

Medicated Feed Additives for Cow-Calf and Stocker/Backgrounding Production Systems

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Feed additives for beef cattle are commonly referred to as medicated or nonmedicated feed additives. Medicated feed additives may be used in feed rations to improve growth and feed efficiency, prevent or treat disease or have other purposes such as suppressing estrus.

End users of medicated feed additives are responsible for

- Using the feed for the purpose intended.
- Adhering to label mixing and feeding directions.
- Heeding warning statements on the label.
- Storing medicated feeds properly.
- Observing withdrawal time, if any.
- Not mixing additives unless combinations are specifically approved.
- Keeping record of medicated feeds, especially those prescribed by a veterinary feed directive.

In recent years, subtherapeutic use of medically important antimicrobials for enhanced growth, feed efficiency or as an unsupervised preventative measure have come under greater scrutiny due to concerns with establishing antimicrobial resistance in populations of bacteria. While there is yet no clear link between use of medicated feed additives in livestock production and antimicrobial resistance in human medicine, the Food and Drug Administration has moved forward in cooperation with pharmaceutical companies and the veterinary community toward protecting the safety and efficacy of medically important antimicrobials.

While in the past, livestock producers were able to utilize most medicated feeds without veterinary oversight, the future trend will move medicated feed additives toward application under a veterinary feed directive (VFD), which will require an established veterinary-client relationship and keeping records of a VFD for two years.

Medicated feed additives are categorized as category I or category II and include three types: Type A, Type B and Type C. Category is determined by whether or not a withdrawal is required. Certain Type A's are restricted to licensed feed mills independent of category. A Type A feed is in its most concentrated form and is used for manufacturing other Type A feeds or Type B or C feeds. Type B feeds are premixes consisting of nutritional supplements as well as the medicated feed. The final type, Type C, is a complete feed that can be fed alone, topdressed and possibly offered free choice. The main purpose in relaying all this regulatory information is most cow-calf and stocker/backgrounders will need a premix (Type B) or complete feed (Type C) to overcome facility and labor challenges with using a Type A medicated feed article, on-farm.

Before going out and purchasing a medicated feed additive, on-farm mixing and feeding limitations must be considered. Most cow-calf and stocker/backgrounder operations do not have mixing facilities or adequately trained employees to utilize concentrated forms of medicated feed

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additives. For example, product A label indicates pasture cattle should consume 200 milligrams per head, daily. Product A comes in a concentrated form of 90 grams per pound. The product is being delivered with 5 pounds supplemental feed per head, daily. To get to this rate, 14.23 ounces of Product A is mixed into 2,000 pounds of feed. For most, this is not practical. As an alternative, Mineral Mix A, which provides 200 milligrams in 4 ounces, is available. Now, more practical supplementation can be achieved by either topdressing the feed in the trough or mixing the two at a rate of 95.24 percent supplement with 4.76 percent Mineral Mix A and feeding 5.25 pounds mix per head, daily.

The remainder of this publication describes, by intended purpose, feed additives available for use in cow-calf and stocker/backgrounding production systems. Specific drug use levels are not listed. Label and dose information is available from company websites, by contacting a company representative or by searching the FDA's online Green Book (<http://www.accessdata.fda.gov/scripts/animaldrugsatfda/>, last accessed May 12, 2015). When mixing, always use the mixing and feeding rate on the label and apply withdrawal times.

Medicated Feed Additives for Improved Growth and Feed Efficiency

Improvements in growth rate and feed efficiency are usually observed at a 10 percent improvement for treated groups compared to nontreated groups. If purchasing a medicated feed additive as part of a premix, mineral mix or topdress, ask for the additional cost of the mix attributed to the feed additive. Medicated feed additives for improving growth and feed efficiency will usually be cost effective when comparing cost to the value of a 10 percent improvement in production. The medicated feed additives in the table below are available in concentrated form and currently do not require a veterinary feed directive for use.

Medicated Feed Additives for Coccidiosis Treatment and Prevention

Coccidiosis prevention is often overlooked, resulting in a rush to treat an unpredictable outbreak. Treatment for coccidiosis can include adding products to the drinking water or feed. Feed additive products that can aid in the prevention or control of coccidiosis include:

- Bovatec (active ingredient: lasalocid)
- Rumensin (active ingredient: monensin)
- Corid (active ingredient: amprolium)
- Deccox (active ingredient: decoquinate)

Most of these products are not approved for combination use. The current exception is Deccox and Rumensin.

Medicated Feed Additives for Treatment of Scours

Medicated feed additives available for scour treatment include:

- Chlortetracycline
- Oxytetracycline
- Neomycin sulfate

Common names are not listed for the tetracyclines as several companies offer tetracyclines. Most of these drugs are currently available over the counter; however, use through a veterinary feed directive will be required in the near future.

Medicated Feed Additives for Treatment of Shipping Fever Complex

Unlike other drugs and indications, withdrawal times do apply to some approved drug uses for respiratory disease management.

- Chlortetracycline
- Chlortetracycline and sulfamethazine (common name: Aureo S 700 or AS 700) – withdrawal applies

Common Name	Active Ingredient	Application
Bovatec	lasalocid	<ul style="list-style-type: none">• Growing cattle including replacement heifers• No withdrawal• Coccidiosis control as well• Available in mineral mix
Gainpro	bambermycin	<ul style="list-style-type: none">• Growing cattle including replacement heifers• No withdrawal• Available in mineral mix
Rumensin	monensin	<ul style="list-style-type: none">• Growing cattle including replacement heifers• No withdrawal• Coccidiosis control as well• Available in mineral mix• Approved for mature cows

- Oxytetracycline – withdrawal applies
- Tilmicosin (common name Pulmotil 90) – withdrawal applies, veterinary feed directive currently applies, used only in cattle fed in confinement for slaughter

Common names are not listed for the tetracyclines as several companies offer tetracyclines. Most of these drugs are currently available over the counter; however, use through a veterinary feed directive will be required in the near future.

Medicated Feed Additive for Prevention and Treatment of Anaplasmosis

Chlortetracycline is the only medicated feed additive approved for prevention and treatment of anaplasmosis. The current label rate is 0.5 milligrams per pound of body weight daily for cattle weighing over 700 pounds. Mineral formulations are available; however, feeding directions will specify varied intake rates for size of cattle. Feeding chlortetracycline for anaplasmosis control should begin and end with the fly vector season. Feeding lower doses of chlortetracycline to beef cows year-round is not an approved use. This drug is currently available over the counter; however, use through a veterinary feed directive will be required in the near future.

Medicated Feed Additives That Reduce the Incidence of Liver Abscesses

Confinement backgrounding operations that are feeding high-concentrate total mixed rations for rapid weight gain should consider additional feed management for liver abscess prevention. Both chlortetracycline and oxytetracycline have label indications for liver abscess reduction and are approved for drug combination with Bovatec. Tylosin (common name: Tylan) is also approved for reducing liver abscesses. Tylan is approved for combination with Rumensin and Bovatec. Tylan is commonly used in feedlot finishing operations because of its approved combination with Rumensin along with several other medicated feed additives.

Medicated Feed Additives That Suppress Estrus

Melengestrol acetate (common names: MGA and Heifermax) can be used for estrus synchronization in heifers intended for breeding. The current application rate is 0.5 milligrams per heifer daily for no more than 24 days when used for breeding management. Read breeding protocol applications for detailed application. This drug is also used to

suppress estrus in feedlot heifers and contributes to increased weight gain and improved feed efficiency. Suppressing estrus in feedlot heifers is important to preventing injury.

Medicated Feed Additives That Prevent Bloat

Poloxalene (common name: Bloat Guard) is used to prevent legume and wheat pasture bloat. Cattle should be given poloxalene prior to grazing susceptible pastures. Unfortunately, many producers find themselves trying to source poloxalene after bloat has occurred. Bloat Guard is available in several forms, including a supplement topdress and liquid. Manufactured bloat blocks or lick tubs are most convenient; however, sourcing product early is important.

Medicated Feed Additives That Treat Gastrointestinal Worms

Gastrointestinal parasitism can reduce calf weight gain and, if severe, can result in cattle having an unthrifty, dull appearance and rough hair coat. In some situations, labor and facilities may dictate the need for alternative methods of treatment, including adding approved products to feed. Safeguard (active ingredient: fendebazole) and Rumatel (active ingredient: morantel tartrate) are two medicated feed additives approved for this purpose. Safeguard is available in blocks and feed topdress. In the South, orally delivered wormers are most effective in autumn and spring and least effective during summer. Withdrawal times apply. Visit with a veterinarian for developing an internal parasite management plan.

Feed Additives That Control Flies

Feed additives are available to control flies by treating the manure, not the animal, and may not fall under FDA but EPA approval. These pesticides are approved by the EPA to ensure environmental protection. Label instructions will provide indications of personal protective equipment needed for handling. Current products include Rabon (active ingredient: tetrachlorvinphos), Altosid IGR (active ingredient: methoprene) and ClariFly (active ingredient: diflubenzuron). Effectiveness of fly control with feed through larvacides requires uniform consumption among animals within the herd and fly management for any neighboring herds where fence-line congregating, such as shade seeking, may occur. Products may be available in block supplements or supplement topdress. Many IGR products will be co-formulated with chlortetracycline and are currently available over the counter; however, a veterinary feed directive will be required to feed this antibiotic in the near future.

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FSA3012-PD-9-2015RV

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