

CHS Miracle of Birth Center

Communications Training



CHS Miracle of Birth Center Communications Training for Volunteers 2016

Key Messages

Miracle of Birth

Today, we are witnessing the miracle of birth, a process that is part of nature's plan. A farmer's first priority is the care and well-being of their animals. This dedication lays the foundation for farmers' and veterinarians' life-long work on farms that is so vital to feeding the world and supporting our local communities.

Farmers

Farmers touch the lives of Americans each and every day with the food and fiber they produce. They work hard every day to care for their animals; to provide wholesome, nutritious, high-quality food; and to take good care of the environment. They are productive members of their communities. They love the work they do.

Animal Care

Farmers recognize and take seriously their responsibility to care for their herds and flocks. Healthy animals start with proper nutrition, proper living conditions and good veterinary care.

Veterinary Care

Preventative health care provided by veterinarians is important to the care of farm animals. Veterinarians help oversee animal health through regular checkups, as well as emergency care. Veterinarians and farmers work as a team to give the best care possible to animals.

Food Safety

Farmers, along with those who manufacture and distribute food, place the highest priority on producing the most wholesome and high-quality food in the world. Farmers take great personal pride in providing all of us with good, wholesome foods.

Environment

Farmers are the original recyclers: growing crops, feeding the grain to animals and using the nutrients in animal manure as fertilizer to decrease reliance on petroleum-based fertilizers. Additionally, protecting the air we breathe, the water we consume and the land we love are important values of the people involved in the entire food system.

Community and Economic Impact

Farmers take pride in being good citizens in their communities. Farm families participate in service clubs, church groups and school boards—because, like their neighbors, they want to preserve their surroundings for future generations. In Minnesota, animal agriculture contributes to the state's economic growth and generates value-added economic activity.

Frequently Asked Questions . . . And Some Suggested Answers

What time is the next birth?

Attendants: Be aware of the timing of the next birth. This is the #1 question you will receive.



Where do all the animals come from?

Farmers from across the Midwest provide the animals you see here. These farmers care very much for their animals and want others to witness the “miracle of birth.”

Do the animals go home when they are done here?

Many of the animals return to their farm when the fair is over. Some animals, like the pigs and poultry, go to another farm so that they do not bring any fair germs back to their original herd or flock.

Is it a boy or girl? How can you tell?

This animal is a *<insert proper terminology for the species >*. Spending time with animals helps you quickly see what gender they are, just like pet owners can tell which are male and female dogs.

How big is it? How big will it get?

Attendants: Review the sections devoted to species-specific information.

What breed is that animal? How do you know?

The name of this breed is <insert name>. This breed has characteristics such as <insert information such as color, markings, or other physical traits>. This is similar to dogs, just as there are breeds such as a Labrador or Chihuahua, there are different breeds of livestock as well.

Is it hard for the animals to be here?

We take very good care of the animals while they are here, just as farmers do back on their farms. Farm animals have routine contact with people -- perhaps not quite this many --- but farmers are definitely checking on their animals every day. Additionally, fans are used to increase airflow and some animals are misted with water to keep them cool. We also provide nutritious food and clean water throughout the day. The veterinarians give them regular checkups.

Where does all the manure/poop go?

Several times a day we take the manure out of the animal's pen. The manure is recycled and used as a natural fertilizer for fields or gardens.

Why are the pigs in crates/stalls?

This is a way to keep both the sow - the mother - and the piglets safe. It prevents the piglets from getting in the way when the sow lies down or moves around.

Why is the calf separated/taken from its mother/the cow when it is born?

We actually provide better care to that calf than the cow would. The long-term health of the animal is determined within the first 24-hours of a calf's life. As care-takers of the animals, we can immediately determine the needs of that calf. (See next message on colostrums.)

Why are the baby calves bottle fed?

When a calf is born, they need antibodies that are in a cow's colostrum, or its first milk. Bottle-feeding makes sure calves get the colostrum they need. We continue to feed the calf with a bottle so it gets enough nutrition in the early stages of its life.

Why are they pulling the calf out with chains?

Sometimes a cow needs assistance to move the calf through her birth canal. People carefully pull the straps or chains when the cow has a contraction, helping her deliver her offspring.

Why do the animals have ear tags or notches?

These help identify the animals so that farmers can take care of them on an individual basis. These identifications are tracked on the computer and might include its birth date, weight at birth, genetic information and information that may come from a veterinarian.

Additional questions that may come up:

Words to Use, Words to Lose

LOSE	USE
Industry	The people who bring you your food (dairy foods, milk, meat, eggs, etc.)
Producer, Operator	Farmer
Baby pig (or calf or lamb)	Piglet/calf/lamb/foal/chick/poult
Castrated	Neutered
Operation, business	Farm
Cute, cuddly	Strong, healthy
Bird flu	Avian Influenza
Mad cow disease	BSE
BST or rBST	Naturally occurring hormone
USDA	U.S. Department of Agriculture
EPA	Environmental Protection Agency
Downer animal	Sick animal
Animal waste	Manure, poop
Free from antibiotics, hormones...	Wholesome
Swine flu	H1N1
Vet	Veterinarian
Slaughter	Market or Harvest
Animal Welfare/Animal Rights	Animal Care
Educate	Share your story
Happy	Safe, content

Winning Words

- Today, we are witnessing the miracle of birth...
- Farmers' first priority is the care and well-being of their animals.
- The birth process is an exciting part of nature.
- These newborn animals are built to thrive.
- These newborns have survival instincts.
- Farmers...
- Family farm...
- Healthy animals start with proper nutrition, healthy living conditions and good veterinary care.
- Farmers recognize and take seriously their responsibility to...
- Preventative health care provided by veterinarians...
- Wholesome, safe, and high-quality food...
- Farmers are the original recyclers...
- Farmers take pride...
- That's a common misperception...
- That's not my area of expertise, but what I can tell you is ...
- On the farm where I live...
- No, let me explain ...
- The most important point to remember is ...
- That's a good question to ask your mom...
- No, that's not true...

Species-Specific Birth Information

Cattle

Female cattle are called heifers. After they have given birth, they are called cows.

Male cattle are either bulls or steers. Bull calves that are mature and capable of producing offspring are called bulls. Steers are male cattle that have been neutered, therefore unable to reproduce.

The offspring of a bull and a cow is called a calf.

The length of pregnancy, or gestation, for a cow is about 283 days. When a cow gives birth, it is called calving. Cows usually give birth to just one calf at a time, but twins are not uncommon. A calf weighs about 80 pounds when it is born.

In the last few weeks to days prior to birth, the calf rotates within the cow's uterus, and ends up facing the back end of the cow, with forelegs tucked under the chin, and the back of the calf upwards so that it is resting with abdomen and feet on the floor of the uterus.

In the day before birth, the cow will normally experience a drop in body temperature of about 1° C. Her appetite will generally drop off as well. The cow will find a quiet corner and pace and paw; appearing restless. She may kick at her belly, or turn around to stare at it and get up and lie down.

A cow may arch her back and raise her tail prior to the birth. At this point, the calf is moving into the birth canal and birth membranes may be seen.

A few hours before the actual birth, there may be passage of some watery fluid as the water bag (amniotic sac) bursts. This is the time when the uterus begins full-strength contractions, and the calf passes out through the canal. The cow may rest for short periods in between pushes. When the calf arrives, the cow will normally turn and lick her offspring and this helps to stimulate the calf to breathe well, to rise and to nurse.

After the calf is born, the afterbirth or placenta is expelled. This usually happens within a few hours of birth.

Intake of the first milk (colostrum) is essential for the welfare of the calf. A typical calf needs to nurse about a gallon of this special milk which is rich in energy and provides antibodies from the mother that help protect the offspring from infections. This usually takes place within the first 12 hours.

It is important to prevent chilling in the newborn calf. A farmer will often towel dry the calf, and in a cold environment, a heat lamp may be provided. The farmer will also make sure that the membranes are passed and the navel is dipped in germicide.



Swine

Female swine are called gilts. After gilt has given birth, she is called a sow

Male swine are either boars or barrows. Boars are male swine that are capable of producing offspring. Barrows are male swine that have been neutered and are not capable of reproducing.

The length of pregnancy, or gestation, for a sow is 114 days (3 months, 3 weeks, 3 days).

The offspring of a boar and a sow is a piglet or pig.

When a sow gives birth, it is called farrowing. A sow gives birth to a group of 8 - 12 piglets at a time, called a litter. A pig weighs about 3 pounds when it is born.



When a pig is about 6 months old and at market weight (around 270 -290 pounds), it is called a hog.

Sows can readily deliver piglets that are presented both backwards and forwards in the birth canal unlike other farm species such as sheep, cattle and horses. Piglets in the forward position also usually have their forelegs tucked under their belly.

As birth approaches, hormonal changes trigger the milk glands to swell and to begin milk formation. In the day prior to the birth the sow will experience a temperature elevation of approximately 1° C. In other farm species, the temperature drops during this time instead.

In the time just prior to birth, the sow's appetite will likely drop off, and she will often appear to be very restless.

The amniotic sac will rupture as it is pressed into the birth canal, sometimes resulting in a small amount of fluid being passed. Farmers refer to this as the water breaking.

During birth, one piglet is passed at a time. Once this begins, piglets usually arrive quickly, with an average of 5-10 minutes elapsing between deliveries. After the piglets are born, the afterbirth, or placenta, is passed.

Normally, farmers will have prepared for the birth process and will observe the farrowing closely. They will have placed a warming lamp off to the side, and often will towel dry the piglets to help prevent chilling. They will make sure all of the placental membranes are passed, and closely watch piglets to confirm that they take their first milk (colostrum). The colostrum contains essential energy and protection against disease and must be taken in within the first day of life.

Sheep

Female sheep are called ewes, and referred to as ewe lambs before giving birth.

Male sheep are either rams or wethers. Those that are mature and capable of producing offspring are called rams. Male sheep that have been neutered and are unable to reproduce are called wethers.

The length of a ewe's pregnancy, or gestation, last an average of 148 days. The offspring of a ram and a ewe is a lamb. When a ewe gives birth, it is called lambing. A ewe often gives birth to twin lambs, sometimes even triplets or quadruplets. A lamb weighs about 8 pounds when it is born.



During the last month of pregnancy, the ewe's belly will grow and her udder will begin to produce colostrum, the first milk. A few days before she goes into labor, there will be relaxation of the muscles in the hip area.

At the start of labor, the ewe becomes unsocial and restless. She will move away from the main part of the flock and will spend extra time getting up and laying down. As the onset of labor gets closer, a ewe may start to dig a nest in the bedding.

As the labor progresses, the ewe will, from time to time, stand up and lay down. She may also turn circles while bleating. The first sign that the lamb is coming is the appearance of the amniotic fluid, or water bag. Once the water bag breaks, the lamb is usually born within 30 minutes.

The front feet of the lamb will come first in the birthing. The lamb's head lays above and between the front legs coming out next. Most of the time a thin membrane will still cover the lamb, and breaks open as the lamb is born.

Once the lamb is born, a farmer will check to make sure that it is breathing. The farmer may wipe the head and nose off well to make it easier for the lamb to breath. In cold weather, a farmer may also dry off the lamb's ears and tail. Most newly born lambs will soon be trying to stand up.

Horses

A young female horse is called a filly. After females have given birth, they are called mares.

Young male horses are called colts. Males that are mature and capable of producing offspring are called stallions. Male horses that have been neutered and are unable to reproduce are called geldings.



The length of a mare's pregnancy, or gestation, last an average of 340 days. The offspring of a stallion and a mare is a foal. A weanling is a horse 6 to 12 months old; a yearling is 1 to 2 years old. When a mare gives birth, it is called foaling. A mare usually gives birth to just one foal. A foal weighs about 80 pounds when it is born.

Two to four weeks prior to foaling, the muscles around the mare's tail head become soft and relaxed and her udder begins to fill with milk. The mare may show signs of uneasiness during the last two weeks of pregnancy. She may also rub her tail or hindquarters on fences or barn walls.

During the first stage of labor, the muscles of the pelvic area relax, allowing the bones to spread so the foal can be positioned toward the birth canal. Movement is often noticeable as the foal turns into position. The abdominal wall above the flank and behind the ribs becomes concave, or sinks inward, and the tail head becomes more prominent. A mare's contractions may cause nervousness, erratic eating, sweating, pacing, tail switching and frequent urination.

A mare has very powerful uterine contractions, and when the unborn foal is positioned in the birth canal properly, delivery can occur in a relatively short period of time, 10 to 15 minutes. Birth usually occurs shortly after the outer water bag ruptures.

Presentation of the foal's front feet occurs first, soles down, relatively close together, one slightly more advanced than the other. The nose of the foal is usually tucked between the extended forelegs near the knees.

Most mares position themselves on their sides, with their legs fully extended during the delivery of the foal; however, some insist on standing.

The mare will usually rest after the passage of the foal's shoulders and again after the passage of the hips. As the foal emerges, the inner fluid sac usually breaks. During this time, the mare will clean her offspring by licking it. The foal should be trying to stand within a few minutes of delivery. The foal will drink the first milk (colostrum) to help combat disease and to aid in eliminating fecal material that has built up in the intestinal tract.

Chickens

Chicks hatch from eggs. **It takes about three weeks for them to develop and come out of their eggshells.** Every chick is born with a small tooth in its beak that helps it peck its way out of the shell. The average incubation time for a chick is 21 days.

A male chicken is called a cock or an old rooster. A female chicken under 20 weeks old is called a pullet; one over 20 weeks is called a hen.



Egg Production Housing Options

“The Hen House” Message to share: Eggs are an affordable & nutritious protein. Become an informed consumer when choosing your eggs.

Free-Range

Food Safety

- Less likely to use an automated nesting system
- May lay eggs on ground
- Increased likelihood of contact with manure
- Egg collection can be labor intensive

Bird Behavior/Social Interaction

- Larger groups of hens increase fighting because a stable “pecking order” isn’t established

Health

- Hens are exposed to predators, inclement weather, parasites and diseases from other animals
- Increased injury, cannibalism and death loss
- Death loss can be higher than either cage or cage-free production

Production

- Production is limited because of stressors hens are exposed to
- Hens may hide their eggs, making egg collection difficult
- Provides some access to the outdoors for hens to roam (although most hens tend to stay indoors near food, water, and away from potential predators)

Benefits to Consumers

- Free-range egg production costs more, and those costs are passed onto consumers.
 - More feed required
 - Additional space and land required
- Results in higher egg prices for consumers

- Free-free eggs are not allowed in the WIC subsidized food program for women, infants, and children

Farm Worker Safety

- Egg collection is more labor intensive
- Increase exposure to manure and other contaminants

Cage-Free

Food Safety

- Hens lay eggs in a nesting system – more potential for eggs to come in contact with manure
- Increases need for greater sanitation
- Depending on the farm, these systems may or may not have an automated egg collection system

Bird Behavior/Social Interaction

- Increases fighting because a stable “pecking order” isn’t established

Health

- Hens are protected from predators, inclement weather, and diseases from other animals
- Greater incidence of broken bones and other injuries
- Increased cannibalism and death loss

Production

- Provides more space per hen
- Hens are able to roam the entire barn
- Allows hens to dust-bathe
- Permits hens to choose a nesting site
- May result in fewer eggs laid because of additional stress on hens living in a larger group setting

Benefits for Consumers

- Cage-free egg production costs 2-3 times more than caged egg production
 - More feed required
 - Additional space and land required
- Results in higher egg prices for consumers
- Cage-free eggs are not allowed in the WIC subsidized food program for women, infants, and children

Farm Worker Safety

- Depending on the farm, egg collection may be more labor intensive
- More potential for increased exposure to manure

Caged Housing

Food Safety

- Once an egg is laid, it rolls to a belt which moves it to be washed
- Most eggs are never touched by human hands
- Eggs are never in contact with manure
- Less handling=s safer food

Bird Behavior/Social Interaction

- Hens naturally prefer to “flock” in a small group, establishing a stable pecking order
- Limits stress and aggression

Health

- Hens are protected from predators, inclement weather and diseases from other animals
- Limits cannibalism
- Death loss is very low

Production:

- Climate-controlled barn 24/7
- Constant access to fresh food and water
- Comfortable, cleaner and less stressed hens are healthier

Benefits to Consumers

- Most affordable eggs to the consumer
- Caged eggs are allowed in the WIC subsidized food program for women, infants, and children

Farm Worker Safety

- Manure is continuously removed by a revolving belt, limiting odor exposure to hens and farm workers
- Less labor intensive - no hand-picking of eggs

Myth Busters:

Myth: Brown colored eggs are better and more nutritious than white colored eggs.

Fact: The essential nutrients in all eggs, regardless of color, are the same.

Bonus Fact: The color of a hen’s earlobe determines the color of the egg! Hens with brownish-red earlobes lay brown eggs & hens with white earlobes lay white eggs.

Myth: Eggs from hens raised outside are better for you.

Fact: Regardless of how hens are housed, the nutrient quality of all eggs is the same.

Myth: Poultry are pumped full of hormones and steroids.

Fact: There are no added hormones or steroids given to poultry – it is illegal!

Myth: Eggs are high in cholesterol.

Fact: Recent studies show a grade “A” egg is 14% lower in cholesterol than previously recorded and can be enjoyed daily as part of a well-balanced meal plan.

Turkeys

A newborn turkey is called a poult. A male turkey is called a tom and a female is called a hen. The average incubation time for a turkey is 28 days.

Highly Pathogenic Avian Influenza (HPAI)

Food Safety

- Turkey, chicken and eggs are safe to eat.
- Any poultry testing positive for avian influenza are prohibited by law from entering the food chain.
- Minnesota's turkey farmers have been monitoring their flocks for avian influenza for 40 years.

Public Health

- According to the Centers for Disease Control and Prevention (CDC), avian influenza is not a public health risk.
- No human infections with the avian influenza viruses found in the U.S. have been reported.

Economic Impact

- The economic toll of avian flu on Minnesota's poultry industry has climbed to nearly \$650 million.
 - This includes \$171.7 million of lost wages, salaries, and benefits.
- Minnesota farmers have lost more than 9 million turkeys and egg-laying chickens to avian influenza since March 2015.

Biosecurity

- Protecting flocks from disease is a top priority.
- All flocks in Minnesota are regularly tested for a number of avian diseases, and farmers follow strict biosecurity measures.
- What is "biosecurity?"
 - Biosecurity describes the procedures and practices followed to contain or prevent the spread of germs and viruses in a poultry flock and includes:
 - Limiting all but necessary visitors to the farm

- Wearing protective clothing (such as coveralls, disposable gloves and shoe covers) when inside a barn
- Cleaning and disinfecting vehicles and equipment before moving them on or off the property
- A farmer's goal is to keep what's outside the barn out and what's inside the barn in.

Research

- Minnesota farmers are working with avian health experts and government agencies to study the avian influenza virus to better understand how it's spread.
- We're utilizing epidemiology, developing best practices for biosecurity, coordinating research and conducting tests of waterfowl to help us better prepare for - and ideally prevent - future waves of avian influenza.
- Combating avian influenza is truly a team effort!
 - University of Minnesota
 - Minnesota Board of Animal Health
 - Minnesota Department of Agriculture
 - U.S. Department of Agriculture
 - Minnesota Department of Natural Resources
 - Minnesota Department of Health

Background

- Since early March, flocks of turkeys and chickens (egg laying hens) have been diagnosed with a highly-pathogenic form of avian influenza or HPAI.
- Minnesota's poultry farmers continue to be on high alert and have adjusted their sanitation procedures to protect their turkey flocks.

What is Avian Influenza?

- Avian Influenza (AI) is a viral disease that affects all species of birds. It is caused by the type "A" influenza virus.
- AI viruses can be classified into two categories, those that cause mild to no disease in poultry (low pathogenic avian influenza or LPAI) and those that cause severe disease (highly pathogenic avian influenza or HPAI).
- Waterfowl are the natural reservoirs (carriers) of AI viruses. While the viruses may cause marked illness and fatality in domestic poultry, waterfowl often show little to no signs of infection.

What are the signs of HPAI?

- Some birds may exhibit flu and cold-like symptoms. Signs may include: loss of appetite, lack of vocalization, drop in egg production, coughing, swollen face, diarrhea and paralysis.
- Sudden and rapid death loss.

How is HPAI spread?

- AI is spread easily through droppings or nasal discharge of an infected bird, which contaminates dust and soil.
- People can carry the virus on their shoes, clothes, equipment and vehicles.

Control methods are limited; therefore, it is better to prevent infections with biosecurity at an individual farm and regional level. Influenza viruses follow the movement of people and equipment and can only be controlled if everyone communicates openly.

Web Resources

- www.mnaireponse.info
- www.minnesotaturkey.com
- industry fact sheet: <http://minnesotaturkey.com/wp-content/uploads/2015/03/MTGA.FactSheet.5-2015.pdf>
- www.mnchicken.org
- industry fact sheet: <http://www.mnchicken.org/assets/CEAMfactsheet-4-2015.pdf>

USDA

- http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=avian_influenza.html
- http://www.aphis.usda.gov/wildlife_damage/nwdp/pdf/AvianFluBrochure.pdf
- <http://healthybirds.aphis.usda.gov/>

Phone #'s/Agency & University Resources

- <http://minnesotaturkey.com/wp-content/uploads/2015/03/HPAI-Hotlines-and-Websites-4-27-2015.pdf>

THE BEEF LIFECYCLE



COW-CALF

Cows are bred and calves are born and raised every year on cow-calf farms and ranches, spending time grazing on grass pastures within sight of their mothers.

WEANING

Beef calves are weaned away from their mothers between 6-8 months of age.

CALVES FOR SALE

LIVESTOCK AUCTION MARKETS

Many calves leave the farm or ranch where they were born and are sold at livestock auction markets to stockers and backgrounders between 6-12 months of age.

STOCKERS AND BACKGROUNDERS

Between 6-12 months of age cattle spend time at stocker and backgrounder farms and ranches where they graze on a variety of pastures. Here they gain weight and convert forage and grass into lean protein.

FEEDYARD

Cattle spend 4-6 months at a feedyard being fed a scientifically-balanced diet and receiving daily care. Some spend the rest of their lives on a pasture being grass finished.

PACKING PLANT

Cattle are sent to a packer/processing facility to be slaughtered and processed then distributed to supermarket retailers and restaurants.

Retailers and foodservice operators sell beef in **SUPERMARKETS AND RESTAURANTS.**

Due to strong demand for U.S. beef, beef is **EXPORTED TO MORE THAN 130 OTHER COUNTRIES.**

Beef helps nourish the bodies of **MILLIONS OF AMERICANS** by providing 10 essential nutrients.



A FARMER'S TOOLS FOR HEALTHY ANIMALS

Farmers and ranchers use a variety of tools including vaccines, good nutrition programs, biosecurity measures and various types of housing to keep animals healthy. Antibiotics are only one option farmers and ranchers may use in a plan of good care to raise healthy farm animals.



SOURCE: USFRA

Wholly or partially funded by one or more Checkoff programs

U.S. Farmers & Ranchers Alliance
www.FoodDialogues.com

WHY ANTIBIOTIC USE IN ANIMALS IS SAFE FOR EVERYONE

- The Food Safety and Inspection Service (FSIS) has a rigorous approval process, actively monitoring antibiotic use in animals raised for food. Additionally, antibiotics important to human medicine will be phased out from use for growth purposes in farm animals over the next few years.
- In addition to isolating sick animals, farmers and veterinarians pre-emptively treat the herd in order to prevent and control the spread of disease, a critical step for keeping farm animals safe and healthy



- According to the Centers for Disease Control and Prevention, there has been no proven link to antibiotic treatment failure in humans due to antibiotic use in animals for consumption in the U.S. Furthermore, no clinical case of MRSA in a human has been identified in the U.S. related to livestock.



- Farmers work in partnership with veterinarians as part of their quality assurance programs to ensure all antibiotics are used appropriately.

SOURCE: FDA Guidance 209 and 213

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CHECKS & BALANCES FOR A SAFE FOOD SUPPLY

A common misperception is the antibiotics used on animals will be present in meat purchased at the store. All animals treated with antibiotics go through a withdrawal period and must meet federal standards for antibiotic residue before the meat enters the food supply. Antibiotics are used to ensure animal health, food safety and public health.

STEP 1

The FDA sets specific treatment schedules and withdrawal times* for every drug and animal. Farmers follow these guidelines to ensure no meat with antibiotic residue goes to market.



STEP 2

If needed, animals are given antibiotics according to label and treatment instructions approved by the FDA.



*Number of days that must pass between completion of the dosing regimen before the animal continues through the final stages of the food production process.

STEP 3

The National Residue Program randomly tests food producing animals as they continue through the food supply, as an extra measure to ensure animals will be safe for consumers to eat.

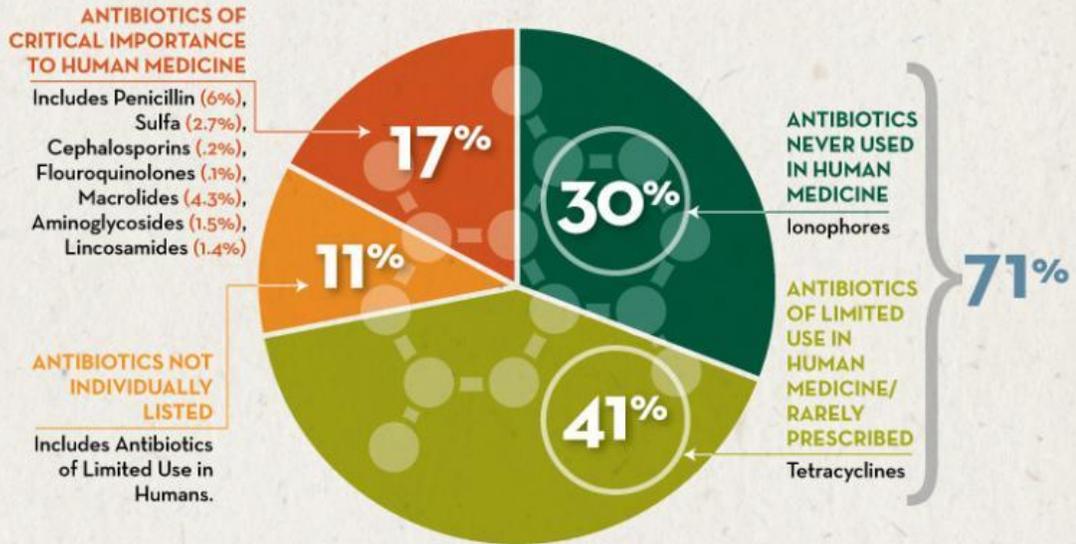


SOURCE: National Residue Program for Meat, Poultry, and Egg Products
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ANTIBIOTICS SOLD FOR ANIMALS – KEY CATEGORIES

Of the top antibiotics sold for animals in 2011, **over 71%** are not used, or rarely prescribed to humans.



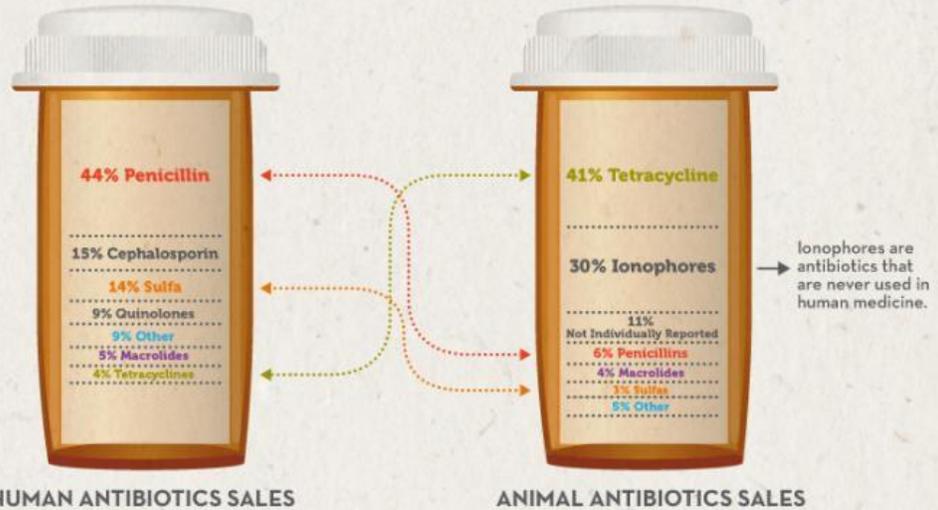
SOURCE: FDA 2011 reports
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TOP ANTIBIOTICS USED IN

HUMANS vs. **ANIMALS**

The top antibiotics used for animals in 2011 were rarely used in humans, and vice versa.



SOURCE: FDA 2011 reports
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www.FoodDialogues.com

ANTIBIOTICS

Pound for pound, **humans and their pets use 10 times** the amount of antibiotics than what is used in food animal production.



SOURCE: <http://www.ahi.org/Files/Resources/AH%20Antibiotics%20Brochure%20FINAL.pdf>

animalantibiotics.org

What is antibiotic resistance?

Antibiotic resistance refers to bacteria that have evolved to the point that they are not easily killed by antibiotics. Antibiotic resistance is a serious public health concern and the animal health community shares that concern.

Are there scientific studies on the risk of human resistance resulting from animal antibiotic use?

Studies conclude there is a 1 in a billion chance of treatment failure from antibiotic resistance related to the use of common animal antibiotics. To put that into context, you are thousands of times more likely to die from a dog bite or lightning strike than from treatment failure related to the use of antibiotics in animals.

What is antibiotic residue and is my meat safe to eat?

Antibiotic residue is different from resistance and refers to molecules that remain in meat from animals that have been treated with antibiotics. There are multiple safeguards in place to ensure meat is safe, including mandatory antibiotic withdrawal periods for animals and routine testing of meat by the U.S. Department of Agriculture and food companies. Antibiotic residue is not the same as antibiotic resistance.

What can consumers do to make sure meat is safe?

Cooking meat to the proper temperature kills all bacteria, eliminating the possibility of exposure to resistant bacteria. It is also important to handle raw meat properly to prevent spreading bacteria to other foods.

What is the public benefit of using antibiotics in livestock and poultry?

The responsible use of animal antibiotics benefits all of us by making food safer and more affordable. Antibiotics make food safer by helping keep animals healthy, and studies show this reduces bacteria entering the food supply. Keeping animals healthy allows farmers to produce food more effectively, which has the added benefit of making food more affordable while using fewer natural resources.

Is antibiotic use in the best interest of animals?

Antibiotics have been used in farm animals for decades for the same reason they're used in humans – to treat or prevent or control diseases that cause pain and suffering. When an animal is sick with a bacterial infection, treating it with antibiotics is the ethical thing to do. The American Veterinary Medical Association, the nation's largest veterinarian organization, testified before Congress that antibiotics are one of the most important tools that veterinarians use to protect both human health and animal health.

What is being done to reduce the use of animal antibiotics?

The animal health community is working collaboratively with the Food and Drug Administration to ensure the responsible use of antibiotics in animals. In fact, several changes are underway. Antibiotics that are important to human medicine will be allowed only for the treatment and prevention of disease in animals – not for growth promotion – by January 2017. Also, oversight by veterinarians is being increased. A veterinary feed directive (VFD) – which is essentially a prescription from a veterinarian – will be required to treat animals with antibiotics that are also used in human medicine.

FARM SIZE AND OWNERSHIP



SOURCE: USDA 2007 Census of Agriculture

FOOD CHOICES

The U.S spends **less** household income on food than any other country.

The average **U.S.** household spends **6.4%** of its household income on food at home.

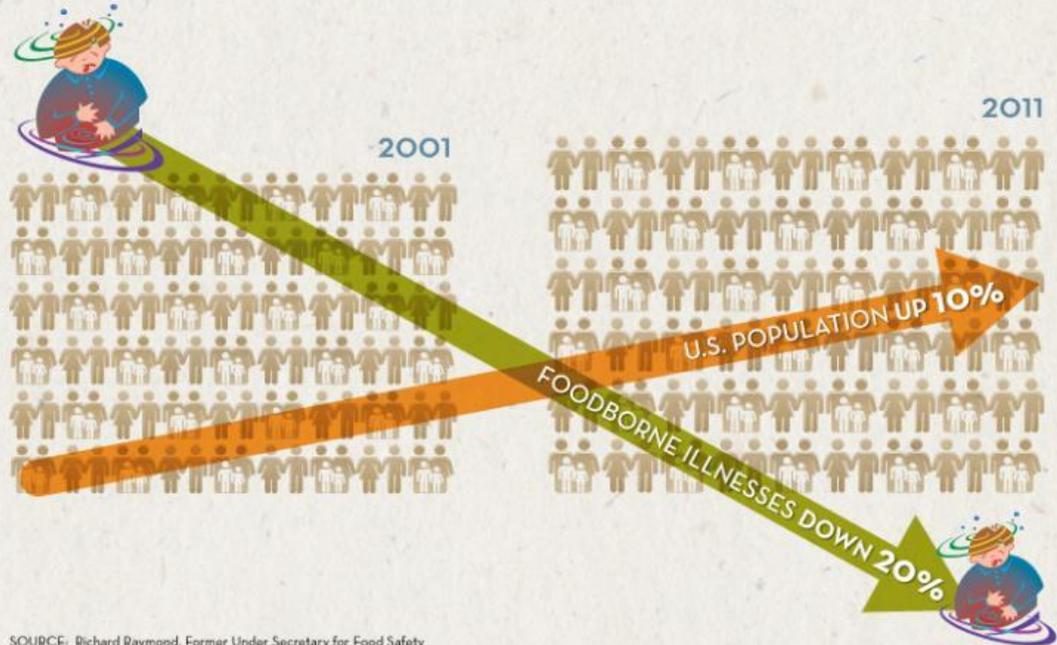
At **13.2%** percent of their household income, **France** spends **two times** the amount as the U.S. on food at home.



SOURCE: USDA - <http://www.usda.gov/documents/drought-infographic.pdf>

FOOD SAFETY

Over the last 10 years, foodborne illness numbers are **down 20%**, even though the U.S. population **increased by 10%**. This makes the 20% reduction an even more significant accomplishment.



SOURCE: Richard Raymond, Former Under Secretary for Food Safety

BIOTECH



8 Common Crops Commercially Available Use Biotech Seeds, reducing crop loss to insect and plant diseases as well as drought and other environmental conditions.

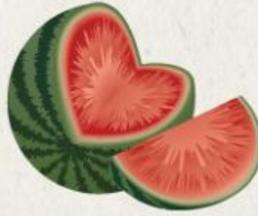
SOURCE: www.isaaa.org

ARE THESE GMO?



Purple cauliflower

DOES NOT get its color because it's genetically modified. It's through conventional breeding.



Seedless Watermelon

DOES NOT lose its seeds because it's genetically modified. It's through conventional breeding.



Purple potatoes

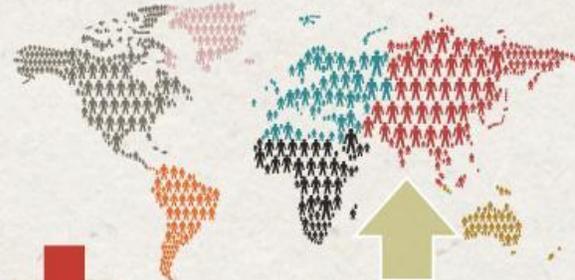
DO NOT get their color because they're genetically modified. It's through conventional breeding.

SOURCE:
International Service for the Acquisition of Agri-biotech Applications (ISAAA)

• U.S. Farmers & Ranchers Alliance •

FEEDING A GROWING GLOBAL POPULATION

MORE PEOPLE



The world's population is expected to grow by over a third, to **9 billion+ people**, between 2009 and 2050. This will continue to impact the usable space to grow food, and the amount of natural resources available like water.



LESS LAND



Worldwide, the amount of cropland per capita has declined due to population growth. As a result, an estimated **2.47 acres** of productive land is lost every **7.67 seconds**¹. Between 1982 and today, the total land used for crops declined by **15%** (70 million acres)².

NEED TO GROW MORE FOOD TO FEED MORE PEOPLE USING LESS AVAILABLE RESOURCES



Food production must increase by **70%** between now and 2050 if we are to feed the world population⁴. GM seeds give farmers the ability to grow more food on less available land. For example, if biotechnology had not been available to the 15.4 million farmers using the technology in 2010, it would have required additional planting of **34 million+ acres of crops** (equivalent to the size of Wisconsin) to maintain global production levels at the 2010 level.⁵

8 Common Crops Commercially Available Use Biotech Seeds, reducing crop loss to insect and plant diseases as well as drought and other environmental conditions.



SOURCES:
¹IRRI.org | ²American Farm Bureau | ³FAO.org | ⁴EuropaBio | ⁵PG Economics' Seventh Annual Report
 Wholly or partially funded by one or more Checkoff programs

SCIENTIFIC ADVANCEMENTS IN CROPS: A HISTORICAL PERSPECTIVE

Biotech crops are one of the most widely adopted agricultural technologies in history ...



Grown in **28 countries** by **17.3 million farmers**, a **100-fold increase** since they were first commercially planted in 1996.

10,000 years ago:
Humans begin crop domestication using selective breeding

1700s:
Farmers and scientists begin cross-breeding plants within a species for desired parts of the plant

1940s:
Farmers and researchers seek out additional ways to introduce genetic variation into the plant gene pool

1940s – 1950s:
Dr. Norman Borlaug, father of the "Green Revolution" introduces several revolutionary innovations into plant breeding and agronomics; wins Nobel Peace Prize in 1970

1990s:
The first GMO crops are introduced into the marketplace

2012:
Farmers worldwide grow more than 420 million acres of biotech crops

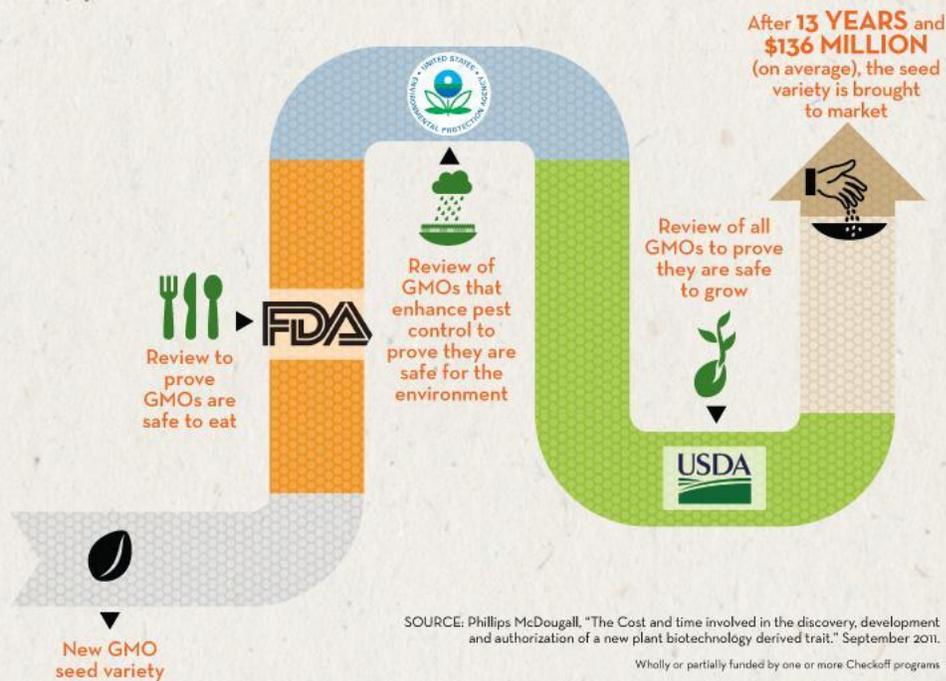
SOURCE: ISAAA Brief 44-2012

U.S. Farmers & Ranchers Alliance
www.FoodDialogues.com

HOW A GM SEED GETS TO MARKET

No other type of new seed that comes to market from other breeding methods goes through regulatory approval, including the thousands of conventional and organic seeds developed from mutagenesis*. Only GMOs are required to be reviewed. Even before the new seed goes through the review process, years of testing and research take place.

*Deliberately engineered DNA mutations



SOURCE: Phillips McDougall, "The Cost and time involved in the discovery, development and authorization of a new plant biotechnology derived trait." September 2011.

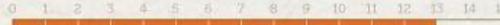
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U.S. Farmers & Ranchers Alliance
www.FoodDialogues.com

TIME TO MARKET PRODUCT COMPARISON

Compared to most products, new GM seed varieties take much longer to bring to market. It requires at least 13 years of research and development, as well as regulatory approvals for new GM seeds to be introduced.

GM Seed Variety¹



AVERAGE NUMBER OF YEARS TO GET A NEW GM VARIETY FROM DISCOVERY TO A GROWER'S FIELD

13
years

Pharmaceutical Medicine²



AVERAGE NUMBER OF YEARS TO GET A NEW MEDICINE FROM THE LABORATORY TO THE PHARMACY SHELF

12
years

Boeing 787 Dreamliner Aircraft³



NUMBER OF YEARS FROM CONCEPTUALIZATION TO MARKET RELEASE

8.5
years

Image from: <http://www.boeing.com/boeing/commercial/787/family/>

Automobiles⁴



NUMBER OF YEARS FROM CONCEPTUALIZATION TO MARKET RELEASE

3
years

Heinz New Ketchup Packets⁵



NUMBER OF YEARS TO DEVELOP AND COME TO MARKET

3
years

Image from: <http://www.heinzdipandsqueeze.com/>

XBOX 360⁶



NUMBER OF YEARS FROM CONCEPTUALIZATION TO MARKET RELEASE

2.9
years

Image from: <http://www.xbox.com/en-US/xbox-360/why-xbox-360?x=shellnav>

SOURCES:

- ¹ Phillips McDougall, "The cost and time involved in the discovery, development and authorization of a new plant biotechnology derived train," September 2011.
- ² <http://ca.biomed.org/pdf/media-kit/fact-sheets/cbrdrugdevelop.pdf>
- ³ http://seattletimes.com/html/boeingaerospace/2010099566_787timelines.html
- ⁴ <http://www.quora.com/Automobile-Design-How-long-does-it-take-to-develop-a-car-design-from-scratch>
- ⁵ <http://online.wsj.com/news/articles/SB10001424053119041946043763769190217B006>
- ⁶ <http://www.thefreelibrary.com/Xbox-360+-+Gaming+Redefined-a01075864283>

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• U.S. Farmers & Ranchers Alliance •
www.FoodDialogues.com

PESTICIDES

What would happen
if farmers did not use pesticides?



Supplies of corn, wheat, and soybeans
would decrease by

73%

SOURCE: <http://ipm.ncsu.edu/safety/factsheets/postuse.pdf>

WATER QUALITY

2001 - 2011
farmers have become
more efficient with
water use by

28%



2006 - 2011
farmers have become
more efficient with
water use by

49%



SOURCE:
National Agriculture Statistics Service

GENETIC TRAITS EXPRESSED IN GMOs IN THE U.S.

APPROVED AND COMING TO MARKET SOON

APPLE

GENETIC TRAITS
Non-browning
Uses: Food



POTATO

GENETIC TRAITS
Reduced Bruising and Black Spot, Non-browning, Low Acrylamide
Uses: Food



FIELD CORN

GENETIC TRAITS
Insect Resistance
Herbicide Tolerance
Drought Tolerance
Uses:
- Livestock and poultry feed
- Fuel ethanol
- High-fructose corn syrup and other sweeteners
- Corn oil
- Starch
- Cereal and other food ingredients
- Alcohol
- Industrial uses



CANOLA

GENETIC TRAITS
Herbicide Tolerance
Uses: Cooking oil, Animal feed



ALFALFA

GENETIC TRAITS
HERBICIDE TOLERANCE
Uses: Animal feed



SOYBEAN

GENETIC TRAITS
Insect Resistance
Herbicide Tolerance
Uses:
- Livestock and poultry feed
- Aquaculture
- Soybean oil (vegetable oil)
- High oleic acid (monounsaturated fatty acid)
- Biodiesel fuel
- Soymilk, soy sauce, tofu, other food uses
- Lecithin
- Pet food
- Adhesives and building materials
- Printing ink
- Other industrial uses



RAINBOW PAPAYA

GENETIC TRAITS
Disease resistance
Uses: Table fruit



COTTON

GENETIC TRAITS
Insect Resistance
Herbicide Tolerance
Uses: Fiber, Animal feed, Cottonseed oil



SUGAR BEET

GENETIC TRAITS
HERBICIDE TOLERANCE
Uses: Sugar, Animal feed



SWEET CORN

GENETIC TRAITS
Insect Resistance
Herbicide Tolerance
Uses: Food



SUMMER SQUASH

GENETIC TRAITS
Disease resistance
Uses: Food



A NEW CONVERSATION, PUBLIC Q&A AND CENTRAL ONLINE RESOURCE FOR INFORMATION ON GMOs.

ASK. LINK. FOLLOW. TWEET.

WWW.GMOANSWERS.COM | [@GMOANSWERS](https://twitter.com/GMOANSWERS)



- Squash 1995
- Cotton 1996
- Soybean 1995
- Corn 1996
- Papaya 1997
- Alfalfa 2006
- Sugar beets 2006
- Canola 1999
- Potato 2016

gmoanswers.com

Misconception: GMOs aren't safe and they're only tested by the companies making them. You may have heard the rumors that GMOs cause cancer, autism, allergies, gluten intolerance, or other illnesses and conditions in humans and animals. While this makes for catchy headlines, it is simply not true.

GMOs are the most regulated and tested product in agricultural history. Click here to find hundreds of independent studies, which you can also search for on Biofortified.org. Additionally, many independent scientists and organizations around the world – such as the U.S. National Academy of Sciences, United Nations Food and Agriculture Organization, World Health

Organization, American Medical Association and the American Association for Advancement of Science – have looked at thousands of scientific studies and concluded that GM food crops do not pose more risks to people, animals or the environment than any other foods. Before they reach the market, crops from GM seeds are studied extensively to make sure they are safe for people, animals and the environment. GMOs take years, and millions of dollars, to come to market. Click here to find out how much time, money and research goes into every GMO you eat before you ever see it.

Did you know, that some GM plants, like Golden Rice, Vitamin A and iron-enriched bananas, and nutritionally improved cassava, can actually benefit human health. In fact, GM crops might be able to prevent or reduce allergies in the future. For example, a GM peanut could help to alleviate peanut allergies.

Misconception: There is animal DNA in GMOs.

Once upon a time there was an experimental tomato that contained a gene from the winter flounder to increase the tomato's resistance to frost, but that tomato was never commercialized. While that tomato did not survive, its legend continues to live on in online search engines. While there are many fake images online featuring fishy tomatoes, there are, in fact, no GMO tomatoes commercially available today. Further, there are no commercial

GM crops on the market today that are genetically modified to contain “animal genes”. It’s important to note that an estimated 60 percent of the genes in plants have very similar copies in animals. While DNA isn’t specifically pulled from a fish and combined with a plant, DNA from any source is made up of the same four basic nucleotide building blocks: adenine (A), cytosine (C), thymine (T), and guanine (G). DNA that comes from a plant or a microbe has the same four nucleotides as the DNA in animals.



No GMO crops you eat contain animal DNA. Get facts, not fish tales, at GMOAnswers.com

Misconception: GMOs have pesticides injected into them.

Some GMO crops are genetically engineered to fight off pests...but if you search online, you will usually be led to believe that this happens by using a syringe to inject pesticides directly into a plant, most commonly the syringe injecting a tomato. (There are no genetically engineered tomatoes.) However, some crops, like corn and cotton, have been genetically engineered to resist pests, reducing damage to these crops and the need for as many pesticide applications. These seeds contain a protein from *Bacillus thuringiensis* (*Bt*), a common soil bacterium, allowing them to resist very specific pests. The Bt protein is only toxic to certain types of insects that feed on the plants, like the European Corn Borer. Bt is not toxic to humans, other mammals or other insects. In fact, Bt has been used for more than 100 years in organic farming as a pesticide spray.

Learn more about how Bt crops work in this post by Andrew Kniss, Associate Professor of Weed Ecology & Management, Department of Plant Sciences at the University of Wyoming on GMO Answers, and this post by University of California, Berkeley biologist Michael Eisen. Get more information on naturally occurring pesticides here.

Popularscience (popsci.com)

GMOs cause allergies, cancer, and other health problems.

Many people worry that genetic engineering introduces hazardous proteins, particularly allergens and toxins, into the food chain. It's a reasonable concern: Theoretically, it's possible for a new gene to express a protein that provokes an immune response. That's why biotech companies consult with the Food and Drug Administration about potential GMO foods and perform extensive allergy and toxicity testing. Those tests are voluntary but commonplace; if they're not done, the FDA can block the products.

One frequently cited study, published in 2012 by researchers from the University of Caen in France, claimed that one of Monsanto's corn GMOs caused tumors in lab rats. But the study was widely discredited because of faulty test methods, and the journal retracted it in 2013. More recently, researchers from the University of Perugia in Italy published a review of 1,783 GMO safety tests; 770 examined the health impact on humans or animals. They found no evidence that the foods are dangerous.

Genetically modified crops cause farmers to overuse pesticides and herbicides.

This claim requires a little parsing. Two relevant GMOs dominate the market. The first enables crops to express a protein from the bacterium *Bacillus thuringiensis* (Bt), which is toxic to certain insects. It's also the active ingredient in pesticides used by organic farmers. Bt crops have dramatically reduced reliance on chemical insecticides in some regions, says Bruce Tabashnik, a University of Arizona entomologist.

The second allows crops to tolerate the herbicide glyphosate so that farmers can spray entire fields more liberally yet kill only weeds. Glyphosate use has skyrocketed in the U.S. since these GMOs were introduced in 1996. But glyphosate is among the mildest herbicides available, with a toxicity 25 times less than caffeine. Its use has decreased reliance on more toxic alternatives, such as atrazine.

How to Handle an Argument

The scientific technique that works.

The scientific method to handle an argument is just the opposite of what we naturally do.

Low pressure is the secret.

Have you ever noticed that when someone tells you, “You **can’t** do that,” you have an uncontrollable urge to do it anyway? Have you ever noticed when someone tells you “You **have** to do so and so,” that your automatic reaction is, “Oh no I don’t!”

Scientific research has verified it over and over. Study after study has revealed that efforts to sway thinking or change behavior using high pressure, threats or force simply don’t work. *Yet those people who were presented with unemotional facts, without any pressure, were much more likely to change their behavior or thinking.*

We learn from the Bible:

“A soft answer turneth away wrath: but grievous words stir up anger.”

– Proverbs 15:1

We must work with human nature

EASE

E _____

A _____

S _____

E _____

It all boils down to this: you must learn to work **with** human nature, not **against** it. To do so, follow these guidelines:

1. Approach in a friendly manner. Instead of coming on with an attitude or temper, use a soft voice and a relaxed state of mind. Smile and let the other person know you are their friend.

2. Listen to their point of view. Whether the other person’s side of the issue has any merit or not, allow them to express it and then LISTEN! *People have a need to be heard.* When you allow the other person a chance to speak it relieves a great deal of pressure off the situation.

3. Empathize with their ideas. Show genuine concern for their position. Help them feel that you understand them and care about their situation. People are more willing to see your point of view when they feel their point of view has been understood. This gives you

a chance to *present your own ideas in the context of having understood the pros and cons of theirs.*

Seek first to Understand.

Take the pressure off

To maintain an open channel of communication with another person *we need to take the pressure off.* Be friendly, listen to them, and empathize with them. This doesn't mean you agree with them, necessarily, but rather that you are open and willing to accept their point of view. Showing you understand them will take the wind out of their confrontational sails. Arguments aren't possible when you pay close attention to the other person's interests because it leaves only one place to go: understanding what *you* want.

Try it and see. You may be surprised to learn that your most powerful tool to handle an argument is to not have one at all – and this is done by taking the pressure off.

CONVERSATION GUIDE FOR AREAS OF CONCERN:

- Ask questions that allow you to understand areas of concern.
- Examples include:
 - *Where did you hear that?*
 - *What concerns you the most?*
 - *Why do you think that?*
- When responding, make your most important point first. Focus on no more than **three points** in your conversation.
- Utilize these comments as needed:
 - *I don't know. What I can tell you is ...*
 - *No. That's not true. According to ...*
 - *That's a common misperception. The fact is ...*
- Examples and visuals are powerful.
- “Actions bind anxiety” – tell them what's being done or give them something to do.
- Provide a source for more information, such as going to a website or forward additional materials to the individual.

***No one cares how much you know
until they know how much you care.***