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Getting Prepared for Changes to Antimicrobial Stewardship in the Beef Industry

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Antimicrobial stewardship and food safety go hand in hand. Since the Food and Drug Administration published the final rule for the Veterinary Feed Directive (VFD) in 2015, Extension and agriculture programs throughout the nation have worked diligently to educate producers and veterinarians on the importance of antimicrobial stewardship as it relates to animal welfare, meat residues and the potential development of antibiotic-resistant bacteria.

Outreach efforts were eye-opening to both producers and educators as there is a perceived delicate balance between what is good for the individual animal and what is good for the business. Since 2015, Extension and other agriculture forums have allowed educators, producers, regulators and industry representatives to communicate with each other. As a result, the beef industry has become stronger with a better understanding of areas for improvement concerning antimicrobial use in beef production.

Topics currently being addressed in regard to antibiotic use include product availability, labeling and veterinary oversight. The FDA maintains that the overall goal for their antimicrobial stewardship policies is to decrease the incidence of drug-resistant bacterial infections in humans and animals. The FDA also asserts that food animal welfare is very important and that antibiotics should continue to be used appropriately to treat or prevent illness.

Because over-the-counter product labels are meant to be followed explicitly, livestock producers have traditionally been able to purchase and use antibiotics freely without any veterinary oversight. Rapidly increased incidence of resistant food-borne bacteria over the past 20 years initiated changes in FDA policies.

The VFD brought antibiotics in feed under the supervision of veterinarians with injectable over-the-counter antibiotics remaining freely accessible. The FDA recently announced the goal of having all antibiotics used in animal agriculture to be under the supervision of veterinarians by 2023. The change from over-the-counter to prescription is meant to ensure the labeled use of the drugs is followed. There is still much to be determined about the change in policy, such as veterinarian-prescribed extra-label use, which is why the FDA intends to offer an extended open comment period before publishing the final rule.

Recently, widespread misinformation platforms have spawned a movement against using antibiotics in animal agriculture. Advocates for “no antibiotics ever” campaigns claim that antibiotics are used in animal agriculture primarily as a growth promoter and not for treatment of disease. Ironically, many of the production practices that these campaigns villainize have already been addressed voluntarily by the industry. In response to the VFD final rule going into effect in 2017, producers

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have adjusted by establishing veterinary-client-patient relationships and developing better preventative health protocols for their cattle to help decrease the need for antibiotic use. Producers also stopped using antibiotics in feed as a growth promoter altogether. It is clear that the beef industry needs to get better at educating the public, but who should take up the challenge?

The Beef Quality Assurance Program, which is a nationally organized program funded by Beef Checkoff dollars, has been advocating for responsible antibiotic use in beef production for decades. Because state BQA programs have been allowed complete autonomy of how they are organized and implemented, the effectiveness of state BQA programs

have relied solely on the dedication and passion of their state leadership. As a result, many state BQA programs have been ineffective at getting their message out to the producers and consumers.

This problem was addressed recently by national BQA leadership with the development of the national BQA learning center that allows producers nationwide access to free educational materials and online classrooms developed by experts from different sectors of the beef industry. National BQA also started offering state project grants that allow states to expand BQA initiatives through unique training opportunities.

Events from this past year have placed a magnifying glass on BQA

programs as several processors and retailers now require their suppliers to be BQA certified. One reason for the sudden change was the publishing of the 2016 National Beef Quality Audit, which identified food safety as the quality challenge with the highest priority. Currently, BQA certification is the best way to show consumers that producers are dedicated to providing the safest and most wholesome product possible. As the movement for transparency in agriculture continues, other programs may arise as marketing tools to convey antibiotic stewardship. Until then, beef producers are encouraged to voluntarily participate in stewardship programs to carry their part in improving the industry. ■

Precondition Your 2019 Calf Crop for Greater Calf Value at Market

Shane Gadberry, Professor - Ruminant Nutrition

During fall 2018, value added calves fetched nearly \$10/cwt over non-value added calves with a gross added value of \$56/calf. What makes these calves different? Health history and weaning management. Here are a few steps to consider if you want to be a value added player.

The first step in marketing value added requires a visit with your sale barn to determine the programs the barn offers for preconditioned calves. Many barns around the state offer special sales to attract additional buyers looking specifically to purchase preconditioned calves. Marketing preconditioned doesn't have to be restricted to special sales either. Some markets may choose to market value added calves as a regular part of their weekly sale.

The second step in marketing value added is to become BQA certified. County Extension agents provide BQA classes. Certification is required to participate in some value added programs.

The third step in marketing value added is determining a health and

management plan up to and following weaning. There are several commercial plans available through vaccine companies. Arkansas Extension also launched the Natural State Preconditioned Calf Program, also known as GoGREEN. Calves meeting health and management requirements and weaned at least 45 days before market qualify for the GoGREEN tag.

Begin visiting with a veterinarian, Extension agent or pharmaceutical company representative about health protocols now. Establishing a health protocol now is important because some vaccine choices can influence the vaccine needs of the entire cow herd. One example is modified live vaccines. Modified live vaccines for use with pre-weaned calves have strict label requirements about cow herd vaccination and timing.

The fourth step in marketing value added is determining a weaning management plan. Buyers looking for



preconditioned calves generally want calves to be weaned at least 45 days. Calves can be weaned to a drylot or fenceline weaned to pasture. Both have their strengths and limitations. Buyers also like calves that know how to eat and drink from troughs. In general, aggressive feeding after weaning won't be profitable. Calves weaned to pasture will benefit from a little supplementation, whereas calves weaned to drylot may require greater amounts of supplement depending on hay or silage quality. The local county agent is also a good source of information on post-weaned calf management.

On April 16, the livestock and forestry research station near Batesville, Arkansas, will be hosting a field day specific to the idea of preconditioning. Mark your calendar and plan to attend.

For more information about marketing your calves through the GoGREEN program, contact your county Extension agent and visit our website www.uaex.edu/gogreen. ■

Managing Alfalfa Stands During Winter Time

Dirk Philipp, Associate Professor - Forages

Winters are usually not very hard in the South, but temperatures can dip well below the freezing point for some time that potentially can result in damage to perennial forage crops such as alfalfa. This perennial legume, which is becoming more popular in the southern U.S., is quite sensitive to incorrect management, but there are a few things producers can do during the colder months of the year to maintain healthy and productive stands despite the relative large temperature differences between the hot summers and cool and damp winters typical for the South.

Although temperatures rarely drop below 20 degrees in the South, research has demonstrated that freeze damage can occur in a short amount of time at such temperature levels. Some areas in the southeastern U.S. receive one or two winter storms resulting in ice cover for several days. As a result, air flow is diminished to the alfalfa crowns. In addition, metabolites such as lactic acid, ethanol, methanol and lactic acid accumulate under the ice sheets and may become toxic if the ice remains in place for longer than two weeks. Although this scenario is rather unlikely in the South, there are a few other factors that influence alfalfa winter hardiness positively or negatively which are described in the following.

Keeping soil fertility and pH in check will reduce the likelihood of a winterkill. Alfalfa stands with sufficiently high soil potassium levels will withstand cold or freezing temperatures much better than stands that are stressed from insufficient



levels. Phosphorus will promote vigorous spring growth and strong root systems. A soil pH of above 6.6 has been shown to increase the winter hardiness of alfalfa stands and is in line with recommendations of maintaining adequate pH levels at all times. Most soils in Arkansas are natively rather acidic. Bringing pH levels up takes effort and time, but pH values should always be kept above 6.

The time of the last cutting before winter and the length of the cutting intervals during the growing season will also affect winter hardiness. Alfalfa stands should not be cut between 4 and 6 weeks before the first killing frost that occurs in fall, which for Arkansas is somewhere between the middle and the end of October. When days become shorter and cooler, alfalfa stands are not able to fully restore root energy reserves that are crucial for winter survival when cut too late in the season. Stands should be managed so that at the average onset of the first frost, canopies are about 10 inches high. Harvest should take place soon after the first killing frost. Under these circumstances, hay will be difficult

to cure because of the cold weather; therefore, silage or baleage may be better options. A stubble height of 6 inches should be left in any case so that snow can be trapped and serve as insulation.

Alfalfa grown on well-drained soils is less susceptible to cold-weather damage. An inadequate planting location cannot be changed afterwards, so care should be taken when selecting new fields or an area for additional alfalfa establishment. Forage stands achieve winter hardiness by desiccating cells while maintaining minimal metabolic activity, and in wet, water-logged and cold soils this is difficult to accomplish. In Arkansas, alfalfa varieties with winter dormancy ratings of 3-5 are adapted statewide.

During spring, winter injuries of alfalfa stands appear as uneven growth patterns in the field, slow plant development and root damage. The latter can be examined by unearthing the roots; they should be white in color compared to the gray color of winter-killed root tissue. If water can be squeezed from the roots, then frost damage has likely occurred. There are ways to minimize the effects of winter kill during the following growing season. Affected stands should be allowed to mature longer until the mid-bloom stage before either the first or the second cut is taken, and cutting heights should be higher than normal. The minor sacrifice in quantity and quality in one season is being outweighed by having healthy alfalfa stands for years to come. ■