



# 9,000,000,000 changes everything

CONSUMER CONCERNS AND THE ISSUES FACING A GROWING WORLD

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## **THE WORLD IS EVER-CHANGING AND AGRICULTURE IS WORKING TO MEET THE DEMANDS OF A GROWING POPULATION.**

It's projected that farmers will have to feed 9 billion people by 2050. Today, significant improvements in farming methods, machinery and international trade have allowed agriculture to meet the nutritional needs of more than 7 billion people. These improvements will have to continue if we hope to feed 9 billion people by 2050.

The goal of this publication is to help you, as a consumer, make informed decisions about the food you buy your family. We hope it will give you a better understanding of both *where* your food comes from and *what* the different labels you see in the store mean. As a general farm organization, Arkansas Farm Bureau represents all farmers, regardless of how and what they grow.



**SCAN HERE**  
to learn more about  
YOUR FOOD

# Your Food

**It's time to take a look at today's  
agriculture and how it impacts  
our choices as consumers.**

**THE GROCERY STORE IS FULL OF OPTIONS FOR CONSUMERS.** Not too long ago, we would simply go to the store and look for the brand we prefer. Today, we face a barrage of additional labels when we enter the store:



While many of us may not know what all these labels mean, we tend to drift toward them for a variety of reasons. Primarily, though, it's because we think they are "healthier." So, does this mean the other food is less nutritious or healthy? **ABSOLUTELY NOT!**

In most instances, when it comes down to nutritional values, there is marginal or no difference. Like with any other product, you should buy the food your family prefers.



**In most instances, when it comes down to nutritional values, there is marginal or no difference between the organic food and the conventional food.**

## WHERE DOES YOUR FOOD COME FROM?

The food at your local grocery store comes from both domestic and international sources. Produce that is in season is likely from our domestic producers. However, in order to offer a wide variety of foods year-round, we also rely on international producers. Without reliable international sources, it would not be impossible to meet the demands of U.S. consumers.



## MIKE SULLIVAN † BURDETTE

Mike Sullivan, a fourth-generation row-crop farmer, farms 7,200 acres in Burdette. Sullivan's great-grandfather, J.F. Thompkins, began the family's Mississippi County legacy many years ago, a legacy that Sullivan's son, Ryan, will carry on.



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to learn more about  
FAMILY FARMS



# Family Farms

**[ 96% of U.S. farms are family owned and operated. Only 4% are owned by non-family corporations. ]**

**THE AGRICULTURE INDUSTRY IS ALWAYS CHANGING.** As family members leave rural America, we have seen the number of farms decline, while the size of farms increases. The challenge is to remain sustainable, improve and produce more, while preserving the environment, protecting public health and ensuring the welfare of animals. These things are essential to continue sustainable agricultural practices that will support future generations.

Many consumers may think large farms are corporately owned. However, most large farms are actually family farms that have grown during the years and include several generations of the family. As agricultural technology becomes more advanced, farm families are able to farm more land with less labor. Farming efficiency such as this is crucial to generating a food supply to sustain the growing world.

While there are 2.2 million farms in the U.S., roughly 40% of those farms supply 98% of our food.



**MANY FARMERS ARE CONTRACT GROWERS, ESPECIALLY THOSE WHO RAISE POULTRY.**

Contract growers are just regular farmers who are contracted to grow their produce for a certain customer. Many contract farms bear the mark of a specific company, often in the form of signs with the company's name and logo. These farms are sometimes mistaken for being corporately owned. However, these farms are still family owned and operated. Signs and other insignia only distinguish who the farmer has entered into a contract with.



**85%** of U.S. agriculture products are produced on family farms.

**10%** of farms produce **80%** of the country's food and fiber.

**80%**



## SAM TARKINGTON | ALMYRA

Sam Tarkington is a fourth-generation farmer raising corn, rice, soybeans and wheat with his son, Spencer. Tarkington utilizes new technology and precision agriculture to be more efficient while protecting the environment and the valuable natural resources on his farm.

# Technology

**As the population increases, vital cropland is being covered and lost from production. Farmers are having to find innovative ways to grow more food on less land.**



# FARM FAMILIES ARE USING ADVANCED TECHNOLOGY TO GIVE US THE HIGHEST QUALITY AND QUANTITY OF FOOD.

In 1960, the average American farmer could only feed 26 people. Today, that number has increased to 154.



**PRECISION AGRICULTURE** is a management system that is information and technology based, is site specific and uses one or more of the following sources of data — soils, crops, nutrients, pests, moisture or yield— for optimum profitability, sustainability and protection of the environment. Precision agriculture helps farmers be more efficient.

**GPS FIELD MAPPING** GPS/GIS field mapping enables farmers to use satellite imagery to precisely mark a field, calculate exact acreage, monitor planting and harvesting and evaluate soil nutrient content. Field mapping makes it easier for farmers to be precise in planting and application of pesticides and fertilizers in order to use no more than is necessary.

**EPD (EXPECTED PROGENY DIFFERENCE) TECHNOLOGY** provides the expected genetic value of an animal as a parent. EPD's use quantitative measures to predict certain characteristics of offspring.

**SELECTIVE POULTRY BREEDING** is a process of developing a breed of bird to have particular characteristics by choosing to mate only the best cockerels — that is, those that demonstrate the desired characteristics, such as growth rate, health or have more meat — with the best hens. Selective

breeding is the foundation of agriculture as we know it today. Without selective breeding, crops and livestock would be much more disease prone and far less productive. The basic concept of selective breeding is quite simple. It consists of selecting those plants or animals which show the desirable characteristics as the parents for the next generation in the breeding program, and to do so repeatedly over many generations.

**CLIMATE-CONTROLLED POULTRY HOUSES** are essential to remaining efficient and productive in modern poultry production. Recent advances in feed conversion and weight gain are probably tied more to control of the poultry house environment than anything else. Today, poultry producers control the heating, cooling and ventilation of the facility to provide the optimal growing environment for each type of bird.

**CONSERVATION TILLAGE** is a system of crop production with little, if any, tillage. Residue from the crop remains in the field after harvest through planting. This results in increased natural recycling of crop residues. By leaving crop residue undisturbed for as long as possible, microbial and other biological activity in the soil feeds on the stalks, leaves and other crop residues. This practice increases organic matter and ultimately increases soil productivity.

**TODAY'S FARMER IS LIKE ANY OTHER SMALL BUSINESS OWNER. THEY HAVE TO ADOPT NEW TECHNOLOGIES TO REMAIN COMPETITIVE.**

**SCAN HERE**  
to learn more about  
AG TECHNOLOGY



## BETH KILLINGSWORTH † MORTON

Beth Killingsworth started farming with her grandfather and is active in agricultural business. Killingsworth is part of the new generation of young farmers who are continuing to provide safe, abundant food to a growing world population.



**SCAN HERE**  
to learn more about  
GMOs

# GMOs

**Biotechnology is crucial to  
ensuring our global food security.**

**AGRICULTURAL BIOTECHNOLOGY** is a range of tools, including traditional breeding techniques, that alters living organisms, or parts of organisms, to make or modify products, improve plants or develop microorganisms for specific agricultural uses. Biotechnology can improve the quality and quantity of food. Higher quality and quantities of food will be necessary if we hope to feed 9 billion people in the future.

**ADVANCEMENTS IN BIOTECHNOLOGY, SUCH AS GENETICALLY MODIFIED ORGANISMS (GMO), HAVE ENABLED OUR FOOD TO BECOME MORE SUSTAINABLE THAN EVER BEFORE.** Farmers now are able to use less energy, pesticides, chemicals and resources to produce an even greater amount of food. But what is a GMO? In genetically modified organisms, the genetic material of the plant has been altered in a way that would take many years to occur naturally. GMOs take on selected favorable traits from other plants so foods can be exposed to fewer pesticides, are more disease and drought resistant, taste better and yield more. Developing special traits in plants also allows plants to be grown in more places.

Every plant improved using biotechnology is examined by the FDA and EPA for health risks. The World Health Organization says genetically modified crops show no effects on human health.



### **THE GOLDEN RICE PROJECT**

was established to grow beta-carotene-enriched rice to alleviate Vitamin A deficiency (VAD) around the world. VAD affects millions of small children and pregnant women around the world by causing irreversible blindness, immune disorders and death. Now, rice can

be engineered to contain beta-carotene, which is a provitamin that produces vitamin A in the body. However, private interest and government groups have been successful in preventing this product from reaching needed markets.

Breakthroughs in biotechnology have the potential to help millions of women and children around the world overcome VAD.



# Food Safety

**[ U.S. consumers have the safest food supply of any country in the world. ]**

## **CONSUMERS WANT TO BE CERTAIN THE FOOD THEY ARE FEEDING TO THEIR FAMILIES IS SAFE. Having trusted food sources and proper food regulation is the key to maintaining consumer confidence at the store.**

Our food supply undergoes thorough regulations and inspections from the seeds placed in the ground to the produce, meat and poultry you buy at the market. Governing agencies such as the USDA, Food and Drug Administration (FDA), Environmental Protection Agency (EPA) and Food Safety and Inspection Service (FSIS) all oversee the production, processing and handling practices of the food we eat. Additionally, many retailers require a third-party inspection of farms to ensure additional food safety measures are met. Hazard Analysis and Critical Control Point (HACCP) protocols and Good Agricultural Practices (GAP) also are followed by farmers and producers.

As of 2008, the USDA requires all food to have country of origin labeling (COOL) displayed on the product. By labeling the origin of food products, consumers can tell the difference between domestic and imported foods and make their own decisions. It's important to know that products grown in the United States

undergo very stringent certification and inspection, whereas only a small percentage of imported products are actually inspected.

Many consumers are told that organically produced food is safer and healthier than conventionally produced food, but all food must meet the same federal standards set forth by governing agencies. Practices such as pasteurization of milk or other beverages exist in order to kill harmful bacteria in our food supply. Pasteurization simply involves heating a liquid to a temperature necessary to kill any bacteria that could harm consumers. Consuming any raw or uncooked product, such as raw milk or raw meat, puts a consumer at risk of developing a food-borne illness. Certain practices such as properly washing, handling and cooking our food should always be observed by consumers as good food safety habits.

**SCAN HERE**  
to learn more about  
**FOOD SAFETY**



# A single hamburger is the subject of over 41,000 state and federal regulations.

Source: National Center for Constitutional Studies



### The most important food safety practices

happen at home

- Keep clean, washing hands with warm water and soap
- Separate raw and cooked food products
- Cook foods thoroughly to their proper internal temperature
- Store all foods at safe temperatures
- Use safe water and raw materials

Source: World Health Organization

Kelly Carney, a former IT executive, walked away from his 20-year career in the online and government travel industry to establish North Pulaski Farms. Carney grows around 20 varieties of certified organic produce and participates at the Argenta Farmers Market.



# Organic

**Organic and conventionally produced foods must meet the same safety regulations.**



## ORGANIC FARMING IS A GROWING INDUSTRY

catering to an increased demand from consumers. The word “organic” refers to the way farmers grow and process agricultural products. Organic practices do not use conventional methods to fertilize, control weeds or prevent livestock disease. However, organic production does use approved pesticides, fertilizers and herbicides. While all production practices are necessary to meet world food supply needs, organic farming actually requires more energy than conventional farming and is a less efficient form of farming.

Organically and conventionally produced foods are comparable in their nutrient content.

Source: Mayo Clinic

If you prefer to buy organically raised products, the various labels associated with organic products can be complex and confusing. Most food labels are overseen by the United States Department of Agriculture or the Food and Drug Administration, but regulations vary from label to label.

**100% ORGANIC** labels include products in which all ingredients are certified organic, and any processing aids are also organic.

**ORGANIC** labels appear on products in which all agricultural products are certified organic. Non-organic ingredients may be used, up to a combined 5 percent of the product.

Labels that include **MADE WITH ORGANIC** products are required to contain at least 70 percent certified organic ingredients.

**CAGE-FREE** labeling refers to birds typically raised in an open poultry house and not confined to cages. They must have unlimited access to feed and water and freedom to roam around the enclosure.

**FREE RANGE** labels indicate that poultry must have access to forage freely in an open area. This practice

varies by farmer. Some farmers allow their birds to roam over pastures, while others are raised in houses with a small door or window that allows the birds to enter and exit. Many “free range” birds are fed the same diet as those raised in controlled environments.

**GRASS FED** labels refer to animals that have been finished on grass, forage or other feed stuffs as defined by the USDA. However, nearly all beef cattle, organically or conventionally raised, spend most of their lives in pastures eating grass. Even in feedlots, more than 70 percent of a cow’s diet is forage based.

The USDA does not differentiate between foods labeled **NATURAL** and **ALL-NATURAL**. According to the USDA, “natural” foods do not contain artificial ingredients or preservatives, and the ingredients are only minimally processed.

SCAN HERE  
to learn more about  
ORGANIC FOOD





**SCAN HERE**  
to learn more about  
**ANIMAL CARE**

**BOB GORDEN** | **MENA**

Bob Gorden began his cattle operation 56 years ago, and it has steadily grown through the years. He owned a cattle auction for 40 years and helped build the cattle market in Polk County. Gorden has spent his life caring for livestock and raising healthy animals.

# Animal Care

**[ Agricultural hormone  
use has been found safe by  
scientists around the world. ]**



**HORMONES OCCUR NATURALLY IN ALL ANIMALS.** Cattle sometimes are given additional hormones to increase lean muscle and growth efficiency. **BY LAW, PORK AND POULTRY PRODUCTS CANNOT BE GIVEN ADDITIONAL HORMONES, AND THEY OFTEN CARRY THE LABEL “NO ADDED HORMONES.”** Poultry and pork cannot receive additional hormones, because all animals are raised differently. They can't be treated the same. Studies conducted worldwide confirm that hormones do not harm consumers or animals in any way.

**ANTIBIOTICS ARE GIVEN TO ANIMALS TO PREVENT & MANAGE DISEASES.** Farmers only give antibiotics to sick animals and to alleviate suffering. They monitor those animals closely. Antibiotics are expensive, and farmers only use them when necessary for the health and contentment of the animal. Farmers depend on producing healthy animals, just like consumers depend on eating healthy foods. Antibiotics labeled for use in animals used for food are put through a rigorous approval process.

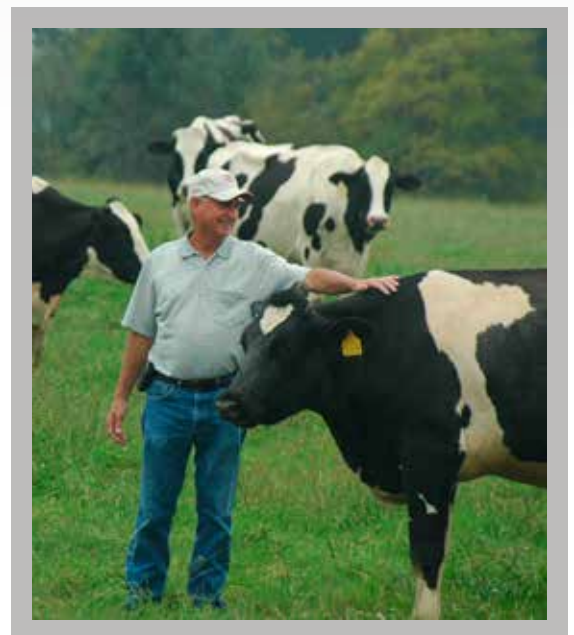
**FARMERS ARE COMMITTED TO ENSURING THE HEALTH OF THE ANIMALS USED FOR OUR FOOD SUPPLY.** Whether it's through treating animals with antibiotics to heal disease or providing proper housing to protect them from predators, farmers are working for the health of the animal and the consumer.

The FDA does not allow meat to be sold with any traces of antibiotics above strict safety limits.



**U.S. FARMERS MUST BE COMPLETELY TRANSPARENT ABOUT EVERY STEP OF THEIR FARMING PRACTICE.** Organizations such as The Humane Society of the United States (HSUS) and People for the Ethical Treatment of Animals (PETA) constantly work to put livestock farmers out of business. This is why farmers must make sure they are following every regulation and standard placed on their operation at all times. These organizations claim to be pro-animal groups when they actually do not act upon these claims. Only 1 percent of the money received by the HSUS actually goes to support animal shelters. Also, from 2010 to 2011, 85 percent of the animals received by PETA were euthanized by the organization. These groups are not concerned about animal welfare; instead, their stated goal is to end production of meat and move everyone to a vegetarian diet.

Source: [HumaneWatch.org](http://HumaneWatch.org)





**SCAN HERE**  
to learn more about  
**FOOD COSTS**

# Food Costs

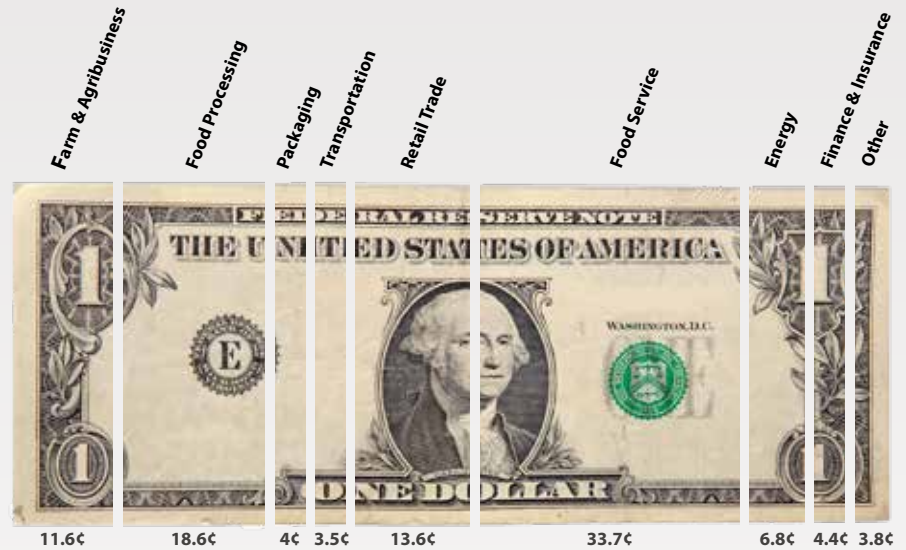
**The majority of a consumer's food costs are incurred by processes that take place after the product has left the farm.**

## IN THEIR RAW FORM, FOOD COMMODITIES ARE A SMALL PORTION OF THE ACTUAL COST,

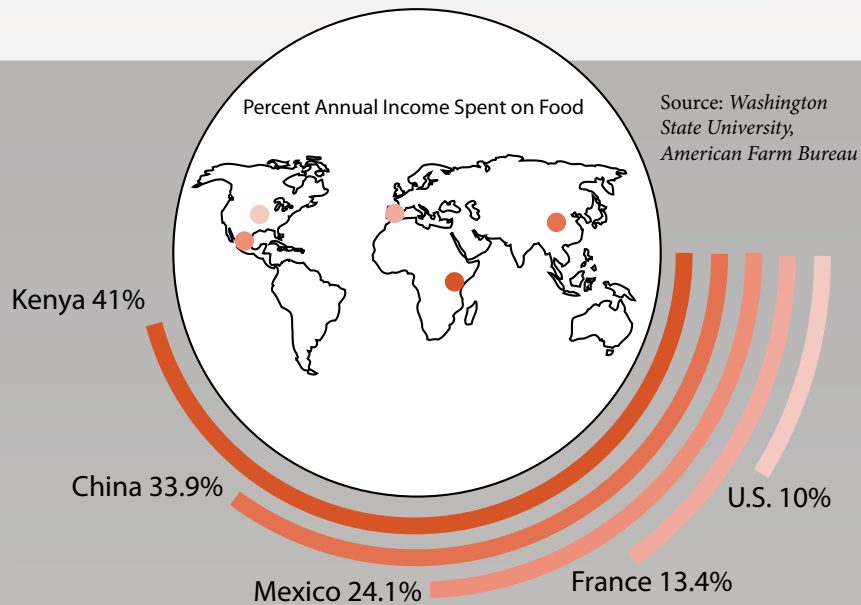
but things such as marketing, processing and transportation add to the cost of each commodity. As consumers, the price we pay at the store is a reflection of all of the resources used to get that product to the shelf. Why are certain types of food, such as organic, more expensive than non-organic? Non-conventional methods for producing food can increase risk, energy usage and production costs for farmers. These factors contribute to higher prices for consumers.

## THE AVERAGE FOOD DOLLAR

For every dollar you spend on food, an average of less than 12 cents goes back to the farmer. This varies from product to product depending on the processing.



Advances in farming technology and efficiency allow U.S. consumers to enjoy relatively low costs at the grocery store.



## THE FARMER'S SHARE

Farmers and consumers have a lot in common: neither benefit from higher grocery prices. Each month, the National Farmers Union releases its Farmer's Share (of the grocery tab) data. These September 2013 figures were accompanied with the statement: "once again, farmers came out on the losing end — even with higher-than-normal commodity prices."

Product	Retail Price	Farmer's Share	Product	Retail Price	Farmer's Share
Multi-Purpose Flour, 5 lbs	\$2.59	\$0.63	Soda (2 liter cola)	\$1.59	\$0.07
Bread (1 lb. loaf)	\$1.99	\$0.12	Cheddar Cheese (1 lb.)	\$3.29	\$1.62
Cereal (18 oz.)	\$4.19	\$0.06	Lettuce (head, 2 lbs.)	\$2.19	\$0.36
Bacon (1 lb.)	\$4.39	\$0.61	Fresh Carrots (3 lbs.)	\$2.99	\$0.81
			Milk (1 gal. fat free)	\$3.79	\$1.38

As a registered forester, it is Les Reid's job to make sure he sees the whole forest. He's taken the time to pay attention to the individual trees and that attention to detail allows him to assess the condition of the present forest and prescribe the necessary actions it will take to have a more vibrant forest in the future. Reid says "doing more with fewer resources" is the future for agriculture in a world increasing in population and demanding greater access to food and shelter.

# Beyond the Table

**[ In addition to a safe and secure food supply, agriculture provides us with many fiber products used every day. ]**

## **AGRICULTURE'S IMPORTANCE EXTENDS FAR BEYOND THE FOOD WE CONSUME.**

Products such as clothing, paper, furniture, plastics, houses, flowers, crayons, fuel and many others, all come from agriculture. Cotton is an important agricultural commodity used for clothing and fabrics. Products such as building materials, paper and furniture all come from agriculture's forestry industry.

The wood from forestry production is essential to our everyday lives. Many Americans think the U.S. is running out of trees. However, the U.S. actually has

more forested land today than it did 70 years ago.

Soybeans can be used for a wide array of products aside from food. Soy ink is commonly used to print textbooks and newspapers. Soybeans are also key ingredients used to make crayons. One acre of soybeans can produce more than 82,000 crayons.

Unlike many other countries, the U.S. offers consumers a wide variety of domestic products from both food and fiber sources. Agriculture gives consumers a safe and secure food supply and many fiber products that are used every day.

**For every tree harvested, an average of five more are planted to take its place.**



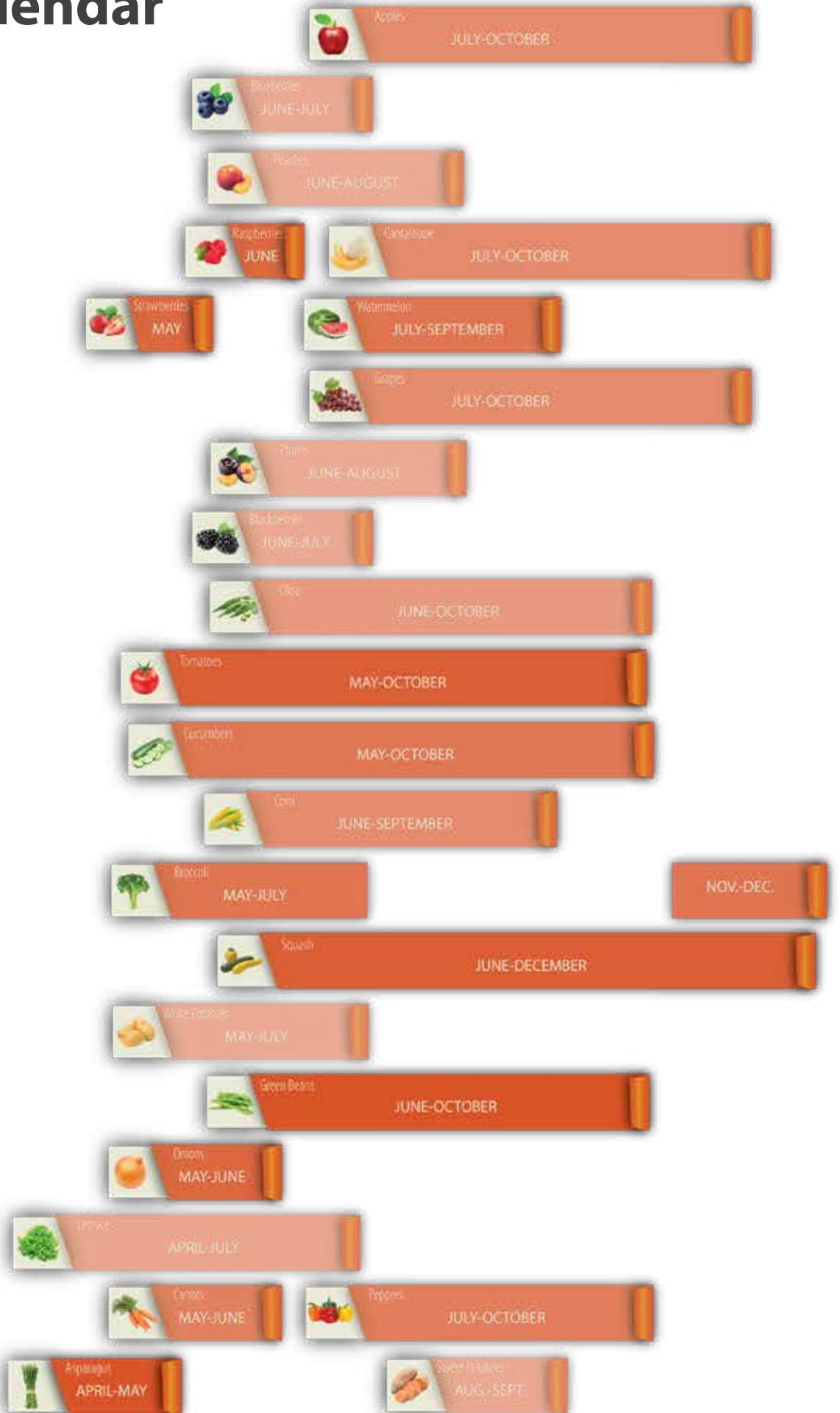
### **One 500 lb. bale of cotton can make:**

- 215 pairs of jeans
- 249 bed sheets
- 409 men's sport shirts
- 690 terry bath towels
- 765 men's dress shirts
- 1,217 men's t-shirts
- 1,256 pillowcases
- 313,600 \$100 bills
- 850 ladies blouses and shirts
- 350 ladies knit & woven dresses

**SCAN HERE**  
to learn more about  
BEYOND TABLE



# harvest calendar



Jan. Feb. Mar. April May June July Aug. Sept. Oct. Nov. Dec.

# for more information

## your food

└ **u.s. farmers & ranchers alliance:**  
[www.fooddialogues.com](http://www.fooddialogues.com)

## family farms

└ **corporate farms:**  
[findourcommonground.com/food-facts/corporate-farms](http://findourcommonground.com/food-facts/corporate-farms)  
[www.ers.usda.gov](http://www.ers.usda.gov)

## technology

└ **precision agriculture:**  
[pubs.ext.vt.edu/442/442-500/442-500.html](http://pubs.ext.vt.edu/442/442-500/442-500.html)  
[www.precisionag.com](http://www.precisionag.com)

## gmOs

└ **gmo foods:**  
[findourcommonground.com/food-facts/gmo-foods](http://findourcommonground.com/food-facts/gmo-foods)  
[www.goldenrice.org](http://www.goldenrice.org)  
[gmoanswers.com](http://gmoanswers.com)  
[www.aphis.usda.gov](http://www.aphis.usda.gov)  
[www.usda.gov/wps/portal/usda/usda?navid=BIOTECH](http://www.usda.gov/wps/portal/usda/usda?navid=BIOTECH)  
[www.biotechinstitute.org](http://www.biotechinstitute.org)  
[www.whypiotech.com](http://www.whypiotech.com)

## organic

└ **food labels:**  
[www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELDEV3004446](http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELDEV3004446)  
[www.mayoclinic.com/health/free-range/MY01559](http://www.mayoclinic.com/health/free-range/MY01559)  
[www.ams.usda.gov](http://www.ams.usda.gov)

└ **local/organic foods:**  
[findourcommonground.com/food-facts/local-organic-food](http://findourcommonground.com/food-facts/local-organic-food)

└ **nutrition and healthy eating:**  
[www.mayoclinic.com/health/organic-food/NU00255/NSECTIONGROUP=2](http://www.mayoclinic.com/health/organic-food/NU00255/NSECTIONGROUP=2)  
[med.stanford.edu/ism/2012/september/organic.html](http://med.stanford.edu/ism/2012/september/organic.html)  
[www.ncbi.nlm.nih.gov/pmc/articles/PMC3135239/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3135239/)

## animal care

└ **antibiotics:**  
[findourcommonground.com/food-facts/antibiotics-in-meat](http://findourcommonground.com/food-facts/antibiotics-in-meat)  
[www.ahi.org/issues-advocacy/animal-antibiotics/](http://www.ahi.org/issues-advocacy/animal-antibiotics/)  
[www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/default.htm](http://www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/default.htm)

└ **hormones:**  
[findourcommonground.com/food-facts/hormones](http://findourcommonground.com/food-facts/hormones)  
[www.fda.gov/animalveterinary/safetyhealth/productsafetyinformation/ucm055436.htm](http://www.fda.gov/animalveterinary/safetyhealth/productsafetyinformation/ucm055436.htm)  
[www.meatami.com/ht/a/GetDocumentAction/i/53720](http://www.meatami.com/ht/a/GetDocumentAction/i/53720)

└ **animal welfare:**  
[findourcommonground.com/food-facts/animal-welfare](http://findourcommonground.com/food-facts/animal-welfare)

## food safety

└ **food safety:**  
[findourcommonground.com/food-facts/food-safety](http://findourcommonground.com/food-facts/food-safety)  
[www.foodsafety.gov](http://www.foodsafety.gov)  
[www.fsis.usda.gov/wps/portal/fsis/home](http://www.fsis.usda.gov/wps/portal/fsis/home)  
[www.fda.gov/Food](http://www.fda.gov/Food)

## food costs

└ **food prices:**  
[findourcommonground.com/food-facts/food-prices](http://findourcommonground.com/food-facts/food-prices)  
[www.usda.gov/documents/drought-infographic.pdf](http://www.usda.gov/documents/drought-infographic.pdf)

## beyond table

└ **cotton:**  
[janiceperson.com/cotton/cotton-facts-crop-products](http://janiceperson.com/cotton/cotton-facts-crop-products)  
[www.arkforests.org](http://www.arkforests.org)  
[www.themiraclebean.com/soy-products](http://www.themiraclebean.com/soy-products)

## other

└ **American Farm Bureau Federation**  
[www.fb.org](http://www.fb.org)

└ **Arkansas Farm Bureau Federation**  
[www.arfb.com](http://www.arfb.com)



Farm Bureau is an independent, voluntary organization of farm and ranch families united for the purpose of analyzing their problems and formulating action to achieve educational improvement, economic opportunity, social advancement and promote the national well-being.

**CONTENT BY**

ethan branscum and lindsey emerson

**PHOTOS BY**

keith sutton and shutterstock.com

**DESIGN/LAYOUT BY**

lindsey emerson