

Animal Health and “The Precautionary Principle”

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Attendees at the 2014 National Institute of Animal Agriculture (formerly known as the Livestock Conservation Institute) last month were treated to a lineup of internationally recognized speakers on “the precautionary principle.” I have to admit (probably like many of you now), I was not sure what the topic was really about. But when agencies such as the World Trade Organization, the World Health Organization, and the European Union repeatedly cite the precautionary principle when creating food safety and animal health policies, you can bet it’s a topic that we food producers should become familiar with.

Defining the precautionary principle

The precautionary principle is a risk management strategy that states that if there is a perceived risk to a product or practice, in the absence of scientific proof and consensus of the risks, err should be on the side of caution. The burden of proof that a product or practice is not harmful falls on those taking an action. In other words, when there is a potential threat to human, animal, or environmental health, precautionary measures should be taken to mitigate the threat even if the cause and effect relationships have not been fully established. Many liken the precautionary principle to the old saying, “better safe than sorry.”

Elements of the precautionary principle have been demonstrated in many settings, and most understandably involve the protection of human health and the environment. For example, the use of genetically modified organisms (GMO’s) has been proven to be safe time and time again in scientific studies. GMO’s are widely used in both human and animal feeds throughout the world. Yet, under the precautionary principle, there are those who propose stricter bans on GMO’s based on the perceived risk of a future adverse event occurring from GMO’s, even if it is uncertain that harm will occur.

A more recent example in Nevada deals with environmental conservation and an endangered species, the desert tortoise. Conservationists believe that the strongest protection measures should be taken to prevent extinction of the tortoise by removing all livestock from the land, even if there is no proof that the presence of grazing cattle will result in the demise of the species. Concerns for the discontinuation of livestock grazing in sage grouse habitats in the western US are also rising.

Precaution in animal health

There is no common definition or set of criteria to guide the precautionary principle. The precautionary principle has been defined as “a willingness to take action in advance of formal justification of proof.” The use of zilpaterol in steers is a prime example of a product that is currently being governed by the precautionary principle. Zilpaterol is an FDA-approved drug

commonly used as a feed additive to increase the lean muscle in cattle and swine, thus improving rate of gain and feed efficiency. Recently, animal welfare concerns have arisen in the US citing an increased risk of lameness and death in animals fed zilpaterol. Zilpaterol and other similar compounds are banned from food production in many countries including China and Russia due to human health concerns. While proof of harm following its use has not been proven, the manufacturer has voluntarily removed the product from the market until additional scientific evidence regarding its safety can be garnered.

Another example of the use of the precautionary principle can be seen in the regulation of animal health pharmaceuticals. For many years, some have claimed that the use of antibiotics in livestock production results in a risk of resistance to those antibiotics developing in animals and being transferred to humans, notably via the food chain. The risk that those and certain other related antibiotics could no longer be used effectively in human medicine for the treatment of certain diseases has prompted calls for increased regulations or discontinuance altogether of animal antibiotics, even in the absence of proof.

In summary, modern agriculture has to survive in an era of “the precautionary principle.” Agriculture must somehow strike a balance between risk and the economic feasibility and practicality of our actions. While caution is good in terms of reducing risks to human, animal and environmental health, too much precaution can hinder progress and keep us from attaining goals in food production, locally as well as globally.

As you continue to grow your operation and make decisions on new technologies in animal health and production, pay attention to the scientific evidence that may or may not exist in support of your decisions. Take time to research new ideas, and stay current on scientific advances and policies that may affect how you do business. Also remember that there are specialists in many areas of agriculture at the Mississippi State University that are always available to assist you with your operation.

Resources:

- Council for Agricultural Science and Technology (CAST). 2013. *Impact of the Precautionary Principle on Feeding Current and Future Generations*. Issue Paper 52. CAST, Ames, Iowa.
- The World Health Organization (2004). *The Precautionary Principle: Protecting public health, the environment and the future of our children*. Martuzzi and J A Tickner, eds. Oxford University Press.
- The World Trade Organization. SPS Agreement Training Module: 8.2 The “Precautionary Principle.” http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/c8s2p1_e.htm. Accessed on April 14, 2014.
- Walton, M. The Precautionary Principle - Turning Prejudice into Policy. National Institute of Animal Agriculture Annual Conference titled 'The Precautionary Principle: How Agriculture Will Thrive', March 31 - April 2, 2014, Omaha, NE, USA. http://www.youtube.com/watch?v=qH_1gRgpM7w Accessed on April 17, 2014.

Policies regarding livestock management practices such as the use of antibiotics and feed additives are often made using the precautionary principle.

