# FOOD SHOCK

## Dangerous New Trends That Will Change America Forever

By Bill Heid *and* Brian Brawdy

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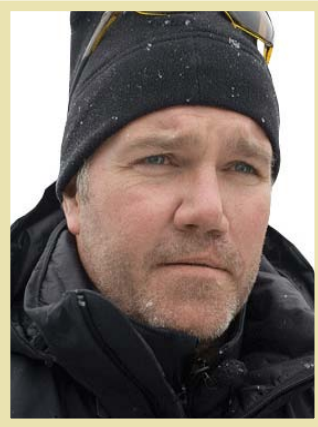
# About the Authors

Bill Heid is president and founder of Solutions From Science, one of the fastest growing companies in the preparedness and survival industry. Bill started his first business before the age of 21, and has been an incurable entrepreneur and marketer ever since. He is a proponent of families working together for common goals, whether it is growing vegetables in a backyard garden or building a family business. Bill's passion for equipping people to become self-reliant inspired him to start Solutions From Science.



Brian Brawdy is a former New York police investigator and Military Weapons Specialist. He has spent the last 25 years studying psychology, philosophy, political science and the survival mindset. Today he educates international audiences on the importance of self-reliance, survival and Libertarian values. Brian has appeared on CNN, FOX News, ABC, CBS, NBC, and The CW to communicate a compelling message about adapting, surviving and thriving, be it on a mountaintop or on Main Street.

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Throughout the ages, most households have been in charge of a significant portion of their own food production. That has changed only in the past couple of hundred years. But as food prices go up, food riots break out, and the food supply becomes ever more toxic, perhaps it's time to return to the traditions of yesteryear. At some point in the very near future, home gardening may no longer be just a hobby; for millions of Americans, it could become a necessity. There are three major reasons why.

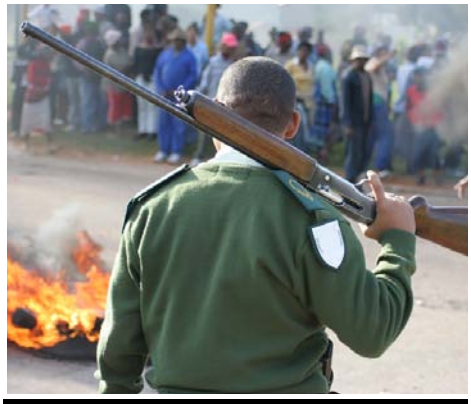
# Reason #1: Food Prices Are Going Up, Up, Up … and They May Never Come Down

Thieves steal rice right from the fields. Hijackers loot trucks carrying flour, milk, and juice on their way to supermarkets. Lethal fights break out in bread lines. People are trampled to death in the frenzied rush caused by a sale of cooking oil. These scenes were repeated the world over in 2008 as food shortages caused unrest and riots on every continent.[1]

> *A prudent man sees danger and takes refuge, but the simple keep going and suffer for it.*
>
> *(Proverbs 22:3)*

## It's Only the Beginning

We don't need economists to tell us that 2008 wasn't an isolated event. Case in point: 2011 started off with food riots in the North African country of Tunisia, which sits on the Mediterranean, just a short boat ride from Italy. The government declared a state of emergency as thousands of protestors converged on the capital, Tunis. They were protesting the high prices of staple food products such as sugar, milk, and bread.



Food riots are becoming increasingly common around the globe, as we saw in early 2011 in Tunisia and Egypt.

The president vowed to reduce prices on these vital items, but it was too little, too late, as the crowd demanded his ouster. Tunisia's prime minister appeared on television to announce that he was assuming power, essentially relieving the embattled president of his office.[2]

And so it goes. Food prices around the world continue to rise at an unsustainable rate. In January 2011, the United Nations Food and Agriculture Organization (FAO) reported that its food price index jumped 32% in the second half of 2010, the highest such single jump since 2008.[3] This jump put food prices at the highest level ever recorded since FAO began tracking food staple prices in 1990.[4] FAO economist Abdolreza Abbassian declared that food prices were once again entering into a "danger territory."[5] 44 million people have been driven into extreme poverty since mid-2010 due solely to increases in the cost of wheat, corn, and oil, according to the World Bank.[6]

Food—or lack of it—fueled dramatic public protests in Egypt in February of 2011. Egyptians were crying out against skyrocketing food prices and the Mubarak government's lack of response to the crisis. On January 28, 2011, the international credit rating firm, Fitch Ratings, downgraded Egypt's outlook to negative, and specifically cited the high inflation of food staples—which it says is running at 17% a year—as one of the prime reasons.[7]

Beyond Africa, a similar food inflation rate, 18%, is plaguing India. Population giants Russia and China are seeking massive imports of grain and corn to feed people and livestock. Closer to home, Mexico is buying corn futures to stave off unmanageable spikes in tortilla prices. The United Kingdom is also experiencing historic highs in grain prices.[8]

## How Will It Affect You?

Despite the crisis occurring in most of the world, the United States is not suffering to the same level … yet. In the developing world, people spend a much higher percentage of their income on food than we do here in the United States. In some countries, as much as 50% of a person's income goes just to put food on the table. Fluctuations in price have a much more immediate and dramatic impact on them than they do here, where the official figures say we spend an average of 10% of our money on food.[9]

But this low number is misleading. Lower income Americans can and do spend in the range of 30-40% of their income on food[10] In 2010, American food prices "officially" rose approximately 1.5%. The U.S. Department of Agriculture is predicting that food prices in the U.S. will rise 2-3% in 2011.[11]

While this is not earth shattering, it would still be up to twice the rate of general inflation in the U.S.[12] These figures, however, don't really give an accurate picture of what's going on. (More about that shortly.)

Gawain Kripke, the policy director for Oxfam America, warns that this relatively modest rise is a mere polite warning of what is to come. The Department of Agriculture's chief economist, Joseph Glauber, has said that the rising cost of agricultural products will likely hit American consumers the hardest with a sharp increase in meat and dairy products. As the cost of feed for livestock increases, farmers usually reduce the size of their herds, leading to lower production levels of beef, pork, and dairy products. Currently, 40% of the corn produced is used for animal feed,[13] and indeed, prices for these items rose faster in 2010 than for other food products. Glauber predicts that trend will continue into the future as prices for agricultural products continue to rise and as global supplies contract.[14] In a six-month period from mid-2010 to early 2011, global corn future prices rose from $3.50 to $7.00 a bushel. Good for corn farmers ... bad for cattlemen, dairies, and consumers.[15]

In a six-month period from mid-2010 to early 2011, global corn future prices rose from $3.50 to $7.00 a bushel.

## The Consumer Price Index: Pay No Attention to the Man Behind the Curtain

There is a seeming contradiction between what is happening here at home versus the rest of the world. Despite the rise in value for both the Chinese yuan and the Indian rupee versus the U.S. dollar, the consumer price index (CPI) for China has risen 4.4%, and for India a whopping 8.6% in 2010.[16] Meanwhile the CPI in the United States has risen a seemingly modest 1.6%.[17] The numbers don't tell the whole story.

The U.S. consumer price index is more an administrative sleight-of-hand than a reflection of reality. The CPI in all countries is a measurement of how much the cost of goods have increased over a set period of time. Each country creates a "market basket" of common goods that are tracked to determine their cost changes. The items tracked in the American market basket are determined by consumer surveys conducted by the U.S. Bureau of Labor Statistics. Each set of goods in the market basket is weighted as a percentage of the total CPI. The weight is determined by how much of the average consumer's income is spent on a particular commodity.[18]

In India, food is weighted at 47%, and in China, at 34%, meaning that, because the average consumer spends a large percentage of their income on food, the CPI in those countries is heavily weighted towards food prices.[19] In the U.S., where the percentage spent on food is, on average, much lower, food makes up only 15% of the CPI.[20] The CPI is also a victim of politics. Officials want the CPI kept low so that it doesn't trigger automatic cost-of-living increases for government employees and federal retirees. So on paper, things don't appear to be as bad in the U.S. as in other countries. But ask any shopper in the checkout line at the grocery store, and you'll hear a different story.

There are other measures that may more accurately reflect the real inflation being felt in Americans' pocketbooks. The Massachusetts Institute of Technology (MIT) recently pioneered an initiative called *The Billion Prices Project*[21] which tracks price changes for roughly 5 million products sold online in 70 countries. For U.S. price data, they track the prices of 550,000 products sold by 53 online retailers. According to MIT's data, the "real" inflation being exacted on the bank accounts of Americans is roughly 66% higher than that reported by the CPI.[22]

There's no doubt about it: American families are feeling the pinch of high food prices. Some parents have to work two or even three jobs just to put groceries on the table. Many families have drastically cut meat out of their diet and are filling up on cheap, empty calories like pasta. Non-profit food pantries report that people are treating the pantries like grocery stores, returning week after week instead of using them as a stopgap measure.

***"We are going to see Depression-style hunger, Darfur-style hunger, Calcutta-style hunger happening here in New York."***

One parent told newspaper reporters that she doesn't fix herself a plate of food at dinner, but makes do with the scraps from her children's plates instead. According to a recent study published by the non-profit organization Share Our Strength, over two-thirds of school teachers across the United States report that they have students in their classrooms who do not get enough to eat at home.

Joel Berg, Executive Director of the NYC Coalition Against Hunger, made this disturbing pronouncement in February 2011:

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Our seed crops are grown with the careful stewardship of small, fiercely independent farmers. All crops are hand-harvested to ensure peak seed maturity.

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Every single batch of our heirloom seeds is germination tested by an independent 3rd party laboratory. If the seeds don't meet our high standards, we don't sell them.

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*"Hunger today is not people starving in the streets, but it's people choosing between food and rent. It's parents going without food to feed their children. If safety net programs are further eviscerated, we are going to see Depression style hunger, Darfur style hunger, Calcutta style hunger happening here in New York."*

## Bad Weather is Expensive

Another factor that has driven food prices up dramatically (particularly wheat), is a pervasive drought in China that has the potential to wipe out a huge amount of China's wheat crop. China is suffering through its worst drought in 60 years. By early 2011, roughly 12.5 million acres of their winter wheat crop had already been damaged. At this writing, with the drought forecasted to last into early summer, Chinese officials are fearful of the survival of their summer wheat as well.[23]

China is the largest producer—and consumer—of wheat in the world. In most years, China is self-sufficient in meeting the staple food needs of its vast population of 1.3 billion. What happens if there is a shortage of wheat, and

it cannot? It can't get wheat from the second-largest producer, India, because that nation consumes most of what it produces as well. It will likely turn to the third largest producer, the United States.

China currently has the world's largest foreign exchange reserves at about $2.85 trillion. That means they can buy what they want, and outbid anyone else in the process. According to Robert S. Zeigler, the director general of the International Rice Research Institute, "China's grain situation is critical to the rest of the world—if they are forced to go out on the market to procure adequate supplies for their population, it could send huge shockwaves through the world's grain markets."[24]

China is actively trying to mitigate the effects of the drought by seeding clouds, building miles of irrigation systems, and digging thousands of wells. The results so far have been disappointing, to say the least. And the drought isn't just affecting China; Russian crops are suffering as well. In December, Russian Prime Minister Vladimir Putin signed a government resolution to send emergency grain supplies to the interior parts of the country for livestock feed, and to the large cities of Moscow and St. Petersburg for human consumption.

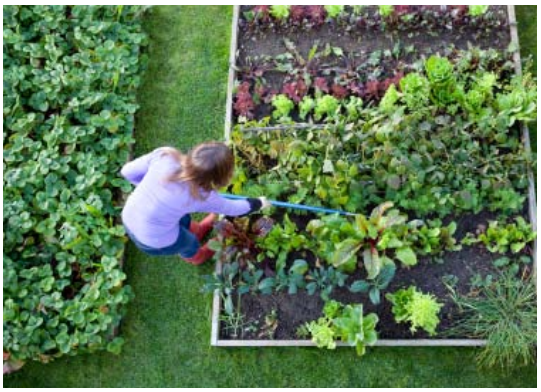
Corn is also affected. China imported 1.5 million metric tons of corn in 2010. Thomas Dorr, the president of the U.S. Grain Council, is forecasting that China will become the largest corn importer in the world by 2015. He predicts annual imports of 25 million metric tons. The combination of the increased demand and a smaller-than-expected corn supply last season drove corn prices up 42% in 2010.[25]

## A Return to the Age of Personal Food Production

Is there anything we can do as individuals? While most of us do not possess enough land to grow vast tracts of wheat to feed our families plus export the excess to China, there is something we can do. One of the most effective ways to insulate ourselves and our families from steadily rising food prices is to grow food for our own household. After all, it isn't just these mass-produced staples that are increasing in price.

At the end of 2010, the International Energy Agency, an organization that serves as a watchdog for energy issues in the industrialized world, noted that vegetable prices in China had risen 60%.[26] And as we have seen, these kinds of pressures in China affect food markets the world over.

Growing a garden enables you to control a significant portion of your food supply. It insulates you from the rising cost of food, and confers concrete monetary benefits. Let's do the math.



A home garden can save at least $600 in food costs. Many gardeners save much more.

The National Gardening Association (NGA) tracks food prices and garden production. In 2009 they estimated that, on average, a garden produces $600 worth of produce in an average size garden of 600 square feet.[27] This value is increased when you realize that a person needs to earn roughly $800 in order to have $600 left to purchase vegetables … after income taxes, of course![28]

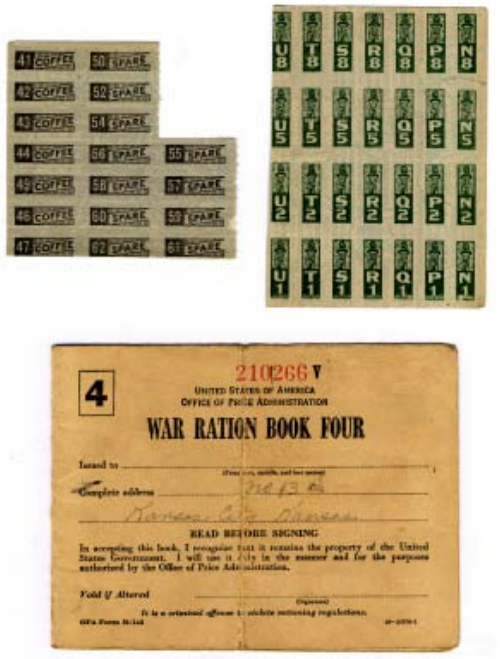
The NGA figures are conservative, and don't reflect what determined gardeners can really produce. Roger Doiron, founder and director of Kitchen Gardens International, decided to calculate the value of the produce he grew in his family food garden. His wife, who majored in economics in college, set up an accurate way to measure the value of the crops as they were harvested. Doiron invested roughly $240 in seeds, supplies, and compost. Growing an average assortment of vegetables and fruits on a relatively modest sized plot of land, his garden produced a whopping $2,400 worth of food in one season. What's even more impressive? Doiron lives in Maine, which has a shorter growing season compared to much of the country, *and* he produced his bumper crop in a garden that was only 1/25$^{th}$ of an acre. If he planted a full acre, he calculated, he could grow roughly $60,000 worth of food a year.[29]

# Reason #2: Food Shortages—Welcome to "the New Normal"

## Price Controls: Theory vs. Reality

Throughout history, when the prices of food or other staples necessary for survival have threatened to skyrocket to unreachable heights, the typical government response is not to raise supply, which would be the logical move. Instead, governments impose price controls.

Some economists and policy makers believe that price caps are an effective tool to protect consumers in the face of rising prices. In theory, this works great. If the correct price point is hit, the buyers get goods and services at a reasonable price, and producers make enough of a margin to be able to continue production.




During World War II, ration books and stamps like these were used to control the food supply and food prices. Could the United States soon return to a system like this?

Putting theory into practice, however, is an entirely different story, which often leads to ruinous results. In 2000, California experimented with price caps for electricity. It was disastrous for both consumers and producers.

During the French Revolution the French government, in response to an outcry from a hungry populace, placed an artificial cap on food prices that was so low that it was below the cost of production of the food. The inevitable result: farmers kept most of their produce for themselves, or sold it on the black market. These economic principles have not changed. In modern times, to combat hyperinflation across its economy, the government of Zimbabwe imposed strict price caps on a variety of goods and services. With the lower prices, demand surged.

Inventories were quickly depleted, but Zimbabwe's manufacturers couldn't afford to buy new raw materials to produce any more goods.[30]

Despite the checkered past of price caps, countries still try to implement them as a response to rising food prices. In 2010 China, Russia, Argentina, and, most recently, Ethiopia, all issued artificial price caps on food to deal with rising prices. All of these countries come from a tradition of more controlled economies.

But could it happen in the U.S.?[31] It already has. After the Japanese attack on Pearl Harbor in 1941, President Roosevelt and the Congress instituted a whole series of economic controls, including wage and price controls, and rationing of goods needed for the war effort. They even created a whole bureaucracy, the Office of Price Controls, to administer the new government-run economy.[32]

But this was not new in the United States. Price controls over food and commodities were put in place in World War I, and they were to be repeated later, during the Korean War. It's not only wartime emergency that triggers the government to take such measures. In the early 70s President Nixon imposed below-market price controls on automobile gasoline in response to a skyrocketing oil price. The result was the usual mix of high demand, low supply, hoarding, and black market sales.[33]

## Another Mouth to Feed … And Another One … And Another One …

We live in an ever more crowded world. Though the rate of population growth has slowed, it is still increasing at a mind-boggling rate. The journal Foreign Policy illustrates the problem, stating that, "[t]onight, there will be 219,000 additional mouths to feed at the dinner table, and many of them will be greeted with empty plates. Another 219,000 will join us tomorrow night."[34] Eventually the ability of farms to produce, and the earth to sustain, this burgeoning population will reach a critical limit.

We are already carrying out a delicate balancing act. Everything must go according to plan. When it doesn't, the consequences can be earthshaking. Just ask the hungry citizens of Egypt and Tunisia and Indonesia.

# Colony Collapse Disorder

***The Old Story of the Birds and the Bees ... or I Guess Just the Birds.***

Ninety different crops rely on honeybees for pollination. Commercial farms use mobile commercial bee fleets to pollinate large agricultural operations, but over the last 5 years, bees have been dying off at an alarming rate. In that time, 30% of the commercial bee fleet has died. If bees continue to expire at this rate, they will be extinct in 25 years. Because of this scarcity, the cost of commercial bee fertilization has tripled. In the short term, this is going to drive up food prices, but if the honeybee population collapses entirely, a full third of commercial crops could be wiped out entirely.

In 2010, a brave whistle-blower leaked a memo from secret files at the Environmental Protection Agency. That memo was a smoking gun. The EPA has known one of the major contributing factors to CCD for quite some time. The culprit is a chemical pesticide called *clothianidin*. Here's what the EPA's own internal memo said:

"Clothianidin's major risk concern is to non-target insects (that is, honey bees). Cothianidin is a neonicotinoid insecticide that is both persistent and systemic. Acute toxicity studies to honey bees show that clothianidin is highly toxic on both a contact and an oral basis … Information from standard tests and field studies … suggest the potential for long-term risk to honey bees and other beneficial insects."[35] Nonetheless, the EPA approved this pesticide for agricultural use in agriculture.

A similar pesticide, *imidacloprid*, has also been identified as a likely culprit. But research recently published by Dr. Jeff Pettis at the Bee Research Laboratory in Beltsville, Maryland, suggests the problem is multi-factorial. According to Pettis' research, the imidacloprid weakens bees' immune systems, making them far more susceptible to parasitic infections, which further contribute to bee deaths.[36]

And the phenomenon unfortunately isn't happening only to bees. Bats are now dying by the millions, and in some places, up to 95% of the bat population has succumbed to a plague called "white nose syndrome." Bats are the farmer's friend. They can eat up to 100% of their body weight every night in insects that are harmful to crops. In 2009, one million bats died, which could have consumed 694 tons of insects. By December 2011, it was estimated that 7,000,000 bats have died since the plague began. Caused by an aggressive fungus, the plague has no known cure and is yet a further blow to agricultural production.[37]

# When Mother Nature Ain't Happy, Ain't Nobody Happy

The current food shortages and the spike in food costs documented by the UN's Food and Agriculture Organization are caused primarily by a series of extreme weather events and natural disasters the world over. Julian Jessop, a world-renowned international economist, blames a recent spate of "supply shocks" for causing the rise in prices and decrease in supply.[38]

In addition to the drought in China and the Ukraine, dry conditions in Russia led to wildfires. The fires wiped out hundreds of thousands of acres of crops, mostly grain. In response to this disaster, Russia banned all grain exports in late 2010.[39] Argentina felt the pinch of drought as well; dry conditions there devastated their number one crop, soybeans.[40]

As some parts of the world are dealing with too little water, others have too much. However, in terms of damage to world food production, the result is the same. The recent floods in Australia are causing havoc in two key food sectors. Australian sugar cane growers are warning of shortages for the next three years, and their wheat production is expected to be impacted by the floods as well. Australia is currently the world's 4th largest producer of wheat[41]... at least until a flood the size of Germany and France swamped its farmlands in early 2011.[42]

Water problems have also plagued Canada. In late 2010, heavy rains wiped out much of Canada's wheat crop.[43]

To make matters worse, in January 2011 the USDA cut its forecasts for corn and soybean production in the U.S. and across the globe. The USDA estimates that by the end of August 2011, before the next harvest begins, U.S. corn farmers will have just 675 million bushels of corn ready for market. In a world of 7 billion people, that is just an 18-day supply.[44]

The *Financial Times* newspaper says that this decreased production now "leaves no further room for weather problems."[45] We are just one drought or one heavy rain away from a major worldwide catastrophe. Should another disaster hit India and

***"We are just one drought or one heavy rain away from a major worldwide catastrophe."***

the United States (something along the lines of the great Dust Bowl in the American Midwest in the 1930s), countries the world over will be scrambling to feed their own populations.[46]

The United States is not immune to drought, and there's one in the making that some experts have been warning about for years. The Ogallala Aquifer (also called the High Plains Aquifer) provides water for South Dakota, Nebraska, Colorado, Wyoming, Kansas, Oklahoma, Texas, and New Mexico. It was first tapped in 1911. Since 1950, nearly 80 wells per year have been sunk into it to meet demand for fresh water. It currently provides 30% of all U.S. farm irrigation and 70% of the water used daily in Kansas. Since 1980, water levels have dropped as much as 150 feet, depleting an estimated 6% of the aquifer. Some parts of the aquifer are already going dry; it is being used up faster than underground springs can replenish it. Best-case scenarios suggest the aquifer will last another 190 years, but some experts believe it could be completely dry in 25 to 30 years.[47] For the semi-arid climate of the High Plains, this means that when the water is gone, the production of wheat, corn, and soybeans will shrivel away.

In the past couple of years, catastrophic flooding in the U.S. in Tennessee, and in Pakistan and Australia, coupled with record breaking drought in Russia, Ukraine, and China have demonstrated just how dependent our food supply is on the weather. For now, the effects have just been an increase in prices. Soon, we may be scrambling just to eat, at any price.

## A 21st Century "Potato Famine" May Wipe Out Wheat

When potato blight swept through Ireland in the 1840s, 12% of the population starved. The Irish made the mistake of depending on just one type of potato, and they were helpless to resist the blight.

In the century and a half since then, we've made a similar mistake when it comes to wheat. Today, most of the commercial wheat that is planted in one country is genetically very close to the wheat planted in other countries. And that's a problem. Since the 1990's, a new strain of stem rust—designated as Ug99 because it was first identified in Uganda—has been making its way around the globe. And at least 80% (some experts say 90%) of the world's wheat is vulnerable to this fungus. It's

expected to reach the U.S. within the next few growing seasons—and will put about a billion dollars' worth of wheat at risk.

Ug99 has the ability to mutate quickly in order to survive. In fact, it's so good at mutation that it has defeated most of the "resistance" genes in different varieties of wheat. Agricultural scientists are barely able to keep one step ahead of it. Some fear we are losing the battle. In July 2011, National Geographic recently reported that, according to Rick Ward of the Durable Rust Resistance in Wheat project at Cornell University, "A significant humanitarian crisis is inevitable."[48]

## Corn: Pop It … Or Drive It?

In addition to supply shocks, there is more competition now for food products than ever before. And it's not from people, but from their cars. Ethanol is an alternative fuel made from corn in the United States and from sugar cane in Brazil. It's been around for decades, but only in the last few years has it become a major source of fuel for automobiles. The growth of ethanol development has been driven by the spike in oil prices, and consequently, gasoline prices since 2000.

70% of all new corn plantings are going to biofuels, not to food supplies.

President George W. Bush called for major growth of the ethanol industry as gasoline was reaching over $4 per gallon.[49]

In the 2005 and 2007 energy bills, Congress mandated that U.S. fuel companies incorporate ethanol into their fuel blends.[50] As a result, the ethanol industry is booming. In most cases, ethanol is used as an additive to gasoline that purportedly boosts power and burns cleaner than regular gasoline alone. Virtually any car can run on a fuel that has up to a 10% ethanol content.[51] However there are an increasing number of flexible-fuel cars that prefer a blend that is 85% ethanol and 15% gasoline called E85. Another blend of ethanol fuel, AGE-85 is being developed as an alternative aviation fuel for certain types of aircraft engines. Beyond engine fuel, ethanol is also used in the manufacture of pharmaceuticals, paints and

lacquers. It is also a key ingredient in cough medicine, and in personal care products such as hairspray, mouthwash, perfume, cologne, and deodorant.[52] In other words, ethanol use is projected to increase steadily.

As an alternative to fossil fuels, ethanol is finding some success, but at what cost? As more and more corn gets burned in our Fords and Chevrolets, the less corn there is to eat off the cob at a barbecue, to fatten cows and pigs, and to sweeten soft drinks. Prices, as would be expected, are spiraling upwards. As the price of corn has rocketed, so has the price of ethanol. In a twelve-month period between early 2010 and early 2011, the price of ethanol rose almost 50%, from roughly $1.70 per gallon to $2.50.[53]

Currently, one third of all corn produced is used to make ethanol.[54] However, in the USDA's latest *World Agricultural Supply and Demand Estimate*, corn usage estimates have risen by 70 million bushels for 2011, of which *50 million* were solely for ethanol refining.[55] In other words, in the coming year and beyond, over 70% of the new corn usage will be for fuel, not food. The effect on the corn supply is staggering. It takes a whopping 26 pounds of corn to make one gallon of ethanol.[56] That's a 6-month supply of corn for the average Americn![57]

Some experts are raising questions about the efficiency of biofuels as a substitute for oil and gasoline products. A recent study by scientists at Cornell University found that it takes approximately 140 gallons of fossil fuels (oil and gasoline) to plant, grow and harvest an acre of corn.[58]

It takes even more fossil fuel to convert that harvested corn into ethanol. Cornell's conclusion? You put more into producing biofuels than you get out of them. Cornell studied ethanol production from a variety of bio products—corn, switchgrass, wood, soybeans, and sunflowers—and in every case, it took more fuel to produce ethanol than ethanol would yield in return. David Pimentel, professor of ecology and agriculture at Cornell, stated that this situation was, clearly, "not sustainable."[59]

One acre of U.S. farmland is lost to development every minute. Between 2002 and 2007, over 4 million acres were lost, an area roughly the size of Massachusetts.

But despite growing evidence that ethanol is not a realistic alternative to fossil fuels, ethanol and other biomass fuels enjoy a reputation of being an earth-friendly alternative to oil. This is an argument that the government supports.[60]

## Can't We Just Plant More Food?

Growing more food sounds like a good idea, but in the story of industrial farming over the last 40 years, this hasn't proved to be the case. Have advances in agriculture increased crop yields per acre? Yes, but...

... those greater yields are offset by the fact that we are losing farmland in the United States at an astonishing rate.

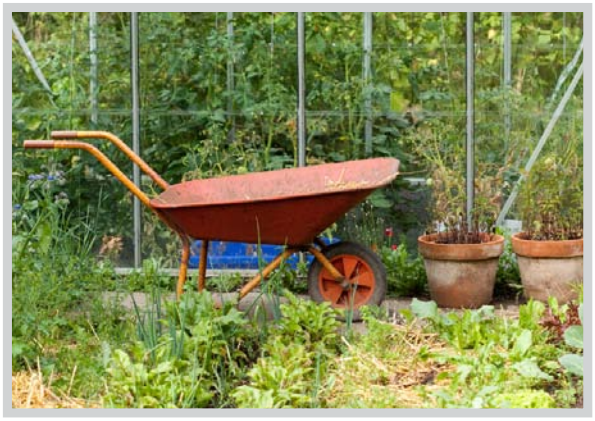
We lose, on average, one acre of U.S. farmland *every minute*. Most of this loss is due to the conversion of farms to industrial and residential uses. Between 2002 and 2007, 4,080,300 acres of farmland were converted for development. This is roughly the area of Massachusetts. This is just part of a long-term trend. Over the past 25 years, every state in the country has suffered a net loss of farmland. The biggest losers are Texas (1.5 million acres), Ohio (796,000 acres), North Carolina (766,000 acres), California (616,000 acres), and Georgia (566,000 acres).[61]

Yes, we could certainly use more land for food, but we are also going to continue to need more land for everything. Right now, industrial and residential development is winning out. Remember those 219,000 new people coming over for dinner tomorrow? And the next day? And the next day? Demands for land use will be coming from every sector, not just from the farmers. The pressures on land management will increase to a level never seen before.

By the end of this century, world population is expected to reach 10 billion. We can't even feed the 7 billion we have now; how will we feed 3 billion more? According to *Guardian* magazine, the planet will have to produce more food in the next 50 years than it has in the past 10,000 years put together.[62] Commercial production will not be able to keep up. Private production—home gardening—may be the only way to fill the gap.

# Make Your Own Patch of Earth Count

Growing your own food garden gives you a steady food supply that you can control. Your garden removes you from the demands of a growing population, rising food costs, and farmland shortages.



The average American eats just under 2,000 pounds of food per year.[63] Even a relatively small garden of 600 square feet produces about a pound of fresh produce per square foot, or 600 pounds during a growing season.[64] That represents 30% of your total food intake for a year.

It's also relatively easy to enjoy homegrown food year-round by spending a little extra time, and very little money, to preserve your garden bounty. Canning, dehydrating, and even root cellars give you a way to preserve your food for the deep winter months.

*Go to the ant, you sluggard; consider its ways and be wise! It has no commander, no overseer or ruler, yet it stores its provision in summer and gathers its food at harvest.*

*(Proverbs 6:6-8 NIV)*

# Reason #3: Fewer Nutrients, More Toxins

Fifty years ago, who would have imagined it? Gulf shrimp tainted with dispersants used to clean up the 2010 Gulf oil spill. Plastic rice from China. Even the produce you buy in the grocery store today isn't the same as the fruits and vegetables your grandparents bought when they were your age. The food they bought just 50 years ago was more likely to have been produced locally. It had a much higher nutrient content than today … and it tasted better too.[65]

The produce found on grocery store shelves today is designed to meet a number of retail needs. Plants are selectively bred to be larger, to resist herbicides and pesticides, and to have a longer shelf life in the store. Instead of in the fields or on the vine, most produce ripens in trucks and trains on the way to the supermarket.[66]

## Bigger Is Not Better

Breeding crops to increase the size and yield has had an unintended effect; it also decreases the nutrient value of the produce. Studies have found that there is anywhere from a 5-40% decrease in the vitamin, mineral, and protein in produce, with higher losses being found in vegetables.

***"An analysis of 43 common fruits and vegetables shows significant drops in nutrient levels across all of the foods tracked."***

As food growers are continually seeking to maximize their yield, they choose plant varieties that will allow them to maximize the size and the amount of edible food each plant will produce. Most of the increase in size is due to an increased amount of carbohydrate matter in the plants. The vegetable may get bigger, but it contains no more total nutrients than its smaller counterpart. Think of it as trying to spread a pat of butter over a slice of bread that's twice as large. If you eat the same serving size of bread as you always did, you only get half the butter. As the produce supply is increased, the nutrients per serving actually decrease.[67]

The USDA has been tracking nutrient content of fruits and vegetables since 1950. An analysis of 43 common fruits and vegetables shows some significant drops in nutrient levels across all of the foods tracked.

Overall, calcium content has dropped 16%, potassium 9%, iron 15%, and riboflavin an incredible 38%.[68] Certain foods have lost more than others. Potatoes, according to a Canadian study, have lost all of their vitamin A content, 57% of vitamin C and iron, and 28% of calcium.[69] In a comparison of USDA reports from 1963 to 1980, one researcher found some alarming numbers for what have long been considered vitamin powerhouses. Spinach has lost 45% of its vitamin C content, and 17% of its vitamin A. The global staple corn has lost 44% of its vitamin C, 29% of its vitamin A, 33% of its calcium, and 23% of its magnesium. And collard greens have lost across the board with losses of 62% of vitamin C, 41% of vitamin A, 28% of calcium, 51% of potassium, and an incredible 84% of magnesium.[70]

Don't look to genetically engineered crops to boost nutrient density. Dr. Don Huber taught at Perdue University for 35 years and is an expert on GM foods and soil microbiology. He says that GM crops are far less nutrient dense than conventionally grown crops. In an interview published in December 2011, he explained the science.

> *It is well documented that the nutritional efficiency—just having that foreign gene inserted—reduces the capability of that plant to take up nutrients and to translocate nutrients. When you apply the chemical [glyphosate, a pesticide which the plants are genetically engineered to withstand] you have a further compounding effect in reducing the efficiency of the plants ... it's been demonstrated that you reduce the uptake and efficiency of iron by 50 percent, of manganese, that's critical for liver function, and immune response by 80 percent. But then if you look at the translocation from roots to shoot, you also have a reduction in zinc and all three of those critical elements of 80 to 90 percent. Greatly compromised is the nutritional efficiency, as well as the ability of that plant to accumulate and to store those nutrients not only for its own use, but also for us and for our animal's nutrition in that process.* [71]

If multinational corporations and governments continue to succeed in persuading farmers to grow more and more GM crops, the nutrient density of food will be even more seriously compromised than it is now. The only trustworthy food will be heirloom crops that people can grow themselves at home.

# An Apple A Day … Could Give You Cancer?

Farmers typically lose up to 45% of their crops to insect infestations or malicious weeds, so they depend on the heavy use of pesticides and herbicides. However, some plants absorb the chemicals throughout the fruit so that the poisonous pesticides cannot be washed away. These items, dubbed "The Dirty Dozen" by the non-profit Environmental Working Group, carry these dangerous chemicals right onto our dinner tables and into our bodies.[72]

Many of these items are considered everyday staples of a healthy diet: apples, celery, peaches, strawberries, bell peppers, potatoes, and lettuce.[73]

The government's position has long been that consuming pesticides in the amounts found in the Dirty Dozen isn't harmful. Yet the President's Cancer Panel recently stated the opposite: people should eat fruits and vegetables grown *without* pesticides to reduce their chances of getting cancer.[74]

Strawberry growers in California are now permitted to use the pesticide methyl iodine, one of the most toxic chemicals on earth.

Now the strawberry, already one of the Dirty Dozen, is set to become even more toxic. As one of his last acts as governor of California, Arnold Schwarzenegger approved the use of methyl iodide as a pesticide treatment for strawberries. This chemical is considered extremely dangerous by scientists and environmentalists. Its use was approved despite a 2010 California Senate hearing on the issue, where Dr. John Froines, chairman of the California Scientific Review Committee, stated that methyl iodide is "one of the most toxic chemicals on earth."[75] Strawberries from California are consumed all over the country.

No long-term studies of the effect of pesticide consumption exist, so we don't really know what the effects could be over a lifetime of continual pesticide ingestion. Nor have studies been done to assess the impact of multiple pesticides in the diet as a whole. Amy Rosenthal of the Environmental Working Group has said, "[p]esticides are designed to kill things. Why wait 20 years to discover they are bad for us?"[69]

A large body of science points to the many dangers of pesticides. Perhaps most frightening is how pesticides affect children. Dr. Philip Landrigan, chairman of the department of preventive medicine at Mt. Sinai School of Medicine in New York has said, "[a] kid's brain goes through extraordinary development, and if pesticides get into the brain, it can cause damage."[76]

Two recent studies on pesticide exposure and children include these alarming findings:

- Pesticides commonly used on fruits and vegetables are linked to ADHD (attention deficit hyperactivity disorder) in children. Children with higher levels of pesticides in their urine had increased risk for ADHD.[77]
- Babies exposed to a chemical called permethrin while in the womb are at higher risk of learning problems. Permethrin is a common agriculture pesticide.[78]


## Feed Your Veggies!

Gardeners looking for a safe, natural way to fertilize their gardens are raving about ProtoGrow™, a natural blend of unique sea nutrients. ProtoGrow™ contains no harsh chemicals.

If you want larger, more flavorful vegetables, superior hardiness, and increased plant mineral uptake, you need ProtoGrow™! ProtoGrow™ even improves the micro-organism content of the soil.

*"We tried almost every organic fertilizer under the sun and your ProtoGrow works BETTER than anything! We use it to grow the vegetables that we sell at our produce stand during the summer. Our customers tell us that our produce tastes superior to anything they have ever grown themselves or bought at a store."*

(Cindy Jacobs, Peoria, IL)

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But it's not just children who are at risk. A search of the medical literature reveals pervasive problems with pesticides. There are numerous health risks, including various types of cancer, for farm workers who are exposed to pesticides. According to research by the University of London, 30 out of 37 pesticides tested acted as endocrine disruptors, interfering with male hormones.[79] Men with high levels of pesticide exposure have significantly decreased fertility.[80] Research from the National Institutes of Health reveals a link between pesticide exposure and Parkinson's disease.[81]

# Superfoods … or Frankenfoods?

Major industrial food producers spend large amounts of money to genetically modify (GM) fruits and vegetables. For the most part, these modifications are designed to increase the commercial shelf life and boost the yield of the crops. Another major goal is to increase yields in an effort to meet the needs of a growing population.[82] Recently, some of the industrial producers have added another goal of genetic modification, to increase the nutrition content of the food, though some scientists say that this new goal has yet to yield any scientific results.[83]

Farmers have been practicing a crude form of genetic engineering for centuries, by cross-pollination or fertilization. The tangelo—a hybrid of tangerine and grapefruit—was created by this method, and most of the apples that we eat today were created by these less sophisticated processes. These efforts were designed to give the plants positive characteristics, such as hardiness, but it was an inexact approach that often introduced undesirable traits as well.

Today, most genetic modification is done by gene splicing, where only one or two desirable genes are introduced into a plant. By this method, scientists can make very specific changes without transferring unintended traits as well. That's the theory, anyway.

The first GM food product introduced to American store shelves was in 1994. It was the Flavr Savr tomato, engineered to ripen on the vine so that it could be shipped long distances and sit on the store shelf longer without rotting. It was not a commercial success; consumers rejected it on the basis of both taste and texture.

Since then, 50 other foods have been genetically modified and are being sold in American supermarkets. The most common modification, performed on soybeans, cotton, and corn, is designed to help the plants resist pests and to resist herbicides. This allows farmers to use powerful weed killers without harming the crops themselves. Other plants, such as squash, potatoes, and papaya have been modified to make them resistant to disease.[84] A new type of rice, named Golden Rice, has been modified to add vitamin A, and should hit the market in 2012. This product has been engineered with the extra vitamin as a way to improve nutrition in the underdeveloped world.[85]

That all sounds good on paper, but the reality has been very different.

The stated objective of some industrial growers to increase yield to feed a ballooning world population is being called into question. In 2009, the Union of Concerned Scientists issued a report stating that GM processes have not measurably increased overall crop yields.[86] In fact, Indian farmers have suffered massive crop failures using GM seeds that failed to deliver the bountiful harvests promised. These crop failures have sparked a suicide epidemic. Every year, for over a decade now, over 15,000 Indian farmers have committed suicide in the face of financial ruin. Giant global seed corporations promised that GM crops would herald in a new era of productivity and prosperity for Indian farmers. Over 200,000 widows and their children would disagree.

What most consumers don't know about genetically modified foods is that they usually contain genes from a completely different species. The most common GM plants include soy, corn, canola, and cottonseed. The genes that are spliced into their DNA come from entirely different species, including bacteria and viruses. These organisms have never been part of the human food chain. And that's what has some scientists so alarmed.

Drugs undergo rigorous scrutiny and safety evaluations, but the FDA has not required the same of GM foods. The government pretty much takes the word of giant global corporations that GM foods are safe for human consumption. But not all countries are willing to trust the word of for-profit corporations. Governments across the world, including Hungary, India, Zambia, Venezuela, France and the European Union, have banned certain GM foods during the last decade.[87]

The FDA asserts that GM foods are safe.[88] Numerous scientists dispute that claim. Jeff Smith, Executive Director of the Institute for Responsible Technology, says,

> *The FDA has claimed it was not aware of any information showing that GM crops were different "in any meaningful or uniform way," from non-GMO crops and therefore didn't require testing. But 44,000 internal FDA documents made public by a lawsuit show that this was a complete lie. The overwhelming consensus among the FDA's own scientists was that GM foods were quite different and could lead to unpredictable and hard-to-detect allergens, toxins, new diseases and nutritional problems. It turns out that FDA scientists, who had urged superiors to require long-term studies, were ignored.*[89]

Smith has testified before Congress, and has developed an extensive body of information documenting the damaging effects of GM foods. There are no human clinical trials of the effects of GM food, but an extensive body of animal research reveals disturbing findings. One limited human study, where people consumed GM soy, should be cause for alarm. Genetic material inserted into GM soy will colonize in human intestines when eaten, and continue to function. The long-term ramifications of this changed bacteria balance is unknown.[90]

Space does not permit us here to list the numerous animal studies involving GM food, but here are a few highlights:

- One study in 2009 tested the effects of three types of GM corn, and found that they caused significant damage to the kidneys, livers, and hearts of their test animals.[91]
- Animal studies show that GM foods interfere with the immune system and are linked with asthma, allergies, and inflammation.[92, 93]
- GM corn impairs fertility. Researchers fed mice GM corn over several generations. By the third and fourth generations, the mice were having fewer offspring than those who were fed GM-free corn. GM-fed mice also had smaller offspring.[94]
- After cotton is harvested, Indian farmers routinely let their sheep graze on the remaining plant material. In 2006, dozens of Indian farmers reported that approximately 25% of their herds died after grazing on genetically modified cotton plants. Approximately 10,000 sheep died. According to investigators, the evidence suggests that, "the sheep mortality was due to a toxin … most probably Bt-toxin."[95] Bt-toxin is a pesticide, made from soil bacteria, that is genetically inserted into cotton genes. In essence, the cotton plant makes its own pesticide. It is found in every part of the plant and cannot be washed of.

In May 2009, The American Academy of Environmental Medicine issued a statement advising all physicians to urge their patients to avoid GM foods whenever possible. Meanwhile, the USDA recently gave their approval for more GM crops to be planted in the United States.

***"In May 2009, The American Academy of Environmental Medicine issued a statement advising all physicians to urge their patients to avoid genetically modified foods whenever possible."***

Many experts fear this may have disastrous consequences. In an interview published in December 2011,[96] Dr. Don Huber explained just how harmful GM crops are. Huber is an expert on genetically engineered crops, and as a professor he taught plant pathology and soil microbiology at Purdue University for 35 years. Huber explained that since crops such as corn and cotton have been genetically modified to withstand the application of glyphosate, a pesticide, those crops have become more and more resistant to it. Not only that, but glyphosate is killing important microorganisms in the soil and upsetting a healthy ecological balance. Said Huber, "What we see with our continued use and abuse of this powerful pesticide … is it is also totally eliminating many of those organisms from the soil. We no longer have the same balance that we used to have. Consequently, we see an increase of over 40 new diseases that we used to have managed under fairly effective control, but all of a sudden are another serious problem for us."

The USDA recently approved the planting of genetically modified alfalfa – and that, according to Huber, is another huge problem. Said Huber, "Alfalfas are the fourth most important economic crop, by far the most nutritional feed for our herbivores. They all of a sudden can definitely be threatened not only because of the direct effect of glyphosate on those microorganisms, but also because it predisposes and can make that plant very susceptible to some common diseases. … We certainly see it on corn where we have the sister organism with the Goss's wilt, a bacterial disease. In that situation, we find that when we put the glyphosate on it, it nullifies all the genetic resistance such as in the past made that disease of almost no consequence to us. … Now we find it from coast to coast, East to West, from Mexico to Canada. For four years now, we have a major epidemic in a major food production area in the Midwest. Just from that disease, that is a direct result of our genetic engineering process that reduces the genetic resistance."

So far, the USDA, FDA, and EPA have turned a blind eye to the devastating effects of genetically modified crops on the health of the soil, animals, and people. A large body of peer-reviewed research makes it clear that agriculture based on GM crops is unsustainable. But when the government finally gets the message, will it be too late?

# Does Your Food Glow In The Dark?

Food irradiation has been going on since the 1960s. It is a process whereby food is exposed to gamma rays, electron beams, and x-rays in order to kill harmful bacteria. The primary purpose? To extend shelf life. In 1963, the FDA declared that eating foods treated with irradiation is safe,[97] and governmental health organizations across the globe, including Canada and the European Union, agree. However, questions persist, and irradiation still suffers from widespread public suspicion.[98]

One problem with irradiation is that, not only does it kill bacteria, but it also damages the vitamins and nutrients within the food. Even supporters of irradiation agree that the process reduces some of the B-group vitamins, as well as A, C, E, and K. And as irradiated produce has a longer shelf life, the vitamin losses become acute as the produce awaits a consumer to purchase it. Supporters of the process claim that the vitamin losses are negligible, and state that all food handling and preparation causes a loss of vitamins and nutrients.[99]

Even if the loss is "negligible," as pro-irradiation groups claim, they've overlooked something. The produce of today is already less nutrient dense than that of yesteryear. Do we really need irradiation to compound the problem even further?

# A Teeny Tiny Food Revolution

There's a big new food revolution going on ... and it's microscopically small. It's called nanotechnology, and it involves new food ingredients and additives that are 100,000 times smaller than a grain of sand. Nanotech research is racing along at breakneck speed. The FDA says that in 10 years the nanotechnology field will be a $1 trillion industry and employ over 2 million people,[100] and governments and scientific institutions are not reacting quickly enough to be able to judge the effect of these tiny substances on the human body.[101] Even though the technology

Some imported produce, including bell peppers, is sprayed with a coating containing nanoparticles to protect them in transit.

is new, the goals are the same old story: extend shelf life, improve taste and color, and improve yield.

One company has developed a milkshake that contains nanoparticles that make it taste better than any milkshake yet invented. A type of canola oil is under development that contains nanominerals that prevent cholesterol from entering the bloodstream.[102]

Nanotechnology materials, such as tiny particles of silver, are already being used in food packaging to fight bacteria and to detect spoiled food. And some imported produce, notably bell peppers, apples, and cucumbers, are sprayed with a protective wax-like coating that contains nanoparticles.

These improvements sound great, but there have been virtually no studies of the effects of nanoparticles on the human body. Animal studies, however, have shown that the silver nanoparticles have killed liver and brain cells in rats. A study published in the journal *Environmental Science and Technology* showed that nanoparticles of zinc oxide were toxic to human lung cells in lab testing, even at low concentrations.

Yet the train rolls on. Environmental groups have called for a complete ban on the use of nanotechnologies in food because the government has failed to investigate the effects on humans. The FDA's responsibilities don't include conducting safety studies of nanoparticles. The agency merely requires manufacturers to promise that they are safe for consumers.[103] Only time will prove them right or wrong. Do you want to take that chance?

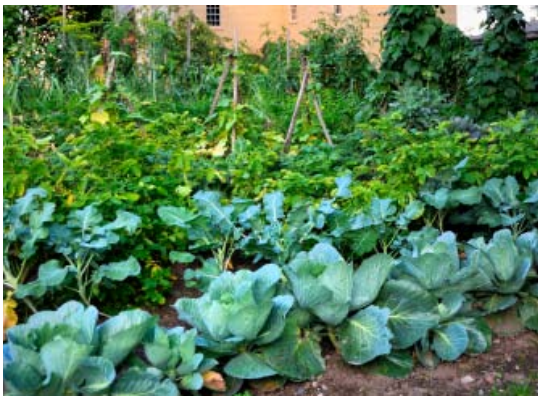
## Sowing the Seeds of Victory!

During times of severe national emergencies, where the resources of the country have been extremely strained, the government has called on its people for help ... to garden.

During World War I, future president Herbert Hoover (1874-1964) was put in charge of the U.S. Food Administration. Food was desperately needed to feed the armies and civilians of Europe. The agricultural output of Europe had been rendered nearly nonexistent as a generation of men battled in the trenches. Hoover tried a variety of initiatives to get Americans to preserve as much food as possible, adopting strategies

that became known as "Hooverizing." These rationing techniques included the "clean-plate" initiative, "wheatless" Mondays and Wednesdays, and generally cutting waste and substituting plentiful ingredients for scarce ones.[104]

Ultimately, conservation wasn't enough. Under the National War Garden Commission, and with the leadership of timber baron and, oddly enough, pioneer conservationist, Charles Lathrop Pack (1857-1937), the government led a campaign to encourage Americans to grow War Gardens (later the famous Victory Gardens). Home gardening would not only produce more food, but it would do so in a way that wouldn't tax transportation resources needed for the war effort.[105]



During World War II, large home victory gardens like this one produced half the nation's total vegetable output.

The Food Administration produced a wide range of booklets and information for Americans on how to manage their gardens.

Titles included *Have a Backyard Garden, Start a Flock, Help Fill the Nation's Flour Barrel,* and *Hints on What to Eat During the War*. These publications provided useful and practical advice for Americans, and helped them to feel a part of the war effort.[106]

Similar efforts were undertaken in Britain, and Australia had its *Dig for Victory* campaign to encourage gardening. The Australian YWCA even created Garden Armies that were designed to mobilize women gardeners to produce food for the Aussie troops at the front in Europe.[107]

During World War II, the nation again faced the now familiar rationing of food. Labor and transportation shortages made the movement of produce to markets difficult. The government once again turned to the American people for assistance with food production. Americans planted over 20 million Victory Gardens that produced an estimated 9-10 million tons of food. This amount was equal to the commercial vegetable production during the war.[108] Victory Gardens made a substantial difference to the war effort and the national economy, and in the lives and nutrition of ordinary Americans.

# Now is the Time to Take Food Security into Your Own Hands

*He who works his land will have abundant food, but the one who chases fantasies will have his fill of poverty.*

*(Proverbs 28:19 NIV)*

Never before in history have so many people been divorced from the production of their own food. Our estrangement from the land could prove to be our undoing ... unless we take action now and reclaim that relationship.

Most people don't want to hear about taking greater personal responsibility, or becoming more self-reliant. It's no secret that many Americans, in general, have a sense of entitlement. A huge segment of the population expects that somehow, the government will come to the rescue.

But does that expectation have any basis in reality? Remember, this is the same government that still pays farmers not to grow food, despite worldwide food shortages.

This is the same government that continues to pile so many regulations on farm-stand and farmers market operators that they can't afford to sell to their communities anymore.

This is the same government that makes it illegal to buy an organic chicken directly from the farmer in your own neighborhood.


## Survival Seed Bank Produces Thousands of Pounds of Nutrient-Dense Foods

**Take control of your own food supply!**

The Survival Seed Bank contains seeds for **22 varieties** of nutrient-dense foods. Every batch of seeds is **germination tested** for superior performance.

You get enough seeds to **plant a full acre** crisis garden. Detailed growing instructions included. Save the seeds from your harvest, and you **never** have to **buy seeds again!**

Plant this season, or store for an emergency. The seeds are packaged for **maximum shelf life**. The Survival Seed Bank™ is a great "insurance policy" for hard times.

Each seed bank comes with a free gardening manual, *Survival Gardening With Heirlooms.*

**www.survivalseedbank.com**

This is the same government that promotes the planting of GM crops, despite the evidence that it contaminates organic crops, actually *lowers* crop yields over time, and causes serious, chronic health problems

With all the facts in front of you, do you really think it's a good idea to take a "wait and see" attitude, and expect that the government will figure out a solution? ... Or do you think it would be wiser to hedge your bets and plant a garden this spring?

## Don't Be Afraid to Get Your Hands Dirty

If you aren't a gardener, don't let the idea of becoming one intimidate you. You'll find a lifetime's worth of gardening information on the Internet, in bookstores, and in magazines.

Gardening is not rocket science. Find a patch of ground that gets plenty of sun. Dig around in the dirt. Plant some seeds, preferably heirloom, so that you can save seeds for the next harvest if need be. If you don't have a yard, grow vegetables in containers.

Gardening is a great way to get the kids away from the video games. It gets you off the computer and out into the fresh air and sunshine. Gardening gives you an

### Bumper Crops for Beginners

If you want to produce two almost foolproof crops, you can't go wrong with potatoes and pole beans.

#### Potatoes

Dig a shallow hole, drop in a seed potato, and throw a little dirt over it. As the potato grows, mound more dirt on top of it. Water it regularly. That's it. Three months later, you have a potato harvest. Don't have a garden patch? You can do this in a box! Harvested potatoes can be stored in a cool cellar or basement for months.

#### Pole Beans

Plant several poles in the ground, about 18 inches apart. The poles shouldn't be any bigger around than a broom handle, and should reach a height of about 6 feet. Plant pole beans at the base of the poles ... and watch them climb! Pole beans will also climb a metal fence, a trellis, even a ladder—anything that will support the vine. Bean plants give you a steady supply of beans all season long. No yard? Using tall garden stakes, create a teepee structure in a large container, and grow pole beans on your balcony or deck instead. Freeze, dehydrate, or can your surplus. (And you will have a surplus.)

excuse to play in the dirt … not to mention a healthy dose of exercise. There is simply *no* downside to planting a family garden.

## Warning: We Are Running Out of Time

In our just-in-time economy, we aren't used to planning ahead. We think food will always be available, 24/7, whenever we need it. In most parts of the world, that's simply not the case. Someday soon, that could be the case here in America as well.

Gardening isn't hard, but it takes time … and timing. First, you have to get the seeds into the ground at the right time, and then wait until harvest. It's not quite as easy as running to the supermarket and grabbing a can of green beans off the shelf. If you miss this year's growing season, who knows what could happen before it's time to plant again?

You can't assume the seeds you want will always be available either. Heirloom seeds are *always* in short supply. It takes at least two growing seasons to ramp up production to meet even the slightest increase in demand. Add in new demand on par with the Victory Garden movement of the 1940s, and heirloom seeds simply won't be available at any price. In the United States and the world over, food distribution lines are fragile, and weather patterns are unpredictable. By the time it becomes crystal clear that a garden is an absolute necessity, it will be too late.

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***Update: Another U.S. "Dust Bowl" in the Making***

*As this report went to press, a new and disturbing report emerged from the U.S. Midwest. Farmers there are talking about a new "Dust Bowl," similar to the one that plagued American farmers in the 1930s.*

*The original Dust Bowl was a period of time when millions of acres of*

*farmland literally blew away. Overworked topsoil dried up when drought struck, and nothing could be planted in what had previously been productive farmland. Hundreds of thousands of people became homeless. They traveled from state to state as transient workers, laboring for starvation wages.*

*Now, Midwestern farmers fear it could happen all over again. Today, much of America's farmland is irrigated using water from the Ogallala Aquifer. This underground, freshwater lake was first tapped in 1911. Today, it is being used up at an alarming rate and will be dry in a few short years. It takes thousands of years of natural forces to replenish the aquifer. Once it's gone, a reliable, steady supply of water for crops will vanish ... and the harvests could vanish right along with it. Fully 30% of America's farmland depends on the Ogallala Aquifer for irrigation.*

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