

Appropriate Use of Beta-Agonists in Youth Livestock Feeding Programs

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The main goal of traditional livestock selection programs is to produce the ideal animal that is representative of the commercial livestock industry, regardless of species. Through participation in youth livestock programs, youth become important members of the commercial livestock industry. It is this experience that teaches them how to care for and manage their animals appropriately. Perhaps more importantly, youth also learn about responsibility, character, fair play and getting recognized for the results of their hard work. Even if the youth are not involved in animal agriculture as an adult, their youth livestock project can help them develop the skills and work ethic needed to become productive members of society.

The show ring affords youth the opportunity to display their newly learned livestock skills while also competing against other youth. To perform well, they must learn how to select the most appropriate animal and how to feed it for optimal growth prior to the show. In essence, the show becomes an information exchange about how different genetics work and how the latest animal products can affect the overall quality of the animal. For a small minority of youth exhibitors, the show ring has developed into an all-out competition for prizes, premiums and recognition. Some exhibitors are willing to do anything they can to gain a perceived or even real competitive advantage, which could include providing inappropriate treatment or mismanaging the animal. It might even involve using products designed for commercial production above the recommended levels or using products that are designed for other species. These products could be nutritional, pharmaceutical or simply cosmetic.

Beta-adrenergic receptor agonists, more commonly referred to as “beta-agonists,” are a class of animal drugs designed to increase lean growth and feed efficiency in market beef cattle and market swine. They are commonly used in the feeding programs for youth market steer and market hog projects. Below are examples of ractopamine hydrochloride that are currently marketed in the U.S.:

- Paylean (Elanco Animal Health) and Engain (Zoetis) for use in swine finishing rations.
 - Indicated to increase rate of weight gain, improve feed efficiency and increase carcass leanness.
- Optaflexx (Elanco Animal Health) and Actogain (Zoetis) for use in beef cattle finishing rations.
 - Indicated to increase rate of weight gain, improve feed efficiency and increase carcass leanness when fed as a complete feed.
 - Indicated to increase weight gain and improve feed efficiency when fed as a topdress.

Another example of a beta-agonist is zilpaterol hydrochloride (Zilmax; Merck Animal Health), which has a three-day withdrawal. While still approved, Zilmax is currently not being marketed in the U.S.