sure to leave a little headspace, or open space, at the top of the freezer container. Your food will expand as it freezes, and will need a little "wiggle" room.

To loose-pack your produce, freeze just one layer of vegetables at a time on a cookie sheet. Once the produce is frozen, transfer it directly to the storage container. Repeat the process until you have a full container or are ready to freeze. This method works well for fruits and smaller items, such as berries and peas. With loose packing, you do not need to worry about leaving headspace, as your items are already frozen when you pack them.

Wipe all edges of your container clean before sealing. Then, label each container with the name of the food and the date it was packaged. Most of your produce will keep frozen for up to 12 months.

#### **Freezing Herbs**

You can also freeze your fresh herbs—like basil, chives, cilantro, dill, mint, and parsley. Be sure to blanch them first to lock in their fresh flavor. After washing, drop the herbs into boiling water for 30 seconds to a minute, and then remove with a slotted spoon. Transfer to a bowl of ice, and let chill for a few seconds. Blot the herbs dry with a towel, and spread them onto a cookie sheet lined with wax paper. Freeze for approximately one hour, and then transfer to your desired freezer containers. Herbs will keep well in the freezer for 4 to 6 months. Add them to your soups, stews, and sauces all winter long.

#### **Dehydrating Your Food**

Dehydrating your food is nothing more than letting your food "dry out" in order to save it for longer periods of time. This method uses hot, dry air to remove the water from inside the food to inhibit the growth of any bacteria. Dehydrating food is quick, easy, cheap, and also quite fun to do.

Dehydrated foods usually look a little darker in color, and often smell more fragrant and are sweeter to taste. This is a good thing! Do not expect your home-dried food to taste anything like the commercially dried foods at the grocery store. Your home-dried food will taste a thousand times better because there are no additives or preservatives in your home-dried goods.

Dehydrating food is really a form of creative recycling. When you dry your own food, you are cutting down on waste and unnecessary packaging. Dried foods take up a small amount of space. For instance, you can store approximately 20 dried tomatoes in just a 1-quart jar!

Dehydrating your food is also very safe. The only thing you really need to look out for when dehydrating food is mold, and this rarely happens if you follow the directions in drying your food. Mold can form on your food if it was not dehydrated long enough, or if the storage container had moisture in it. If you see or smell mold in your dehydrated food, then you should discard it.

#### What Equipment Do You Need?

Drying food is popular with home gardeners and cooks because it is easy and requires very little equipment to do. Of course, you'll need to invest in a quality food dehydrator, but once you've made that investment, it will last a lifetime. We like the Excalibur 3900. See the Appendix for product and ordering information. The only other "must have" for dehydrating is a good sharp knife for cutting and slicing your foods.







The following items are not necessary, but will help you prepare foods for drying:

- Saucepan
- Blender or food processor
- Strainer

#### What Can I Dehydrate?

You can dry almost anything! Fruits, vegetables, meats, fish, and herbs can easily be dried at home. You can make delicious fruit leathers for the kids and all sorts of hearty meat jerky too. Apple chips, banana chips, dried herbs for cooking...the possibilities are endless. Just use the booklet that comes with your dehydrator—it will help you learn how to dry all of these things and more. Just follow the simple directions.

#### **Storing Your Dried Foods**

As we've discussed, moisture is the enemy of your dried foods. So, you should always store your dried foods in airtight containers, and keep them in a dry, dark place such as a pantry. Keep them away from direct light. Be sure to label the contents and the date it was prepared.

Dried foods will keep well for approximately one year. Use them from one season to the next. For example, dry your garden tomatoes this year and use them all winter long, replacing them with newly dried tomatoes next summer. Herbs are an exception. They will last for a very long time.

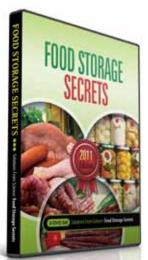
#### **Canning**

Grandma's strawberry jam, rows and rows of homemade spicy salsas and fresh tomato sauces, mango chutney, crisp pickles...

Canning is a long beloved tradition of home gardeners everywhere. Why? It's a natural way to extend the harvest and eat fresh all year long. Anyone who has tasted the goodness of home-canned tomatoes in the dead of winter can tell you the end result is well worth all of the hard work that goes into canning.

#### **Safety Basics**

Understanding how to prevent food spoilage is the key to canning success. Our foods are constantly surrounded by tiny microorganisms such as mold, yeast, and bacteria. While these microorganisms are helpful to us much of the time, they can also be harmful under some circumstances and conditions. That's why we must know how to handle our food safely and securely.



http://foodshortageusa.com/

Canning your food correctly, by explicitly following all directions, is your key to avoiding any problems caused by these microorganisms. That's why it is a good idea to purchase a "how-to" canning guide or book on home canning and follow the directions to the letter. See the Appendix for suggested resources.

You can safely can your food at home by using the right equipment—such as closed glass jars with two-piece vacuum sealing lids. By heating your canned foods to the correct temperature and holding them there for the desired length of time, you are destroying these potentially harmful microorganisms. The processing time, heat, and pressure needed for safe processing will vary from food to food.

#### **High-Acid Foods**

High-acid foods can be prepared in a water bath canner and are some of the safest foods you can process at home. Generally, all of your fruits, like berries, apples, and peaches, are high-acid foods. Jams and spreads are also high-acid. And let's not forget





the gardener's favorite—tomatoes. Tomatoes and their by-products, such as spaghetti sauce, salsa, and tomato puree, are some of the most popular home-canned foods of all time. High-acid foods are some of the easiest to can and are great starting point for those new to canning.

#### **Low-Acid Foods**

Vegetables, meats, poultry, and seafood are low-acid foods. They will need to be processed using a special type of canner, called a steam-pressure canner, or pressure canner. In order to destroy all bacteria, low-acid foods must be heated to a temperature of 240° F and held there for a designated time, as set by the recipe. Steam or pressure canners are easy to use, but you must follow the directions that come with the canner exactly in order to guarantee safely processed foods. When you purchase a steam-pressure canner, do *not* throw out the instruction book that comes with it. You will want to refer to it for years to come.

#### What Equipment Will I Need for Canning?

- Glass jars (can be reused)
- Lids and Bands (must be purchased new each time you can)
- Water Bath Canner (for high-acid foods)
- Steam-Pressure Canner (for low-acid foods)

Some other items you might want to purchase include:

- Jar lifter
- Jar funnel
- Spatula
- Lid wand

While this may seem like an extensive list, it's really not. Many of these items can be purchased together as a bundle in a home-canning package at your local home and

garden store or ordered online. Items such as the water bath canner and steam-pressure canner are one-time purchases that you'll keep using year after year.

Other products, such as a cooking timer, blender, and food processor aren't necessary for canning, but will help speed up the process and can be a nice luxury to have on hand.

Learning how to can is *not* difficult. While easy to do, there are multitudes of tips and tricks you should learn for best success. We recommend the DVD tutorial, *Food Storage Secrets*. You'll find more information about this helpful DVD set at www.foodshortageusa.com



#### Plan to Can

You don't just wake up one morning and say to yourself, "Gee, I think I'll make 20 pints of jam today!" Instead, it's something you plan for. Here are a few steps you should take.

- 1. Decide what you want to can, and find a good recipe that's tried and true. Choose recipes that feature the items that are fresh right now. Can your jellies and jams when fruit is ripe, and can salsa when the tomatoes are at their peak.
- 2. Assemble your jars, lids, and other supplies. Purchase any additional supplies you'll need (such as fruit pectin for jam, etc.)
- 3. Sterilize and clean your supplies before beginning. You will need to sterilize jars, so plan enough time for this step. If you're reusing glass jars, you'll need to inspect them thoroughly for any nicks or cracks.
- 4. Follow the recipe to the letter as you prepare your food. DO NOT SKIP STEPS. This part of the process can take several hours, so it's a good idea to set aside a good portion of the day for canning.







- 5. Process the food exactly as the directions call for them to be processed. Plan to complete only those recipes that fit within the time you have available. You can't walk away from your canner once you've started!
- 6. Label your jars and store them when they are cool. Give yourself enough time to clean up and put your canning items away safely for use next time.

#### **After Processing**

Once the processing time has passed, and the jars are ready to be removed from the canner, stand the jars upright on a large towel or countertop. Space the jars a few inches apart so they can cool at an even rate. Leave the jars for 12-24 hours to cool. Prevent the jars from exposure to rapid temperature changes, such as cool drafts. This will allow even cooling and will guard against broken glass.

After the jars have cooled, test the lids to see if a seal has formed. The best way to do this is to press down on the center of the lid. If the lid does not pop up and down, and stays firmly down, it is sealed. You may also hear a "ping" when the lid seals. If your lid

does not seal within 24 hours, you may be able to reprocess the food. Just check your recipe. You should also examine your jars for any signs of nicks or cracks. Label the tops with the name of the food and the processing date, and wipe them down before storing.

#### **Final Thoughts**

If you're new to gardening and preserving food, we hope that this book has been an encouragement to you. As you become more self-sufficient for your food needs, you'll also find that you are eating more healthfully and probably feeling better than you ever have before.

Gardening isn't hard, but it does take time and attention. The same goes for preserving your harvest. The results are well worth it. Food production and preservation are wonderful projects for the whole family. Working together in the fresh air and sunshine, and later, in the kitchen, will bond your family in a whole new way and bring you a kind of satisfaction you've probably never before experienced.





# APPENDIX Recommended Resources

#### **SEEDS**

#### **Survival Seed Bank**

How would you like to grow enough food to feed your family, friends, and even neighbors for years and years to come? The Survival Seed Bank is a special collection of hard to find, open pollinated super seeds that will produce for you year after year. When the grocery shelves are empty, your family will be enjoying delicious and hearty vegetables straight from your own "crisis garden." Each seed has been carefully selected for longevity, and our seeds have a very long shelf life. Buy this seed bank once, and never worry about your food security again. Check it out at: www.survivalseedbank.com

#### **Heirloom Solutions**

Growing healthy, nutritious food in your own backyard has never been easier. Home gardening has become a popular activity and with good reason. Heirloom Solutions gives you the tools you need to grow the very best – organic, heirloom varieties of plants that will nourish and feed your family. We stock a large variety of the best quality heirloom seeds to meet all your needs. From vegetables to herbs, to lettuces and beans...we've got everything you need to garden organically. To see our extensive catalog and seed selection, visit: <a href="https://www.heirloomsolutions.com">www.heirloomsolutions.com</a>

#### **Herb Bank**

For thousands of years, civilizations have flourished using herbal remedies to treat common ailments and serious diseases. These remedies have stood the test of time, being handed down for generations. Learning how to grow and make your own herbal remedies is a wise choice for your health care needs, but it's also a good way to save money! Most herbal remedies are inexpensive and easy to make. Our Survival Herb Bank includes 20 powerful herbs that will give you the capacity to treat colds, cough, flu, PMS, allergies and more—all from the comfort of your home. To learn more, visit: www.survivalherbbank.com

#### **Survival Sprout Bank**

In a crisis situation, your health is <u>everything</u>. These days, more and more people are stockpiling food and preparing for hard times. Yet, most folks have no real source of phytonutrients—living nutrients like vitamins, minerals, and enzymes in their pantry. Sprouts will give you and your family a continual, renewable source of these essential enzymes. This secret "superfood" could make or break your chances of surviving—and thriving—through a crisis. The Survival Sprout Bank includes everything you need to

grow (and store) 10 carefully selected sprout varieties for maximum nutritional value. Easy to use, easy to grow. Learn more at: <a href="https://www.survivalsproutbank.com">www.survivalsproutbank.com</a>

#### **GARDEN SUPPLIES**

#### **Protogrow**

Protogrow is an all-new, all-natural fertilizer that boosts your garden production to levels you've never experienced before. In fact, Protogrow has the potential to more than double your harvest and crop yields! This amazing fertilizer is the perfect addition to your organic gardening routines and practices. It's so powerful it almost forces your plants to grow in any kind of condition. Try it today at <a href="https://www.growlikecrazy.com">www.growlikecrazy.com</a>

#### **Nitro Seed Starter**

This amazing product allows you to jump start your crops. Simply soak your seeds in this solution for a few seconds before planting. The seeds will just grow like crazy! A great addition to your organic gardening supplies. Find out more at: <a href="http://www.solutionsfromscience.com/?p=814">http://www.solutionsfromscience.com/?p=814</a>

#### **EQUIPMENT**

#### **Excalibur 3900 Food Dehydrator**

The Excalibur 3900 Deluxe Series 9 Tray Food Dehydrator is a great addition to any kitchen. Families that love eating healthy will enjoy being able to dry their own food. With the Excalibur 3900 you can dry anything evenly and efficiently—from fruits, to vegetables, to meats, and more! This unit will have you making and enjoying homemade fruit leathers, snacks, and beef jerky in no time. Because of the unique horizontal drying system, there is no need to rotate trays...saving you time! Learn more at: <a href="http://www.solutionsfromscience.com/?p=2873">http://www.solutionsfromscience.com/?p=2873</a>

#### PUBLICATIONS & DVDs

#### Canning DVDs

This DVD set contains absolutely everything you need to know to put up food for you family. Canning, dehydrating, and other methods of storing food for your family are covered in the *Food Storage Secrets* set of 3 DVDs. <a href="https://www.foodshortageusa.com">www.foodshortageusa.com</a>

#### The Art of Gardening

The West Ladies of Homestead Blessings farm have been growing their own food, flowers, and plants for many years, and have a wealth of "down home" knowledge about the art of gardening. The Art of Gardening DVD is an excellent addition to your home library. <a href="http://www.solutionsfromscience.com/?p=805">http://www.solutionsfromscience.com/?p=805</a>





#### **Serving Up the Harvest**

Andrea Chesman shares more than 175 recipes designed to bring out the very best in whatever produce is peaking now. From spring's first Peas and New Potato Salad to autumn's sweet Caramelized Winter Squash and Onion Pizza, serving up the harvest has never been so delicious! <a href="http://www.solutionsfromscience.com/?p=2989">http://www.solutionsfromscience.com/?p=2989</a>

#### **Reclaiming Our Food**

In this meticulously researched, fascinating book, Tanya Denckla Cobb, an expert on food system planning, explores where we are as a nation in terms of food systems, where we're going, and what kinds of changes can be enacted to get us there, all in an accessible, reader-friendly tone. (Publishers Weekly) <a href="https://www.solutionsfromscience.com/?p=2973">https://www.solutionsfromscience.com/?p=2973</a>

#### **Seed Sowing and Saving**

In this book you'll find everything you need to know to successfully harvest seeds from more than 100 common vegetables, annuals, perennials, herbs, and wildflowers, then dry and store them for maximum viability. You'll also learn how to start seeds indoors to get a jumpstart on the season, and to prepare your soil beds for planting. http://www.solutionsfromscience.com/?p=2440

#### Put'Em Up

Preserving is back, and it's better than ever! The step-by-step instructions in *Put'em Up* will have the most timid beginners filling their pantries and freezers with the preserved goodness of summer in no time. And with recipe yields as small as a few pints or as large as several gallons, readers can easily choose recipes that work for the amount of produce and time at hand. <a href="http://www.solutionsfromscience.com/?p=2583">http://www.solutionsfromscience.com/?p=2583</a>

#### **Big Book of Preserving the Harvest**

Now updated and rejacketed, the *Big Book of Preserving the Harvest* introduces the basic technique for all preserving methods, with step-by-step illustrations, informative charts and tips throughout, and more than 150 recipes for the new or experienced home preserver. <a href="http://www.solutionsfromscience.com/?p=2883">http://www.solutionsfromscience.com/?p=2883</a>

#### **Carrots Love Tomatoes**

This gardening classic was first published in 1975, and now a second generation of gardeners who prefer pest-resistant planning to chemicals will find a place for it on the shelves. It's one of the most practical books around for any gardener of edibles, no matter how serious or casual. <a href="http://www.solutionsfromscience.com/?p=2775">http://www.solutionsfromscience.com/?p=2775</a>

#### The Winter Harvest Handbook

Building on the techniques that hundreds of thousands of farmers and gardeners adopted from *The New Organic Grower* and *Four-Season Harvest*, this new book focuses on growing produce of unparalleled freshness and quality in customized unheated or, in some cases, minimally heated, movable plastic greenhouses. http://www.solutionsfromscience.com/?p=2840

#### **Emergency Herbs**

Discover how to make your own emergency herbal remedies—perfect for use in any survival situation or when medical help may be unavailable or unaffordable. From coughs and sore throats to fevers and flu, this book contains the information you may desperately need one day. <a href="https://www.emergencyherbs.com">www.emergencyherbs.com</a>

#### **Make Herbal Medicines**

Learn how to make powerful herbal medicines in the comfort of your own kitchen! This complete how-to course includes 3 DVDs of quality hands-on instruction and a 150-page reference manual. <a href="https://www.makeherbalmedicines.com">www.makeherbalmedicines.com</a>

#### The Art of Herbs DVD

The Art of Herbs, an in-depth DVD that teaches you just about everything you ever wanted to know about identifying, growing, storing, and using herbs for both culinary and health-enriching purposes. The West Ladies of Homestead Blessings farm reveal their herb gardening secrets and more. <a href="http://www.solutionsfromscience.com/?p=807">http://www.solutionsfromscience.com/?p=807</a>

#### **Homegrown Herbs**

Tammi Hartung provides the definitive guide to planting, growing, harvesting, and using more than 100 herbs. An internationally renowned herbalist, teacher, and certified organic grower, Hartung has filled this indispensable reference with a wide range of information gathered from her 30 years of studying and working hands-on with these amazing plants. <a href="http://www.solutionsfromscience.com/?p=2667">http://www.solutionsfromscience.com/?p=2667</a>

#### **The Homesteading Handbook**

Wherever you live—farm, suburb, or even city—*The Homesteading Handbook* will show you how to embrace a more self-sufficient lifestyle. Learn to plant and harvest your own organic garden. Learn how to enjoy fruits and vegetables year round by canning, drying, and freezing. From beekeeping to basket weaving to baking, this handy guide has everything you need to operate your own little homestead. <a href="http://www.solutionsfromscience.com/?p=2082">http://www.solutionsfromscience.com/?p=2082</a>

#### **Back to Basics**

Back To Basics is an excellent book for inspiration and instruction on how to live a simpler, more self-sufficient lifestyle. This book will show you how to do all sorts of projects, such as: dying cloth, weaving, making cheese, brewing your own beer, keeping bees, and even how to build your own log cabin! <a href="http://www.solutionsfromscience.com/?p=2042">http://www.solutionsfromscience.com/?p=2042</a>

#### **Self-Sufficiency Handbook**

For needs inside and outside the home, Alan and Gill Bridgewater cover the ecological gamut, from geothermal heating to crop rotation to soap making. Packed with helpful illustrations and diagrams, this guide will appeal to urban dwellers who want to adopt certain aspects of greener living and to serious adherents of back-to-basics living. http://www.solutionsfromscience.com/?p=1429





#### **Mini Farming**

Mini Farming describes a holistic approach to small-area farming that will show you how to produce 85 percent of an average family's food on just a quarter acre—and earn \$10,000 in cash annually while spending less than half the time that an ordinary job would require. Even if you have never been a farmer or a gardener, this book covers everything you need to know. <a href="http://www.solutionsfromscience.com/?p=2804">http://www.solutionsfromscience.com/?p=2804</a>

#### **Endnotes**

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- 8 Kingsolver, Barbara, Animal, Vegetable, Miracle. (New York: HarperCollins, 2007), 305-306.
- 9 http://www.pubinfo.usda.gov/garden/Map\_View.cfm
- 10 http://www.howtocompost.org/info/info\_composting.asp

Massive public and private debt ... the threat of hyperinflation ... the corporate monopoly on agriculture ... vanishing topsoil ... fragile ecosystems ... rising unemployment ... skyrocketing food prices ... the threat of bioterrorism ... all on a collision course for the <u>perfect storm</u>:

# Starvation In the streets!

How you can avoid personal disaster and make sure your family has plenty to eat, year after year, no matter what!



### A Letter from the President ...

Dear Concerned Friend,

Permit me to be blunt. The world is going to hell in a handbasket.

Big Finance is rotten to the core. Big Government is powerless to do a thing about it - except mortgage our grandchildren's future, of course. And Big Pharma just wants

to push antidepressants on us to numb the pain.

So here's a question to ask yourself: are you part of the problem, or are you part of the solution?

You might be thinking to yourself that I'm just a gloom-and-doom pessimist. I assure you, I'm not. In fact, just the opposite.

That's why I started my company, Solutions from Science. We focus on solving problems, not creating them. We believe that the American spirit of independence, resilience, and hard work is still alive and kicking, and ready to meet the next challenge.

That's why we do everything we can to support that fiercely independent spirit. Our products are proven, tested solutions that solve real and pressing problems. They enable you to take control of your own life and provide a better future for yourself, your children, and your grandchildren.

If you're reading this, I'm betting that you're not the type of person to wring your hands and hope the government will somehow manage to pull off a miracle. Rather, I'm betting you're a person of purposeful action. Someone who recognizes the amazing shift our society is undergoing ... someone who is determined to thrive in the new economy. I hope you'll allow us the privilege of helping you to meet those challenges.

We're in for a wild ride. Are you ready?

Sincerely, Hel

Bill Heid, President Solutions from Science

### Ready to take control of your own food supply?

# It may be all that stands between you ... and starvation!

Foreclosures ... massive job losses ... bank failures. The federal government is sinking deeper and deeper into debt. State governments across the nation are facing bankruptcy. Higher taxes are just around the corner. Hardworking Americans are struggling to keep their jobs and pay their bills.

But it's not easy. Gas prices are inching up daily ... food prices are shooting up ... and it's getting harder and harder for many Americans just to put food on the table. As we go to press, 39 million Americans – a record number – are on food stamps. Food banks can't meet the exploding demand.

Many of these are people just <u>like you</u> – people who have worked hard all their lives, saved their money, and played by the rules. *And now they're scrambling just to hang on*.

Let's face facts. Despite the spin politicians and pundits are trying to put on it, things are grim. And it's likely to stay that way for quite some time, too. It takes decades to climb out of a trillion dollar hole.

With the economic situation this bad, we face the very real danger of hyperinflation. The government may be forced to print more money just to keep from going under. And if that happens, *nobody* will be able to keep up with food prices then!

That's reason enough to be concerned about how you'll feed your family. But that's only the half of it.



If hyperinflation hits food prices, how will you pay for groceries?

Rising food prices are just a symptom of a much deeper problem. Nobody wants to say it. Experts are tiptoeing around it. They think if they don't say it, it will just go away. But it won't. Here's the bottom line:

# Feeding this country, not to mention helping other countries feed their citizens, is about to become more difficult than ever before.

It's no exaggeration to say that some people will starve. We're facing the convergence of factors that, taken one by one, are bad enough. But add them together, and they suggest a frightening conclusion:

(Continued on page 5...)

# The Survival Seed Bank is a Wealth of Nutrient Density and Nutrient Diversity

Every one of the 22 plant varieties in the Survival Seed Bank has been chosen for four things: 1) nutrient density; 2) the ability to thrive in a wide range of geographic regions; 3) extraordinary germination rate; and 4) ease of growing. Your Seed Bank contains enough seed to plant one full acre, and the plants contain diverse nutrients for a well balanced diet. Complete growing instructions included.

**Important Note!** As we went to press, every one of the varieties listed below was in stock. With the current non-hybrid seed shortage, however, it is possible that we will have to substitute similar varieties if supplies run out. Even if there is a substitution, your Seed Bank is guaranteed to contain the same amount of heirloom-only seeds.



**October Bean:** Beans are rich in fiber and an inexpensive source of protein. This Native American variety dates back to the 1830's from the Cherchei Nation in Tennessee. Prolific producer, great winter staple. Bush habit, 85-90 days. 200 seeds per Seed Bank.



**Black Valentine Bean, Stringless:** This very old heirloom dates back to before 1850, and was introduced commercially by Peter Henderson in 1897. Straight slender dark green, nearly round pods, stringless at all stages. An excellent source of Vitamins C and K, as well as a good source of other vitamins and minerals. 16-18-inch plants, hardy, good for early plantings, and a good shipper. 48 to 70 days. 300 seeds per Seed Bank.



**Bountiful Bean:** In 1897 Abel Steele of Ferguson, Ontario won a \$25 prize for naming this new variety from Peter Henderson & Company, previously known as "Green Bush Bean #1." Similar nutrient content as Black Valentine Bean. Heavy crops of excellent quality, brittle, stringless 6-7" pods. Productive bush plants grow 16" tall, 47-50 days. 200 seeds per Seed Bank.



**Detroit Dark Red Beet:** Introduced in 1892; original selections were made from Early Blood Turnip by Mr. Reeves of Port Hope, Ontario. Nearly globe, blood-red 3" diameter roots. Beets are often credited in folk medicine for gallbladder and liver health, and they have natural anti-inflammatory properties. Delicious fresh, great for canning. Prolific, good keeper. 60-65 days. 300 seeds per Seed Bank.



**Copenhagen Market Cabbage:** Introduced by H. Hartman & Co. in 1909. Solid heads reach 6-8" in diameter, weigh 3-4 pounds and rarely burst. Medium sized plants ideal for small gardens. Cabbage is a part of the brassica family of vegetables, which are known for their cancer-protective properties. 63-100 days from transplant. 300 seeds per Seed Bank.



**Stowell's Evergreen Corn:** The original strain of this variety was bred by Nathaniel Newman Stowell, born May 16, 1793 in New Ipswich, Massachusetts. After years of refining the strain, Nathaniel sold two ears of seed for \$4.00 to a friend who agreed to use it only for his private use. His "friend" turned around and sold the seed for \$20,000 and it was introduced to the seed trade in 1848. This variety is still the leading white variety for home gardens and market growers. Ears grow 8-9" long and have 14-20 rows of kernels, 1-2 ears per stalk. 80-100 days. Corn is an excellent source of thiamine, a B vitamin that supports the nervous system. It's also rich in lutein and zeaxanthin, natural phytonutrients that support healthy vision. 250 seeds per Seed Bank.

(Seed descriptions continue on page 6...)

#### there won't be enough food to go around.

All around the world, farmers can no longer afford to farm. Corporate monopolies on seed and fertilizer have pushed more and more farmers into unprecedented levels of farm debt. Every hour of every day, one American farmer goes out of business. India has lost 200,000 farmers to suicide since 1997 due to economic pressures. And so it goes around the globe. But that's not all.

### American farmland is vanishing at an alarming rate.

Every state in the nation is losing its best quality farmland. Much of that loss is due to development, but that's not the only reason.

The state of our nation's topsoil – or lack of it, to be precise – is a <u>disaster</u>. Topsoil is the first few inches of rich, nutritious soil that's so vital for growing nutrient-dense food. Topsoil is a precious asset, and you have to take very good care of it if you want to keep it. Industrial agriculture

has utterly <u>failed</u> at this <u>essential task</u>. Every year, America loses 1.7 billion tons of topsoil to erosion alone. And it's not easy to replace. It takes 500 years for Mother Nature to replace 1 inch of topsoil. Less land to farm means less food.

If you're like many people, you're probably asking, "But won't scientific advances in farming mean we can harvest more bushels from every acre?"

That's what Big Agriculture would like you to think ... but the truth is:

### Industrial farming has starved and poisoned the soil.

With less good farmland to go around, more and more is demanded from each remaining acre. No wonder the soil is worn out! Intensive industrial agriculture never gives the land a chance to rest and renew itself. The soil is completely stripped of its nutrients. It's dying. Worn out land produces fewer crops. And the crops it does produce are deficient in the essential vitamins and

(Continued on page 7...)

#### Customer says, "Now I'm prepared!"

"I was delighted to see how well the seeds are packaged, and to see the great variety of nutritious food available to me when it comes time to plant for my harvest. I am an experienced gardener, but honestly, there is more than enough information with the seed bank for anyone to get started with it. The kit includes the highest quality seeds available, and a plan for planting even under tough soil conditions.

Now that I have my Survival Seed Bank, I feel prepared for facing a possible food shortage; prepared enough not to worry about myself, but to offer hope and food to my neighbors as well. I have followed the instructions to seal it and keep it in a cool dark place for future use. Here are some pictures of my raised bed garden last season, which included some of the varieties of seed in the Survival Seed Bank."

Jamie Burnside – Connecticut



# Here are more seed varieties included in your Survival Seed Bank (continued from page 4):



**Reid's Yellow Dent Corn:** This old-timer is well adapted to Southern heat and soil. Vigorous 6-7 foot plant, 9-10" double, well filled ears, high in protein. Developed by James L. Reid in northern Illinois. This late large reddish corn was crossed with an earlier yellow dent to create the modern Reid's Yellow Dent. Nutrient profile is similar to Stowell's Evergreen corn, above. One serving contains 12% of the daily recommended value of fiber. 85-100 days. 300 seeds per Seed Bank.



**Bushy Cucumber:** Enjoy the cool, satisfying crunch of cucumber in your salads! This well-known older variety originated in Russia. Recommended for dacha gardens that surround Moscow because of its compact "bush" plants with 3-5 foot vines. Good production, for fresh eating or pickling. 46-49 days. For earlier harvest, start indoors before the last frost. 90 seeds per Seed Bank.



**Yellow of Parma Onion:** Onions were once so valuable they were given as part of a bride's dowry. Folklore credits them with numerous healing powers. Research suggests numerous health benefits, including natural anti-inflammatory effects and cardiovascular support. These onions are top-quality and late-maturing with handsome, golden, upright globeshaped bulbs. Average size is 1 pound. One of the best for storage. Imported from Italy. 110 days from transplant. 1000 seeds per Seed Bank.



**Bloomsdale Spinach:** Vigorous, upright plants. Dark glossy green leaves are thick, twisted, crumpled, blistered and savoyed. Fine quality, very tender, excellent flavor. Rich in Vitamins A and K, rich in lutein and zeaxanthin, a good source of folate, Vitamin C, potassium, and more. Quick growing, heavy yields, well adapted for late spring or summer plantings, slow to bolt. Introduced before 1908. 39-60 days. 400 seeds per Seed Bank.



**Scarlet Nantez Carrot:** Cylindrical roots are 7" long by 1 ½" wide. Bright reddish-orange flesh, fine grained, nearly coreless, great flavor, sweet and brittle. Good as baby carrots. Good for storage, freezing, and for juice. Variety chosen for its extremely high antioxidant constituents. Rich in beta-carotene, a precursor for vitamin A. Widely adapted, highly selected, uniform strain. 65-70 days. 1,050 seeds per Seed Bank.



**Red Salad Bowl Lettuce:** No well rounded diet should be without greens. Dark leafy greens provide many essential vitamins and minerals. Large decorative upright plants with wide leaves that are crisp and delicious. One of our best performers. Beautiful deep-lobed bronze leaves, 6" tall and 14-16" wide plants. Very slow to bolt. Introduced to U.S. gardeners in 1955. Looseleaf, 50 days. 1,750 seeds per Seed Bank.



**Oakleaf Lettuce:** Known as Baltimore or Philadelphia Oakleaf in the 1880's. Resistant to hot weather, long-standing, never bitter. Excellent quality even in late summer. Looseleaf, 50 days. 1,750 seeds per Seed Bank.



Hale's Best Melon: A reliable early melon with heavy netting and firm salmon colored flesh. Good flavor and drought tolerant. Fruits are round and weigh 3-4 pounds. Introduced in 1923. Melons are ripe when they "slip" off the vine. Hale's Best should be harvested just prior to "full slip" or when you might still need to pull a bit to make them slip off the vine. A serving of this melon delivers 100% of the recommended daily allowance of Vitamins A and C. 175 seeds per Seed Bank.

(Seed descriptions continue on page 8...)

minerals we need to stay healthy. Poor quality soil means poor quality food and shrinking harvests. And it's happening now.

Genetically modified crops were supposed to save us, but that hasn't been the case either. There's a dirty little secret the big agricultural conglomerates don't want you to know about. Across the globe, wherever genetically modified crops are grown, yields are actually shrinking. A giant global corporation recently admitted it: one of its major crops, genetically engineered to resist pests, isn't working. The pests are coming back stronger than ever ... and destroying even more crops! Make no mistake about it: genetically modified crops are a recipe for disaster!

And in the midst of all this, the government is taking your hard-earned tax money and subsidizing multibillion-dollar fuel companies ... and that's just compounding the problem, because ...

### Biofuels are taking the food right out of your mouth

You can have food, or you can have biofuel. But you can't have both! Make no mistake about it ... the competition between food and fuel is very real!

Want to put a gallon of ethanol in your car? The grain required to make that gallon of fuel represents a full year's supply of grain for one person. No wonder the price of corn has doubled! Yet these outrageous subsidies continue, while hard-working Americans struggle just to pay their grocery bills!

DEAD END

And to complicate matters even more, there's the whole way our economy is structured ... it's

practically a setup for food shortages!

I'm talking about our "just in time" economy. Supply lines for food distribution are about 3 days. While tight inventory control means more profits for suppliers, there's no margin for error. None. If you've ever headed for the store to stock up on bread, milk, and toilet paper before a snowstorm or hurricane, you know what I mean. The shelves are bare within *hours*. Remember the looting for basics like food and water during Hurricane Katrina? *It doesn't take much to trigger a food panic!* 

Financial meltdowns ... job losses ... diminishing U.S. harvests ... what would you do if a food crisis hit? Or an economic one? Or worse?

# Why the growing threat of a terrorist act on U.S. soil could leave you hungry

What happens if it's more than just a little weather? What if our worst fears about swine flu or bird flu come to pass? Or even worse – what if there was an act of bio-terrorism? Or a "dirty bomb" was set off in a city near you? How fast do you think the shelves in the grocery stores would empty? Could you and your family survive such a

panic?

In February of this year, senior U.S. intelligence officials were blunt: Al Qaeda is expected to attempt a major attack on the United States within the next six months. It's anybody's guess how they'll do it, but experts have a few ideas. A recent blue-ribbon panel conclud-

ed that a biological weapon is more likely than a nuclear weapon. Even if that's the case, according

(Continued on page 9...)

# Here are more seed varieties included in your Survival Seed Bank (continued from page 6):



**Green Arrow Pea:** An English main crop variety, a standard home and market variety. Medium-sized vines grow 24-28" tall. Slim pointed pods are 4-5" long and contain 8-11 small deepgreen peas. Pods are almost always borne in doubles. Peas are a nutritional bargain, a good source of 15 vitamins and minerals along with fiber and protein. Very heavy, reliable production. Shell, 62-70 days. 500 seeds per Seed Bank.



**Fordhook Giant Chard:** Introduced in 1934 by W. Atlee Burpee and Co. Broad dark green heavily crumpled leaves with white veins and stalks. An excellent source of Vitamins K, A, C, and E, as well as magnesium, potassium, and iron. Plants grow 24-28" high with 2 ½" wide stalks. Abundant crops all season and even after the first light frosts. 200 seeds per Seed Bank.



**Brandywine Tomato:** (a.k.a. Red Brandywine) The original Brandywine introduced by Johnson and Stokes in 1889, the large vines produce fruits that are 8-12 ounces and deep red in color. Tomatoes are an excellent source of Vitamins A and C, along with protective antioxidants. Very productive, excellent taste. Indeterminate, 80 days. 200 seeds per Seed Bank.



**California Wonder Pepper:** First introduced in 1928. This is one of the best for the home gardener, long known as a great canning and freezing variety. Heavy sets of 4-lobed, 4" blocky fruits that ripen from green to red. An excellent source of Vitamins A and C. Start indoors; 70-75 days from transplant. 200 seeds per Seed Bank.



**Early Jalapeno Pepper:** The earliest Jalapeno, does well even in cool areas. Sturdy 24" plants are loaded with 3" fruits that ripen from green to red. Fruits are mild when green, but hotter when red and fully ripe. Great for pickling. 60-70 days from transplant. 200 seeds per Seed Bank.



**French Breakfast Radish:** Oblong and blunt, rose-scarlet with a white tip. White, crisp flesh, mildly pungent flavor, top quality. In folk medicine, radishes have been used for liver and gallbladder health. A good source of Vitamin C. Sow in the spring or fall, pick when small. A garden standard since the 1880s. 30 days from transplant. 900 seeds per Seed Bank.



**Walthan Butternut Squash:** Prized for its uniform shape, rich dry yellow-orange flesh, nutty flavor and high-yielding vines. Good source of healthful carotenoids. Fruits are 3-6 pounds and exceptional keepers. The result of years of patient refinement and selection by Bob Young of Waltham, Massachusetts. One of the most recognized types of baking squash. AAS winner in 1970. 83-100 days. 40 seeds per Seed Bank.



**Rossa Bianca Eggplant:** Stunning Italian heirloom, these beautiful fruits are prized by chefs. Very meaty 4-6" round fruits, mild flavor and almost never bitter. Well suited for all of your cooking needs, great for Eggplant Parmigiana. A good source of fiber and antioxidants, along with potassium and Vitamins B1, B6, and folate. 80 days from transplant. 50 seeds per seed bank.



to expert testimony before Congress, the risk of nuclear weapons being used against the United States is growing, not diminishing.

You're not "paranoid" to be concerned. A recent Rasmussen poll revealed that almost 8 out of 10 Americans believe there will be another terrorist attack on American soil in the coming months. And if it happens, food will disappear from store shelves in the blink of an eye. Depending on the severity of the attack, food distribution could be impacted for weeks, months ... perhaps even years. Are you willing to take that chance?

#### How You Can Have The Peace Of Mind and Assurance That You and Your Family Will Never Go Hungry

You don't have to worry about how you would feed your family in a panic. Now you can grow all the survival food you'll ever need with the Survival Seed Bank. This is a complete kit that contains 22



Your family will never go hungry when you can enjoy abundant garden crops like these.

varieties of hardy, hard-to-find, open pollinated "super seeds" that grow under diverse geographical conditions. This kit contains everything you need to grow a **full acre crisis garden**.

Having a supply of good quality, non-hybrid seeds can mean the difference between having enough and going hungry ... and in extreme cases, it could even be the difference between life and death.

(Continued on page 11...)

#### **How to Bury Your Seed Bank**

Throughout history, people have buried their valuables in times of trouble to prevent theft or government confiscation. Buried underground, your Survival Seed Bank will keep your seeds <u>safe for decades</u> if necessary. Here's how:

- 1) Seal the lid on the Bank shut with PVC glue. This can be purchased inexpensively at most hardware stores. Once sealed, you may wish to wrap the Bank in a plastic garbage bag.
- 2) Choose your location carefully. Bury the Bank on your own property so you always have access to it. Make sure that the terrain is stable avoid swampy areas as well as the banks of ponds, brooks, or creeks. Avoid burying your Bank near utility lines or water pipes.
- 3) Dig a hole approximately 2 to 3 feet deep. At this depth, it won't be too easy for someone else to find, and you'll be able to get to it quickly.
- **4)** Place your sealed Bank in the hole. Backfill the hole in layers, carefully tamping the dirt down.
- **5)** Plant a small shrub or bush on top of the site. This will help you mark the spot as well as disquise the site.
- 6) Remember where you buried it!

# Is Agricultural Armageddon Right Around The Corner?

ats are a gift from God. They're natural predators who help control pests like the corn borer moth and the cucumber beetle. In fact, bats are the number one predator of nocturnal insects in this country. They can eat up to 100% of their body weight in insects in a single feeding. But something ominous has been happening in recent years.

Bats are dying ... by the millions. On the east coast, bats have been afflicted with a plague called "white nose syndrome." It decimates entire colonies. In some places, up to 94.5% of the bats have died. The cause is unknown, there's no known cure, and **the plague continues to spread.** 

The impact on agriculture is huge. In 2009 alone, at least one million bats died from white nose syndrome. Scientists estimate they would have eaten 694 tons of insects. Instead, those insects ravaged crops. The result? **Leaner harvests and higher prices.** 

But it's not just the bats. Something even more catastrophic is already underway.

#### The honeybees are dying, too.

In the United States, honeybees are essential to agriculture. Fully one third of US crops depend on bees for pollination. They help pollinate over 90 common crops.



Fully one third of U.S. agricultural crops depend on commercial honeybees for pollination.

You may have heard of it. It's called "Colony Collapse Disorder," and it first began to get the attention of beekeepers and farmers in 2006. While there are a number of theories out there, the cause is still unknown ... and bees continue to die off at alarming rates.

Mobile commercial fleets – transported from farm to farm, and town to town, across thousands of miles by professional beekeepers – have been hit hard. Many farmers, who depend on commercial bees to pollinate their crops, are having trouble getting them when they need them most.

About 30% of all commercial bee populations have died since this mysterious epidemic began. And they're still dying.

If bees continue to vanish at this rate, they'll be extinct in 25 years. Imagine what that will mean for the 90 different crops that depend on bees for pollination.

Many of those plant species could vanish right along with the bees – at least on a commercial scale. It doesn't matter how much farmers are willing to pay for bee services; there are only so many hives to go around. In the past few years, the price of commercial bee pollination has *tripled*! There are alternate methods of pollination, but none of them work on a large scale. Small colonies of wild bees can take up the slack – but realistically they can only pollinate small garden plots. You *can* pollinate by hand – but only if you're a small farmer. To pollinate millions of acres of crops by



hand is impossible. As bee-pollinated crops get scarcer and scarcer, prices will continue to go up, up, up. We're already starting to see shortages in the stores of some varieties. If honeybee populations collapse entirely, we could lose a third of commercial crops. The impact would be devastating.

The Survival Seed Bank contains 22 varieties of open-pollinated "super seeds." Plus, you get <u>detailed growing instructions</u> for each variety. You won't ever find these seeds at your local gardening center or big box store. These are <u>super-germinators</u>, guaranteed to germinate well *above* the standards set by government regulations.

The seeds you buy at a big box store are no bargain. Most of the seeds on the market for home gardeners today are grown in China, and many of them are required by law to achieve only a 70% germination rate. Compare that to the seeds you'll get in your Survival Seed Bank.

Every batch of seeds is tested for high germination rates and certified by an independent laboratory. For instance, our Red Salad Bowl Lettuce has a germination rate of 97%. Hale's Best Melon has a 99% germination rate. *All* of the seeds in the Survival Seed Bank germinate well above the standard set by government regulations – on average, your seeds will exceed government standards by at least 10 percentage points.

These seeds are authentic strains of proven

performers, many of them tested over hundreds of years. They are *not* genetically modified, and they are *not* hybrids. This means that you can save the seeds, year after year, and get the same quality crops year after year. You can't do that with modern hybrids!



The seeds in the Seed Bank have an average germination rate that's at least 10% higher than government standards.

Plus, these non-hybrid seeds will grow almost



The seeds are moved as quickly as possible from the growers to you. In the interim, they are carefully stored at precise temperature and humidity levels in special climate-controlled storage facilities.

anywhere! They have the ability to assimilate mineral and trace elements from the soil that modern hybrid and GM varieties just don't seem to have.

In addition to high germination rates and tolerance for versatile growing conditions, every seed in the Survival Seed Bank has been chosen for its contribution to a well-rounded, nutrient-dense diet. Modern varieties simply don't offer the same nutritional and flavor benefits as these spectacular non-hybrids.

Each seed pack is individually packaged for maximum shelf life. We dry each seed to the precise level of allowable moisture. This locks in hardiness and maintains an extremely long shelf life. Then each seed is sealed in a special foil packet with a very expensive dessicant designed to keep seeds fresh for 20 years at 70 degrees. The seeds are then vacuum packed and placed in a special water-proof Seed Bank container.

The Bank container is practically indestructible. It's corrosion-proof, shatterproof, flameproof, and waterproof. It's lightweight and compact, measuring just 12 ½ inches tall and 4 ½ inches in diameter.

(Continued on page 13...)

### Meet the "Indiana Jones" of the seed trade

To get the best seeds, it takes the skill and know-how of an experienced seed sleuth. The 22 varieties in the Survival Seed Bank have been procured through the efforts of our agent, whom we'll call "Mr. P." Mr. P, who zealously guards his privacy and wouldn't permit his name to be published, is one of the world's foremost experts on seeds.

From Holland to South America, from Thailand to Russia to Africa, from India to Australia, Mr. P travels throughout six continents in search of the hardiest, highest germinating seeds possible. He chooses *only* those seeds that perform well in many different geographic areas. With decades of experience, he knows which seeds are genetically stable – that is, they will breed true year after year. He knows who the players are, and who can be trusted to sell only quality seed.

Our typical seed suppliers are fiercely independent farmers. They grow their crops in remote plots, far from the prying eyes of power-hungry corporations and overly inquisitive governments.

Competition for the best seeds can be fierce. Some of them, literally, are worth more than their weight in gold! Mr. P ensures he gets there first, before other buyers swoop in, reserve all the soon-to-be-harvested seed, and lock him out of the market.

Mr. P shares this important advice: "Never plant all of your seed! In the case of contamination – by accidental cross-pollination with another variety, or by GMO drift – you can go back to your other seed and grow it again. Save multiple generations if you can."

#### **Survival Seeds Produce Shocking Amount of Food!**

"I happen to be one of the victims of this current economic crisis, and I'm afraid it's going to be getting MUCH MUCH worse before it gets any better. I really didn't want to have to dip into my Survival Seed Bank so early on in this crisis, but last summer we did. We planted only about 1/15 of an acre because we don't have very much space. We are not really gardeners, so we were quite shocked to see just how much food that actually produced! We may be broke still, but I know we have probably never eaten this good or this healthy in our entire lives thanks to the survival seed bank!

Even though I still have plenty of seed left to last me for years, I started doing some seed saving just for fun and I actually have more seeds now than I started with! We canned over 20 cases of quart jars and had to give a bunch of vegetables away to the neighbors because we ran out of jars. It's so nice to know that no matter how bad things get my family and I will never go hungry. I am so glad I invested in the Survival Seed Bank when I had the money or I just don't know where we would be today without it. Thank you so much for this great product.

P.S. The vegetables are way better than anything we have in the store, and I live in California!" *Keith Allen – California* 

It's easy to carry with you if you're on the move, and small enough to store almost anywhere.

You can keep your seeds even longer than 20 years, if you want to. If you freeze your Seed Bank, you can **increase the shelf life five times or more** beyond that! If things fall apart, it will be more important than money in the bank!

### Our very special offer to you – for a limited time only!

Planting season is just around the corner! With the looming threats of food shortages and terrorism, we want to get the Survival Seed Bank into as many hands as possible.

That's why we're offering the Survival Seed Bank at the very special price of just \$149. Please note that this is <u>half off</u> the regular price of \$299. And even if you paid full price, the value to you is incalculable! You pay just <u>once</u> for these seeds, and can save the seeds from every harvest, year after year. <u>You'll never have to buy seeds again</u>. And let's face it – in a real crisis, the seeds would be worth more than gold!

The seeds in your Survival Seed Bank, if purchased individually, would cost you well over \$600 – *if* you could get them. With your Seed Bank, you also get bonuses worth \$49.95, absolutely free.

### Important Note About Heirloom Seed Shortages:

As we went to press, every seed variety listed in this publication was in stock. However, there is an ongoing shortage of heirloom seeds. If we run out of one variety, we will substitute a similar variety. Rest assured that your survival garden as a whole will offer a wide spectrum of nutrient-dense foods.

"The seeds in your Survival Seed Bank will achieve extraordinary germination rates, exceeding government standards by at least 10 percentage points."

You'll want to act now. You never know what's going to trigger the next panic. Another financial meltdown? A natural disaster? Or, God forbid, an act of nuclear or bioterrorism? <u>Don't delay!</u>

It's been said that risk equals probability times consequences. If you're like most people, you want to ensure that your family is safe and well provided for. Even if you don't plant your garden this year, you have the assurance of knowing the seeds are there when you need them. Your loved ones won't starve if things fall apart. What's the worst possible scenario you can think of? Are you prepared for it? If not, are you willing to bear the consequences?

Don't delay! Order your Survival Seed Bank today. For fastest service, call 1-877-327-0365, or order online at www.SurvivalSeedBank.com. You can also mail in your order if you prefer – instructions for sending your order by postal mail are on page 15. But no matter how you prefer to order, please don't put it off!

P.S. Many of our seeds come from Chile. Growers had just completed their seed harvest when the 8.8 magnitude earthquake struck earlier this year. Transportation lanes to the ports are impassible. It may be MONTHS – or longer – until the seeds can make it out of the country. Supplies on hand are limited. Place your order NOW!

Turn the page to order your Survival Seed Bank.

# Order your Seed Survival Bank today ... and get everything you need to grow a thriving, abundant, survival garden!

For just \$149, you get everything you need to create a one-acre survival garden that will yield lush, productive, nutrient-dense crops — and probably the most delicious food you've ever tasted! Here's what you get:

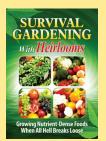
#### The Survival Seed Bank

The Bank contains 22 varieties of non-hybrid, open pollinated seeds that are independently certified



for extraordinarily high germination rates. At press time, the seed varieties include the ones listed earlier in this publication. However, if we run out or are unable to obtain one of the varieties, you'll receive a similar variety. The seeds have been carefully dried to optimize their shelf life without sacrificing quality. Each variety is sealed in a protective foil packet. They are then carefully packed in a virtually indestructible seed bank canister, suitable for burying if you wish. Canister measures 4.5" in diameter and 12.5" high.

### Free Bonus: Survival Gardening with Heirlooms: Growing Nutrient-Dense Foods When All Hell Breaks Loose



With your order, you get this 80-page, full color gardening manual. For beginners and experts alike! This how-to manual, written by a master gardener, is chock-full of all the information you need to create a highly productive survival garden.

A \$20 value!

#### **Free Bonus: Nitro Seed Starter**



Simply soak your seeds for a few seconds in the solution right before you plant them. When the Nitro soaked seeds hit the ground ... whoosh! The seeds grow like crazy.

A \$10 value!

#### Fast response bonus worth \$19.95 – yours FREE!



Respond within the next 10 days, and you'll also receive a free copy of The Art of Gardening by Homestead Blessings. If you're at all intimidated by gardening, this warm, folksy and practical presentation will inspire and motivate you. Hands-on demonstration of composting, container gardening, planting green beans and potato patches, and more. Supplies of this DVD are limited – so hurry! Order today!



#### $oxedsymbol{\square}$ Yes! I want the peace of mind that comes from knowing I can provide for my family no matter what happens. Rush me my Survival Seed Bank today! © ORDER BY PHONE, TOLL-FREE: **1-877-327-0365** (Ask For Extension M2010) ORDER ONLINE: www.SurvivalSeedBank.com (Use Coupon Code M2010 to Get This Deal) ☐ OR: Fill out this form and send to the address listed below. Quantity (Limit: 4 per customer) Price per Seed Bank **Order Total** \$164 (\$149 + \$15 S&H) *Illinois residents only:* Please add \$9.69 sales tax per Seed Bank. ☐ I am responding within 10 days. Along with the regular bonuses, please send me my fast response bonus. ☐ Enclosed is my check or money order for: \$ \_\_\_\_\_ payable to *Solutions from Science*. ☐ Charge to my ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover Card Number: \_\_\_\_\_ Expiration date: \_\_\_\_\_ Name on card: \_\_\_\_\_\_ Signature: \_\_\_\_\_ Phone #: \_\_\_\_\_ (In case we have a question about your order. We will not share your private information with anyone!) Shipping Address: All orders are shipped via Federal Express, so no P.O. Boxes, please! City: State Zip Complete this form and mail, along with your check, money order, or payment information, to:

Solutions from Science • Attn: Survival Seed Bank 815 W. Main Street • P.O. Box 518 • Thomson, IL 61285

#### **Even beginners can harvest a bounty with the Survival Seed Bank**

"This past year, we planted a garden a little larger than what we had done before, using the Survival Seed Bank seeds that we purchased from you. We had good success with our garden – and were able to can green beans, pickles – and we froze lots of tomatoes. We found ourselves enjoying everything fresh from our garden – and should have saved more for preserving! This year we are planning a larger garden so we will have much more to can and freeze for future use. Since we are 'beginners' we appreciated all of the helpful information provided with the seeds. There is so much valuable information provided – we find ourselves referring to it often... and learning how to be more self-sufficient." – Roger and Arlene Jones – Independence, Kentucky

#### **Solutions From Science**

815 West Main Street P.O. Box 518 Thomson, IL 61285

# What you must know about the threats to the food supply:



• The terrorist threat to U.S. food supplies ..... Page 7

 Government energy policy: taking the food right out of your mouth? ..... Page 7

### What's your plan for avoiding starvation?

"Had my best garden ever in 2009 - excellent rain amounts, mild temperatures were a large part of it - but the seeds were extraordinary. **Excellent germination and production!** People would drive down my street to see 'the garden in the front yard!' People would stop and take pictures, get out and try to buy the produce before it had even been picked. The Boston Marrow Squash were spectacular - I had one that was over 40lbs! The cantaloupe were the best we ever had. The beans just kept on producing. Everything was better than I expected. **The best value and return on seeds that I've ever purchased.** We got compliments from every person that saw the garden or received some of the produce." – *Brian Williams – Tennessee* 

