Practical Measures for Residue Avoidance in Veal Calves

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Veal production is a relatively small segment of the cattle industry. It is however highly visible and under particular scrutiny, in part because of drug residue concerns.

About 2.4 million veal calves were slaughtered in the US last year; of these, 1.5 million were formula-fed, or fancy, veal. The USDA Food Safety Inspection Service now classifies veal as "bob" (up to 150 pounds), formula-fed (150-400 pounds), non-formula fed (150-400 pounds receiving a solid diet) and heavy, or Western veal. Bob veal calves have been a source of concern because of violative sulfa and antibiotic levels in the past. During 1988, 181,000 bob calves were tested with the Calf Antibiotic and Sulfa test (CAST). Of these, 3095 (1.7%) were positive for an inhibitory substance.

Formula-fed, or fancy veal, was also closely checked. Of 1359 samples analyzed for antibiotic residues, 43 (3.2%) were positive.

drug	# violations	tolerance(ppm)	range (ppm)
tetracycline	13	0.25	0.29- 3.75
gentamicin	10	0.0	0.01- 14.08
neomycin	7	0.25	3.24-132.00
oxytetracycline	6	0.1	0.41- 2.48
streptomycin	6	2.0	2.13- 4.87
penicillin	4	0.05	0.07- 0.16

Two of 282 samples had sulfonamide levels greater than 0.1ppm; a violation rate of 0.7%.

Similar testing of Canadian veal was done by AgCanada with the following results: Sulfonamide violations-2.24%; antibiotic violations-3.6%.

drug	# violations
penicillin	27
streptomycin	18
oxytetracycline	17
tetracycline	3
chlortetracycline	2
chloramphenicol	2

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The formula-fed veal industry consists of a fairly small number of production units, which are generally associated with a company which supplies feed and, in some instances, management and health advice. Production units may be independent, on contract or company owned. In many cases, there is no working relationship between the production unit and a veterinarian.

A small survey was conducted of veterinarians who do work with veal production units. Fifteen US and Canadian veterinarians responded. These veterinarians work with a total of 322 veal farms. A summary of their responses regarding drug use on farms with which they work follows: (numbers in parentheses are the number of responses for each item)

What medications are most frequently provided in veal formulas?

tetracyclines (11)
neomycin (8)
nitrofurazone (2)
sulfonamids (2)
[medication on prescription only (1)]
[continuing trend toward less formula medication (1)]

What medications do producers most frequently add to liquid diet?

tetracyclines (13)
sulfonamides (9)
linco-specto (2)
ampicillin (1)
stafac (1)
trimethoprim (1)
nitrofurazone (10)
nemoycin (8)
polymyxin (1)
penicillin (1)
monensin (1)
erythromycin (1)

What injectible antibiotics are most frequently used by producers?

linco-specto (12)
gentamicin (8)
tetracyclines (5)
ampicillin (3)
erythromycin (2)
penicillin (11)
ceftiofur (7)
trimethoprim (6)
tylan (2)
neomycin (1)

What drugs do you consider to present the most likely risk of violative residues in formula-fed veal?

gentamicin (9)
tetracyclines (5)
aminoglycosides (2)
penicillin (1)
sulfonamids (5)
streptomycin (3)
trimethoprim (1)

What best describes the use of residue tests by producers or those who work with producers?

never used (10) rarely used (4)
occasionally (1)

In your experience, how do drug residue violations in formula-fed veal in the past year compare to prior years?

no change (6) less (4)
no problem (1)

The American Veal Association (AVA) at their annual meeting in June voted to initiate a pilot project of Quality Assurance. This program is being tested in several areas of the US. Some key elements of the AVA-QA program are:

* maintain inventory record and a sample of each lot of feed used; retain for 90 days after slaughter
* maintain record of all additives used
* annually test water supply; should meet human health standards
* feed additives and individual treatments used under the guidelines of a doctor-client-patient relationship
* a record of each individual calf medication and identification of calf will be maintained
* 4% (up to 10 calves) of animals that have received medication will be tested for residues prior to slaughter
* pesticide use will be limited to EPA-approved products; label directions will be followed
* records will be kept for 90 days after slaughter and will be available to FDA if a violation occurs
* each group of calves for slaughter will be accompanied by a certificate of compliance with the QA program

This program has **not** yet been accepted by the veal industry for general use. Results of the pilot project and availability of cost-effective veal health programs from veterinary practitioners will determine the acceptance of the program.

Additional measures for avoiding veal residues:

* base prevention and treatment recommendations on diagnostic tests, including autopsies, serology, culture and sensitivity
* avoid shipping treated, cull calves to markets from which they may go direct to slaughter
* don't use injectable aminoglycosides in veal calves
* avoid irritant or long-acting injectables
* use FARAD information as a guideline for establishing withdrawal times
* young, milk-fed calves may have longer withdrawal times than older cattle