



# FDA-Approved Injectable Beef Cattle Antimicrobials

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A number of antimicrobial products are available to beef producers for treating bacterial and rickettsial diseases that infect livestock. Some products require a daily dose to produce an antimicrobial effect. Others are long acting, providing multiple days of therapeutic effect from a single injection.

The amount needed to treat a specific condition varies by product. Doses are measured in volume per unit of animal body weight, so the ability to determine or at least estimate the animal's body weight is critical. Products also vary in the maximum volume that can be administered per injection site. The volume per injection site should not be exceeded in order to prevent injection site irritation, possible lesions, and extended withdrawal times. Most syringes measure capacity in cubic centimeters. When preparing injections keep in mind that 1 cubic centimeter (cc) is equal to 1 milliliter (ml).

There are three injection methods: intravenous (into a vein, IV), intramuscular (into a muscle, IM), or subcutaneous (under the skin, SC). Some products can be administered in a variety of ways, but others are approved for only one method. Follow Beef Quality Assurance (BQA) guidelines and use the subcutaneous (SC) route of injection when it is an approved route.

The dosing regimen should be listed on the bottle or package insert. Follow it for optimal effectiveness in treating diseases for which the product is approved. Some products are sold over-the-counter to producers, while others require a veterinary prescription (Rx).

For antimicrobials approved for use in beef cattle, there is a period of time required between the last treatment and the earliest time that treated cattle can be sold for slaughter for human consumption. This

withdrawal period, normally listed in days, is based on scientific research and mandated by the Food and Drug Administration (FDA). Failure to observe withdrawal times could result in illegal residues remaining in the meat when the animal is harvested. Withdrawal times are meaningful only when the product is used according to label directions, i.e., proper dose, proper route of administration, proper volume per injection site, etc. Withdrawal periods are designed to protect consumers.

The table on page 2 contains the following:

- Common retail product names of antimicrobial-products approved for use in beef cattle;
- Dose in milliliters (cc) required per 100 pounds of animal body weight;
- Maximum volume allowable per injection site in milliliters (cc);
- FDA-approved route(s) of administration;
- FDA-approved treatment regimen for product;
- Duration of activity of long-acting products when used according to manufacturer's directions;
- Required withdrawal time in days, and
- Whether the product requires a veterinary prescription.

It should be noted that none of the antimicrobials listed in the table are effective for treating viral infections.

Warning: Information provided in the table was current as of March 1, 2010, and should serve as a general guideline. The list is subject to change as the FDA modifies requirements or manufacturers develop new product information. Always read the product label or package insert or consult your veterinarian before use to ensure that important information regarding the product has not changed since publication.

## FDA-Approved Injectable Beef Cattle Antimicrobials

Type	Product Name	ml/100 lb	MaxVol/Site	Route	Doses Required	Duration (days)	Withdrawal (days)	Rx
Long Acting	A180	1.5	15	SC	2, 48 hrs apart	-	4	x
	Baytril 100	3.4-5.7 (5)	20	SC	1	-	28	x
	Bio-Mycin 200	4.5	10	SC	1	3	28	
	Draxxin	1.1	10	SC	1	8+	18	x
	Excede	1.5	NA	SC ear	1	7	13	x
	Excenel	2	15	SC, IM	2, 48 hrs apart	2	3	x
	Generic Oxy 200	4.5	10	SC, IM	1	3	28	
	LA-200	4.5	10	SC, IM	1	3	28	
	LA Penicillin	1.33	10	SC	1	2	30	
	Micotil 300	1.5	15	SC	1	3	28	x
	Noromycin 300LA	3	10	SC, IM	1	4	28	
	Nuflor Gold	6	15	SC	1	4	44	x
	Resflor Gold	6	10	SC	1	4	38	x
	Tetradure 300	4.5	10	SC, IM	1	7-8	28	x
Daily Dose	Adspec	4.5-6.8		SC			11	x
	Albon 40% Inj	6.25>3.13		IV			5	x
	Amoxi-inject	2		SC, IM			25	x
	Erythro 200	1		IM			14	
	Naxcel	1-2		SC, IM			4	x
	Oxytet 100	5		IM, IV			18-22	
	Penicillin	1		IM			10	
	Polyflex	Variable		IM			6	x
	Tylan 200	4		IM			21	
	Vetisulid	10 x 2		IV			5	

SC = Subcutaneous IM = Intramuscular IV = Intravenous

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Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

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In each case, credit Larry Hollis, *FDA-Approved Injectable Beef Cattle Antimicrobials*, Kansas State University, May 2010.

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