

## Cephalosporin Use in Cattle

### What Is a Cephalosporin?

Cephalosporins are a group of antibiotics that have a similar method of action as Penicillin, and other drugs in the Beta Lactam class. This drug family has many different drugs; these drugs are classified into 5 different groups or generations, with each targeting different types of bacteria. Cephalosporin drugs are commonly used in veterinary medicine; ceftiofur and cephalixin are two examples of these drugs.

### Why are Cephalosporins Important?

These drugs are effective treatments for many common human and livestock diseases. They are important tools for livestock producers because they:

- Are usually effective when used appropriately;
- Have relatively short milk and meat withholding times;
- Are relatively cost-effective treatments; and
- Are readily available in different formulations.

These drugs are also critical for treatment of many human diseases. To ensure that these drugs remain effective, the FDA limits the use of these drugs in livestock to the label uses and for treatment of diseases, rather than prevention. Livestock producers and veterinarians must be aware of these restrictions as they make treatment decisions.

### How Can These Drugs Be Used to Treat Livestock Disease?

Cephalosporin drugs can be used in livestock when producers and veterinarians follow specific rules. These drugs must be used:

- With the label dosage and route of administration;
- For the listed species and indications (disease conditions); and
- For treatment of a disease; preventive uses are not allowed.

In some situations, you may use these drugs for treating or controlling disease conditions that are not listed on the label, as long as the dosage regimen (i.e., dose, route, frequency, and duration of administration) is the same as that on the label. All uses of these drugs require a prescription; it is important to work with your veterinarian to ensure these drugs are being used appropriately and effectively.

### Can Cephalosporins Be Used In Lactating Dairy Cattle?

These drugs can be used in lactating dairy cattle only when they are labeled for use in lactating dairy cattle. It is important that the use of these drugs is done under veterinary supervision so consult with your veterinarian for more information on appropriate uses of these drugs on your operation.

The following tables provide a list of cephalosporin drugs that are labeled for use in cattle. This is a guidance document that is updated annually. ALWAYS refer to the drug label or ask your veterinarian for the most current recommendations on drug use.

Last Updated: 1/3/2020

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#### DID YOU KNOW?

Despite their shorter withdrawal times, **ceftiofur drugs** were the most common drug to cause tissue residues in the United States during Fiscal Year 2018 (29%).

- **DAIRY COWS** are the biggest contributors to drug residues in tissues caused by ceftiofur (89%).
- **BEEF COWS** contribute to 7% of drug residues in tissues caused by ceftiofur.

Addressing residues from these drugs should be a high priority for ALL livestock producers!

## Approved Uses of Injectable Ceftiofur in Cattle

<sup>1</sup>Non-lactating cattle: Dairy bulls, dairy calves, and replacement heifers. ALWAYS carefully consult the labels.

Drug	Animal Class	Indications for Use	Labeled Dose	Route of Administration	Meat W/D	Milk W/D	Special Instructions
Excede Sterile Suspension (Ceftiofur Crystalline Free Acid)	Cattle (other than pre-ruminating)	Treatment of Bovine respiratory disease (shipping fever, pneumonia), Foot Rot	1.5 mL/100 lbs once	Subcutaneous injection at the base of the ear	13 days	0 hrs	
Excede Sterile Suspension (Ceftiofur Crystalline Free Acid)	Beef and <sup>1</sup> non-lactating cattle	Treatment of Bovine respiratory disease, Foot Rot	1.5 mL/100 lbs once	Subcutaneous injection in the middle third of the ear	13 days	0 hrs	
Excede Sterile Suspension (Ceftiofur Crystalline Free Acid)	Lactating dairy cattle	Treatment of acute postpartum metritis	1.5 mL/100 lbs one time then 72 hours later	Subcutaneous injection at the base of the ear	13 days	0 hrs	Injections must be rotated between ears
Naxcel Sterile Suspension (Ceftiofur sodium)	Cattle (other than pre-ruminating)	Treatment of bovine respiratory disease, Foot rot	1-2 mL/100 lbs once a day up to 5 days	Intramuscular or subcutaneous injection	4 days	0 hrs	
Excenel RTU EZ (Ceftiofur hydrochloride)	Cattle (other than pre-ruminating)	Treatment of Bovine respiratory disease, Foot rot	1-2 mL/100 lbs once a day up to 3 days*	Intramuscular or subcutaneous injection**	4 days	0 hrs	* Additional treatments may be administered on days 4 and 5 if animals do not respond to 3 days of treatment  ** Do not inject more than 15 mL per injection site
Excenel RTU EZ (Ceftiofur hydrochloride)	Cattle (other than pre-ruminating)	Bovine respiratory disease	2 mL/100 lbs every other day on days 1 and 3 (48-hour interval)	Intramuscular or subcutaneous injection**	4 days	0 hrs	** Do not inject more than 15 mL per injection site
Excenel RTU EZ (Ceftiofur hydrochloride)	Cattle (other than pre-ruminating)	Treatment of acute postpartum metritis	2 mL/100 lbs once a day for 5 consecutive days	Intramuscular or subcutaneous injection**	4 days	0 hrs	** Do not inject more than 15 mL per injection site.

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### Approved Uses of Intramammary (IMM) Cephalosporins in Cattle

Drug	Animal Class	Indications for Use	Labeled Dose	Meat Withdrawal	Milk Withdrawal	Special Instructions
Spectramast DC (Ceftiofur hydrochloride)	Dry cows	Treatment of subclinical mastitis at dry off.	1 tube (10mL) per affected quarter at dry off	16 days	None	Product requires a 30-day dry cow period
Spectramast LC (Ceftiofur hydrochloride)	Lactating cows	Treatment of clinical mastitis	1 tube (10 mL) per affected quarter daily for a minimum of 2 days and up to 8 days	2 days	72 hours	
ToMORROW (Cephapirin benzathine)	Dry cows	Treatment of mastitis at dry off.	1 tube (10mL) per quarter at dry off	42 days	72 hours after calving	Do not use within 30 days of calving.
ToDAY (Cephapirin sodium)	Lactating cows	Treatment of mastitis	1 tube (10 mL) per affected quarter and repeat <b>only once</b> after 12 hours	4 days	96 hours	If improvement isn't noted within 48 hours, consult your vet

**ALWAYS** carefully consult the labels.

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