KENTUCKY FARMERS CARE

With the average consumer being at least three generations removed from the farm, it's not feasible for most folks to "just ask Grandpa" when questions arise about modern farming practices. Not having an expert on hand, and with constant exposure to misinformation in the media and – even worse – on social media, it's no wonder that many consumers have questions about how their food is grown and raised. Consumers also often wonder just WHO is growing and raising their food.

Too many people are entrusting so-called celebrities and self-proclaimed experts to help make their food and health choices. With all the information on television and the internet about organic, non-gmo, grass-fed, free-range, cage-free, gluten-free and other food choices, along with the anti-ag activists showing their fearmongering videos, navigating the grocery store can be a little scary.

The good news is that approximately 97 percent of farms in the United States are family farms. There's no big corporation growing all of our food, no one giant mega-seed company or chemical company making all the products, and farmers aren't forced to use any certain brands. Farmers have a lot of choices in their seed selection, the breeds and kinds of animals they choose to raise, and the farming practices they choose to utilize.

Agriculture has been part of our communities for more than 200 years. Farmers work 24 hours a day, 365 days a year to protect their legacy and provide for their family, and yours. Multiple generations living and working on the farm isn't a trend – it's a tradition. A tradition fueled by passion for the land, a commitment to family and the desire to leave behind something valuable.

Farmers are hard workers, and they have many different jobs. Farmers are financial planners, mechanics, welders, truck drivers, weather forecasters, heavy equipment operators, business managers, human resources directors, and planners-in-chief. They rely on others, including crop advisors, seed dealers, equipment reps, veterinarians and trade associations to help them keep up with all the aspects of the land and animals they're working with.

Most farmers are moms and dads, too, and they feed their families the same food they're producing for yours. It may come straight from their own farms in the form of vegetables, beef, pork, chicken or eggs, but much of the food in a farmer's pantry and fridge comes from the grocery store, just like yours.

There are many facets to a good, sustainable farming operation. The farmer-leaders of the Kentucky Soybean Board created this booklet to share information about their operations, to answer some questions, and – most of all – to let consumers know that

KENTUCKY FARMERS CARE

Funded by the Kentucky soybean checkoff.

KENTUCKY FARMERS CARE... ABOUT THE SOIL

Kentucky's soybean farmers were implementing successful conservation practices long before being "green" was trendy.

Our farmers take care of their soil by employing a number of techniques. Meade County farmer and Master Conservationist Fred L. Sipes talks about some of the cover crops and other conservation strategies he utilizes on FL Sipes Farms. Cover crops hold the soil in place over the winter and help to keep the soil from becoming compacted. Many soybean farmers plant soybeans in the stubble of recently harvested winter wheat, getting a "double crop" from the field.

Another best management practice that many Kentucky farmers utilize is no-till farming. No-till became popular in Kentucky in the 1960s when farmers learned that choosing not to turn under the stubble of the prior year's crop could help cut down on erosion, while the soil still got the nutritional benefits of the crop grown the year before.

Most Kentucky soybeans farmers practice crop rotation, with the most common rotation being soybeans and corn. Some advantages to a soybean/corn rotation include the ability to better manage weeds, insects and crop disease, and less net use of nitrogen fertilizer.

KENTUCKY FARMERS CARE... ABOUT AIR & WATER QUALITY

Kentucky farmers depend on the land, and protecting the environment is an investment they can't afford NOT to make. Their families breathe the air, drink the water, and consume the meat, dairy and poultry they raise just like you do. As your neighbors, farm families are committed to doing the right thing now and for generations to come. The Kentucky Soybean Board has invested in long-term edge-of-field monitoring research in cooperation with the University of Kentucky.

WASTE NOT, WANT NOT

Here's the lay of the land: Kentucky has lots of fields that produce soybeans and corn that are then fed to poultry and livestock. The result is a lot of meat, milk and eggs, and in between that there is a lot of...'output.' You might call it waste, but to a farmer, poultry litter and livestock manure are precious resources.

Manure contains the 13 essential nutrients needed for a plant to grow, most of them from the feed the animal eats and then... well, you know the rest.

BEING ENVIRONMENTALLY AND REGULATORY

COMPLIANT

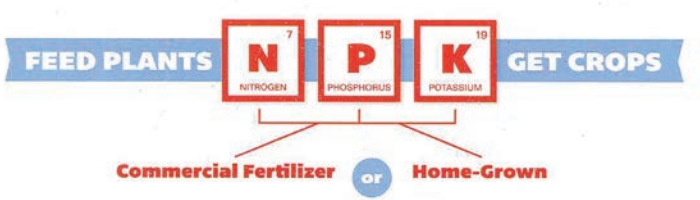
IS JUST A FANCY WAY OF SAYING

WE'RE RESPONSIBLE AND

WE CARE.

The three main ingredients that make up manure are nitrogen (N), phosphorus (P) reported as (P_2O_5) and potassium (K) reported as (K_2O).
These nutrients are also the main components found in commercial fertilizer products.

Nature's fertilizer –manure – is readily available and the supply is usually located just down the road. The N, P and K value of a 100-sow farrow-to-finish hog operation can be worth more than $8,000 annually at the time it is hauled to the field, not counting the transport and application costs.



THREE THINGS YOU MIGHT HEAR ABOUT MANURE

ONE **Ummmm... it's stinky**

We agree. But here's what we're doing to help:

- Covering outside storage structures
- Aerating liquid storage structures
- Injecting directly into the soil
- Avoiding application (when possible) on weekends and holidays

TWO **Manure is washing into streams, ponds and lakes, causing algae to grow and fish to die.**

We can't afford not to invest in our land and our water, because with healthy soil and clean water we are more productive. Plus, it's the right thing to do.

Farmers also use the best management practices in their Kentucky Agricultural Water Management Plans to guide their applications of poultry litter and animal manure on cropland and pastures.

THREE **UGH! It's seeping into the water we drink!**

This is not just our place of business, it's our home and community, too. We drink that same water, and that's why we avoid applying or storing manure too close to our water supply. Kentucky farmers care about our water supply, and they're taking steps to ensure that water stays clean and clear for their families and yours.

KENTUCKY FARMERS CARE... ABOUT CONSUMERS AND FOOD SAFETY.

How do I know that my food is safe?

Several U.S. governmental agencies, including the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA), monitor the food-production chain through regulations and inspections from the farm to your table.

What do farmers feed their own children?

Some farm families enjoy produce right from the field. Most food on the farmer's table, though, comes from the same place that consumers get theirs – the grocery store. Food from the grocery is safe and nutritious, and if you're worried about supporting your local farmer, remember that all food came from somebody's farm! Ninety-seven percent of all farms in the United States are family farms, so when you make a purchase, you can be sure there's a farm family somewhere working hard to put the groceries in your cart.

KENTUCKY FARMERS CARE... ABOUT THEIR FAMILIES AND YOURS.

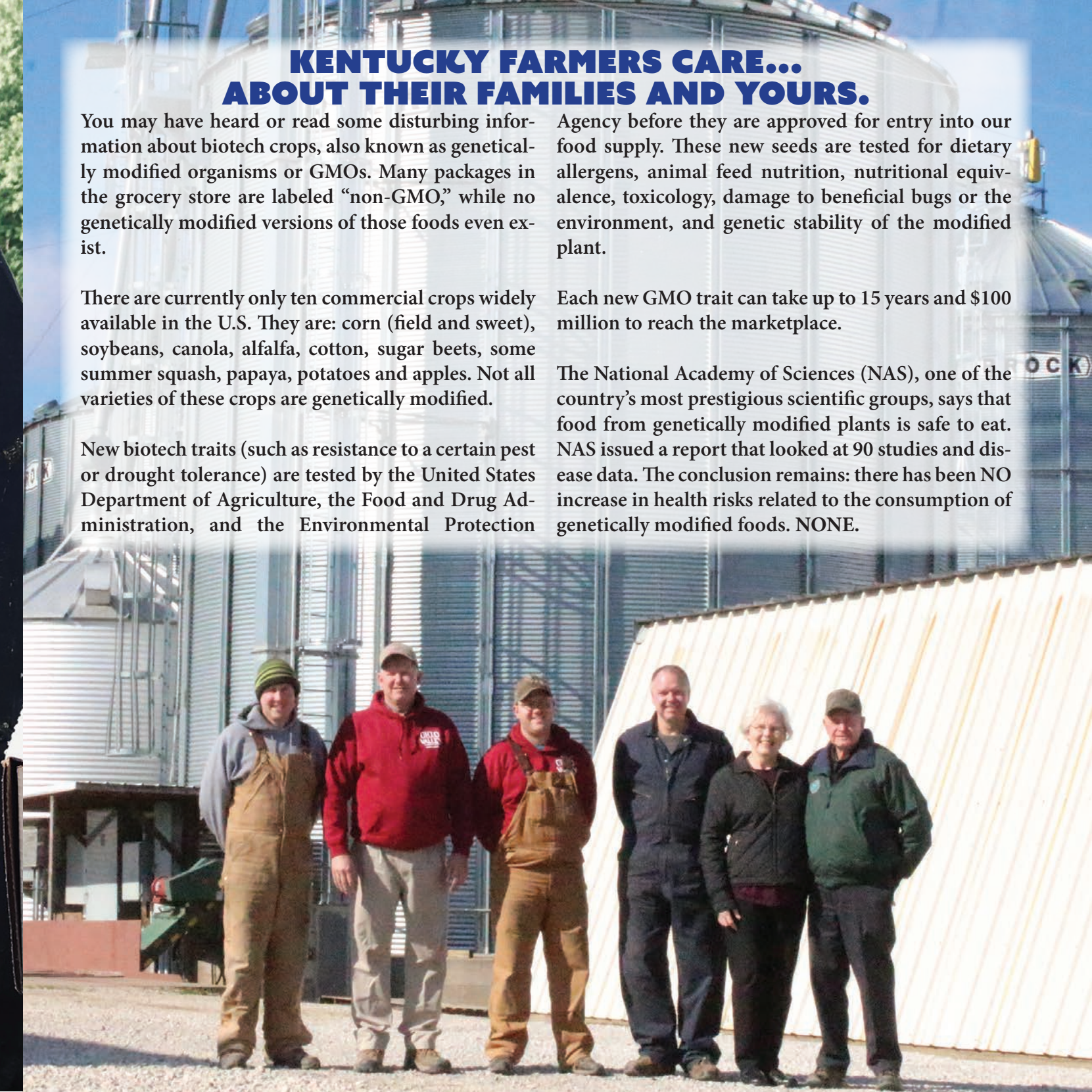
You may have heard or read some disturbing information about biotech crops, also known as genetically modified organisms or GMOs. Many packages in the grocery store are labeled "non-GMO," while no genetically modified versions of those foods even exist.

There are currently only ten commercial crops widely available in the U.S. They are: corn (field and sweet), soybeans, canola, alfalfa, cotton, sugar beets, some summer squash, papaya, potatoes and apples. Not all varieties of these crops are genetically modified.

New biotech traits (such as resistance to a certain pest or drought tolerance) are tested by the United States Department of Agriculture, the Food and Drug Administration, and the Environmental Protection Agency before they are approved for entry into our food supply. These new seeds are tested for dietary allergens, animal feed nutrition, nutritional equivalence, toxicology, damage to beneficial bugs or the environment, and genetic stability of the modified plant.

Each new GMO trait can take up to 15 years and $100 million to reach the marketplace.

The National Academy of Sciences (NAS), one of the country's most prestigious scientific groups, says that food from genetically modified plants is safe to eat. NAS issued a report that looked at 90 studies and disease data. The conclusion remains: there has been NO increase in health risks related to the consumption of genetically modified foods. NONE.



KENTUCKY FARMERS CARE... ABOUT SUSTAINABILITY.

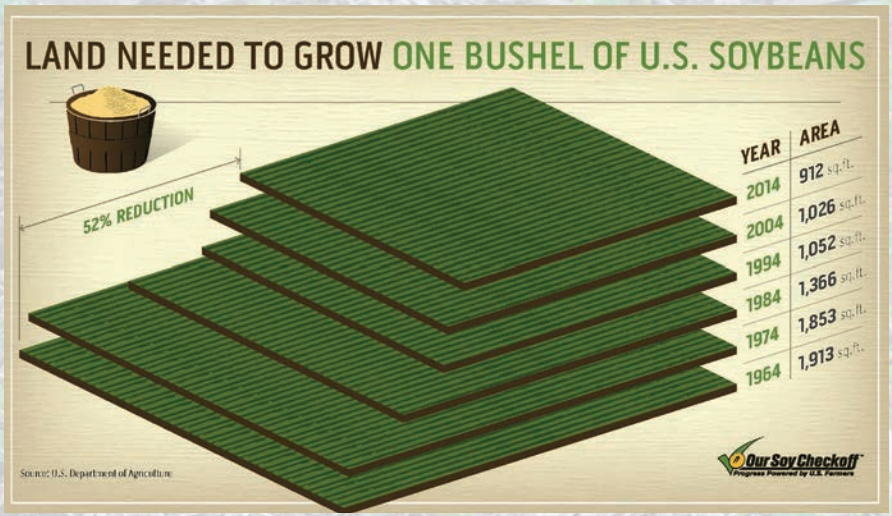
sus•tain•able

- **able to be used without being completely used up or destroyed**
- **involving methods that do not completely use up or destroy natural resources**
- **able to continue or last for a long time**

– Definition courtesy of the Merriam-Webster Dictionary

Kentucky's farmers were implementing sustainable practices long before these practices were referred to by the term "sustainability." As shown on page 3, conservation tillage practices are a key strategy to preserving the long-term productivity of farmland, because the more often land is tilled, the more susceptible it is to erosion.

With a large percentage of Kentucky's soybean and corn farmers using no-till or reduced-till practices, our state's farmers are demonstrating that efficiency and health of the land is a high priority. In addition, over the past three decades, for every bushel of soybeans produced, farmers have reduced their energy use by 42 percent, their soil loss by 66 percent, irrigation water used by 42 percent, greenhouse gas emissions by 41 percent and land use by 35 percent.



FARMERS ARE DOING MORE THAN MAKING BURGERS AND ICE CREAM – THEY ARE FEEDING THE WORLD.

Now and Then...

In 1961, the U.S. population was about 184 million. By 2006, it had increased by 63 percent to approximately 300 million people! If agriculture today was no more productive than it was in 1961, more land would be required OR the food supply per person would be reduced by 63 percent!

As the population continues to rise, with an expected 9 BILLION people on the planet by the year 2050, farmers are feeding more people using fewer resources. Not only do farmers want to produce enough food, feed and fuel for today, they feel a deep sense of responsibility to ensure the future of agriculture.

Customers of U.S. soy are growing more concerned about the sustainability of the products they buy. The U.S. soy family has introduced the U.S. Soybean Sustainability Assurance Protocol to demonstrate the sustainability of U.S. soy to international and domestic customers. The protocol is based on existing aggregated data collected from farmers nationwide who participate in national conservation programs. The information serves as proof that the U.S. soy crop is produced under a system of sustainability that includes everything from water conservation to energy use.

THE FARMERS
OF TODAY COMBINE GENERATIONS OF LESSONS
WITH NEW TECHNOLOGIES
AND SOLUTIONS
TO SUPPORT THEIR FAMILIES
AND NOURISH YOURS.

KENTUCKY FARMERS CARE... ABOUT THEIR COMMUNITIES

It's a well-known fact that farmers are the backbone of our rural communities. In addition to serving on many boards and committees, farmers are known for donating to good causes, being leaders in both their communities and their churches, and lending a hand to others in need.

Whether it's organizing a fund-raiser for the volunteer fire department, rolling up a sleeve to give blood, dragging the track at the county fair or pulling pork at a community picnic, you can count on farmers to be there.

While farmers may not be the wealthiest folks in your county, you'll find them reaching for their wallet or checkbook when a need arises. Further, the Pentagon reports that more than 44 percent of our nation's military comes from rural areas.

KENTUCKY FARMERS CARE... ABOUT PRODUCING AFFORDABLE FOOD, FEED AND FUEL

WITH SOYBEANS, WE DON'T HAVE TO CHOOSE.

U.S. soybean farmers grow versatile and renewable soybeans to help meet food, feed and fuel demand globally. Soybeans are one of many choices we have to meet a range of needs for protein, as well as fats and oils. That's good news, because when it comes to providing food or renewable alternatives to petroleum, we don't have to choose. Here's a look at how soybeans in the United States are being used.

80%

MEAL

The primary component of soybeans is meal.

20% OIL

The other soybean component is oil.

97%

ANIMAL FEED

97% of U.S. soybean meal is used to feed poultry and livestock.

3%

FOOD PRODUCTS

3% of soybean meal is used in food products like protein alternatives and soy milk.

68% FOOD

68% of soybean oil is used for frying and baking food, as a vegetable oil and as an ingredient in foods like salad dressings and margarines.

25% BIODIESEL & BIOHEAT®

25% of soybean oil is used for biodiesel and Bioheat.

7% INDUSTRIAL USES

Less than 7% of soybean oil is converted into industrial uses like paints, plastics and cleaners.

KENTUCKY FARMERS CARE... ABOUT THE FUTURE

Building a food-secure world is one of the greatest issues of our time. Thanks to advances in technology, American farmers are feeding more people using fewer resources. In fact, the U.S. farmer supplies food for approximately 155 people in the U.S. and abroad, compared with about 26 in 1960.

Proper animal care leads to the efficient production of high-quality meat, milk and eggs. Improvements in livestock diets, clean and dry living conditions, regular veterinary care and advances in animal and plant breeding help farmers do more with less.

Just as we expect technology to provide us with smarter phones, faster Internet access, fuel-saving cars and energy-efficient appliances, farmers also need to leverage advances in agriculture. As nostalgic as it may be, farmers simply can't meet consumer demand operating the same way as even just one or two generations prior.

For row-crop farmers, technological innovations such as auto-steer, variable-rate seeding which plants more seeds in good soil and fewer seeds in poor ground, and GPS-driven nutrient application are true game-changers. Precision agriculture is so highly technical that we now have planters that know "there's already a bean seed there," on the end rows, so the unit shuts itself off so as not to overplant.

Sprayers are similarly developed so that if the boom (spray arm) overlaps an area that has already been sprayed, the nozzles in the overlapping area (and only in that area) shut themselves off so as to conserve inputs and not overspray the crop.

DID YOU KNOW?

Many people are surprised to find that the overwhelming majority (approximately 95%) of the liquid in a sprayer tank is nothing but water.

One relatable example is that an acre of cropland (which is about 76% the size of a standard football field) receives between 26 and 32 ounces of glyphosate (also known as Round-Up). For the sake of comparison, a Venti size coffee at your local Starbucks is 20 ounces.

So WHY are farmers spraying, anyway? If you have ever had a garden, you know how easily weeds or insects can take over. Now imagine that your garden is thousands of acres. There's no way that farmers can keep weeds, pests and fungus away from their crops by using the same labor-intense methods that gardeners employ.

Early in the adoption of precision agriculture technology, a farmer with controlled shut-offs on his nozzles and field boundaries in his mapping system used 15 percent less herbicide the first season. Also, he didn't accidentally spray sod waterways, which protect our waterways from run-off.

In the photo on the facing page, Kentucky farmer Ryan Bivens of Fresh Start Farms shows Energy and Environment Secretary Charles Snavely how he combines mapping data from planting and nutrient application (fertilizer) with his harvest yields to pinpoint exactly what effect his efforts had on his crop.

Another "tool in the toolbox" that farmers use is that of biotech or genetically modified crops, sometimes called GMOs. These crops are modified in a controlled environment to exhibit a specific desired trait, such as resistance to certain herbicides or insects. Some crops are bred to use less water, making them more drought-tolerant.

All genetically modified crops are tested extensively by the Food and Drug Administration, the United States Department of Agriculture, and the Food and Drug Administration.

The National Academy of Sciences (NAS), one of the country's most prestigious scientific groups, says that food from genetically modified plants is safe to eat. NAS issued a report that looked at 90 studies and disease date. The conclusion remains: there has been NO increase in health risks related to the consumption of genetically modified foods. NONE.

This 1,000 gallon sprayer's tank, when full, will hold 950-990 gallons of water and only 10-50 gallons of herbicide, depending on the crop being sprayed and the herbicide being used.

KENTUCKY FARMERS CARE... ABOUT THEIR ANIMALS

Poultry and livestock farmers do more than deliver the sizzle. They're invested financially, physically and emotionally in the health of their flocks and herds. Kentucky produces a lot of soybeans and corn, two essential ingredients in livestock feed. So, it makes perfect sense that many farmers have started or expanded livestock operations in areas close to these valuable inputs.

Poultry is the number one ag commodity here in the Bluegrass state. From an omelet to hot wings to your Thanksgiving turkey, Kentucky's poultry producers have you covered! The vast majority of poultry here in Kentucky is raised indoors in order to protect the flocks from predators and to maintain a controlled environment.

Hogs in Kentucky are generally raised indoors, as well. They prefer a temperature of about 72 degrees year-round, and if you have spent much time outdoors, you know that's not descriptive of many of our days. Hogs are fed a nutritious diet under the watchful advice of a veterinarian.

Neither poultry nor hogs may be fed hormones nor steroids to enhance their growth. Animals are larger these days because of careful genetic breeding. While animals may be given a course of antibiotic treatment to prevent or treat illness, farmers follow strict withdrawal guidelines to ensure that those animals don't enter the food supply with antibiotics in their systems.

Kentucky is the largest beef-producing state east of the Mississippi, and eighth in national beef production. Most cattle in Kentucky are raised on pasture from weaning until time for them to be finished, about 3-6 months before they enter the food supply. Some farmers finish their beef on grass while many prefer grain-finishing.

No matter which kinds of practices these farmers employ, consumers can feel safe at the supermarket meat counter knowing that the farmers who are raising our meat, milk and eggs are doing so in accordance with the law and recognized Best Management Practices.

ANIMAL AGRICULTURE IS MORE THAN

HOT WINGS

BACON AND ICE CREAM.

IT'S DOING WHAT IS

RIGHT

FOR OUR ANIMALS, FAMILIES AND COMMUNITIES.

KENTUCKY FARMERS CARE... ABOUT DOING WHAT IS RIGHT

Kentucky farmers – large and small, growers of livestock, poultry, milk, produce, eggs and grain, marketed internationally or locally – care about what's right for this generation and the generations to come.

Funded by the Kentucky soybean checkoff.