Antibiotics and Genetic Engineering

About Antibiotics

When antibiotics are used to treat bacterial diseases and infections, some of the bacteria can develop resistance to the medicine. A presidential advisory council says the increasing number of antibiotic-resistant bacteria "represents a serious threat to public health and the economy." We know that antibiotic misuse by doctors and people plays a significant rule in the development of resistance, but the extent to which animal use plays a role is complex and still a subject of intense debate. All agree (producers, consumers, doctors, and patients) that animals need to be cared for and food needs to be safe. Just as antibiotics are necessary to treat people with bacterial illnesses, antibiotics are necessary to treat animals with similar diseases, including livestock and poultry.

The US government does great work to keep our food safe, and this includes meat and poultry. The US Department of Agriculture (USDA) runs the National Residue Program (NRP) for Meat, Poultry, and Egg Products to ensure that animals are off antibiotics long enough to ensure meat and poultry safety. This program confirms that animal producers adhere to the rules and regulations governing the proper use of antibiotics. Additionally, the US Food and Drug Administration (FDA) has released a variety of guidances and regulations to ensure the judicious or responsible use of antibiotics on farms. In fact, as of January 1, 2017, the use of antibiotics strictly to help animals grow faster has been completely phased out on all farms across the US. Plus, meat and poultry producers realize the importance of using antibiotics judiciously for the safety of their animals. Production agriculture focuses on using antibiotics as little as possible while ensuring that they treat and prevent disease that could lead to animal suffering and/or unsafe food.

About Genetic Engineering

Genetically Modified Organisms (commonly known as GMOs) are a result of biotechnological advances in plant agriculture. Scientifically speaking, a GMO product is produced when scientists and farmers intentionally make a copy of a gene for a desired trait from one plant or organism and use it in another plant. There are also other methods, such as cross-breeding, that can produce a GMO. "GMO," "genetic modification," "biotechnology," "biotech seeds," and "genetic engineering" are all words that are commonly seen in regards to these processes.

Biotechnology can be used for a variety of reasons, including:

- To reduce impacts on the environment,
- To reduce farming costs and/or to protect farming income,
- To produce more food for the growing population,
- To save crops from disease, and more.

Common genetically engineered products in the US include: Alfalfa, Canola, Corn (field and sweet), Cotton, Papaya, Potatoes, Soybeans, Squash, and Sugar Beets.

Find this information and more resources on teaching about GMOs at https://gmoanswers.com/