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THE FOOD ANIMAL VETERINARIAN

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VIRGINIA FOOD ANIMAL PRACTICE NEWS

INTEGRATED RESOURCE MANAGEMENT (IRM)

IRM is a concept that has been discussed in beef cattle circles for almost ten years. Groups in different states have organized IRM programs that are quite different. Many have been based on demonstrations operated principally by University personnel. Virginia's program will be based on local organizations made up of cattle producers and others involved in the industry.

A state IRM committee was formed and first met on May 20, 1991. The committee consists of beef cattle producers, Virginia Cattlemen's Association leaders, extension personnel, cattle allied industry representations, and a veterinarian. Dr. Jim Adams had been previously designated by the VVMA Food Animal Committee and the Academy for Food Animal Practice as our representative. Dr. Adams has since been elected as the Vice Chairman from allied industries on the state steering committee.

Printed in this issue is the latest draft of the local guidelines for Virginia IRM. They are written to provide some structure to programs, but hopefully not be confining. Local veterinarians may initiate IRM groups among clientele, participate in groups formed by others, and will hopefully serve on IRM farm teams.

Each local group is being asked to deal with the fee-structure issue. Dr. Adams and I have defended the position that the local practicing veterinarian must be recompensed for time spent in these efforts. As the state extension veterinarian I will be available to advise and consult with local groups and farm teams. I do not feel it is my place, however, to be a member of a local farm team or provide on-farm services as part of the program.

It is hoped that IRM will help build healthy relationships with clients and industry personnel and that it will strengthen the role of veterinarians in the Virginia Beef Industry. A draft of materials developed to this point is available from me on request.

W. Dee Whittier

W. Dee Whittier, DVM
Extension Veterinarian

DRUG ABUSE IN SHOW ANIMALS

Several state veterinary associations have made recommendations to livestock show and fair personnel on this issue. These programs typically include some form of testing and a signed statement by exhibitors concerning drug use.

The VVMA Food Animal Committee is considering this issue and will discuss it at the Fall VVMA committee meeting in Blacksburg. Preliminary investigation suggests that getting testing done may be quite difficult and expensive. This may be a major factor to consider in developing a Virginia program. If you have comments on this issue contact a VVMA Food Animal Committee member.

FOOD ANIMAL PRACTITIONERS RESIDUE AVOIDANCE

A plan is taking shape for a statewide milk quality program in Virginia. Many of you have been aware that a national program has been in the offing for some time. The plan is referred to as the "10 Point Program". The national plan is a joint effort of the AVMA and the National Milk Producers Federation. Dr. Bill Van Dresser has spearheaded the AVMA effort.

A copy of the Veterinary portion of the national program was printed in a detachable booklet in the July, 1991 issue of JAVMA. Funds for printing of the dairy producer's component of national program are still being sought. I have a photocopy of the materials and will be happy to make a copy for any of you on request.

A Virginia State Dairyman's Association has been formed to oversee the instigation of the Residue Avoidance Program in the state. Representing veterinarians on the task force are: Dr. David Byers, (Galax, VA); Dr. Tony Hutchins (Rocky Mount, VA); Dr. Bobby Franck (Ashland, VA); Dr. Jim Adams (Hillsville, VA); and myself. The committee met at a Virginia Milk Quality Council meeting at Harrisonburg on July 9, 1991.

A consensus of the Virginia Task Force was that the national materials, while a valuable resource, may be a little burdensome for many dairy producers. A draft of a short version (four pages versus 50 pages) of the program, prepared by Dr. Jerry Jones of the Virginia Tech Dairy Science Department, was endorsed by the task force. It was felt that this abbreviated version contains the essence of the national program.

Tentative plans for carrying out the program in Virginia are as follows: Training sessions will be held statewide in December. Materials will be distributed by dairy fieldmen. Producers will review/complete materials either on their own or in consultation with their veterinarians. Producers will then review the program with their veterinarians. A certificate signed by the dairyman and the veterinarian will be posted at the dairy documenting completion of the program.

New National Interstate Milk Shippers regulations will probably soon require that any producer found to have marketed milk contaminated by a residue must complete the program before having license to ship milk reinstated. (See the article in this issue on new interstate milk regulations.) The Virginia Task Force has a goal to have this state's program broadly endorsed and strongly emphasize an educational approach over a punitive one.

Contact any of the below listed veterinarians on the Virginia Drug Residue Task Force for information or commentary.

Dr. David Byers	703-236-6481	Dr. Jim Adams	703-728-4841
Dr. Tony Hutchins	703-483-7444	Dr. Dee Whittier	703-231-4621
Dr. Robert Franck	804-883-5822		

--Dee Whittier, DVM, Extension Specialist - Cattle, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

INTEGRATED RESOURCE MANAGEMENT (IRM) IN VIRGINIA

Integrated resource management provides Virginians with an opportunity to utilize a team approach to identify and implement practices and activities which best use the resources available to them in their efforts to achieve their personal, family and business goals. Though IRM has been viewed as a "cattleman's program", the team approach need not be limited to cattlemen nor even to agriculture. It could be helpful to all Virginians.

IRM will be implemented in Virginia on a local level. The definition of local is designed to be somewhat flexible. In many cases it will comprise a county area, however, it may be more convenient to operate on a regional level in some areas in the state.

The team concept is an important part of integrated resource management. A team is chosen for each individual farming operation. This team is designed to provide ideas, support for specific or general needs, a push toward goal accomplishment and training or learning opportunities. Each team member should have a reason for being a part of the team. The team should meet the individual needs of its members, the team members should be committed to the purpose of the team, and each team member must have a chance to participate.

Another guiding principle of IRM is that it is an industry self-help concept. Its motivation for existence in Virginia comes from cattlemen who are interested in improving their industry and their own operations. It is not a program belonging to extension, to industry, to veterinary medicine, or to any other group, although all of.these groups will play an integral role in a successful IRM program.

The following is a list of steps and responsibilities to be taken into account as IRM is instituted in a local area.

1. The state IRM committee will provide information concerning IRM to extension agents, to veterinarians, to allied industries, and to anyone else interested in becoming involved in the IRM.
2. The state committee will provide opportunities for clarification or questions. The following are resource people who may be contacted to answer questions concerning implementation of IRM.
   A. The Virginia Cattleman's Association
   B. Animal Science Extension
   C. Local Extension Agent
   D. State IRM Committee Members
3. Those who have received the initial information will provide this information to local beef cattle producers. Extension newsletters, local cattlemen's association, mailings from allied industries, veterinary newsletters, word-of-mouth contact, or any other means of communication will be employed in communicating this information to beef cattle producers.
4. A series of meetings are convened of people interested in IRM. Any of the above-listed people may take the initiative to begin the meetings and organize a committee. During the organizing meeting the following items should be on the agenda: a) Educating meeting attenders about IRM, several videos and publications are available to aid in this purpose. In addition, members of the state IRM committee will make themselves available to help with the educational process. b) A determination will be made of personal interests and desired participation in the program. c) A local IRM steering committee will be organized with a chairman selected from the group. If a local cattlemen's association is already in existence, the local cattlemen's association may double as the local IRM steering committee. d) Other people who should be involved in the local IRM group should be designated and assignments made to contact these people.

5. The local IRM steering committee should function is to perform the following actions: a) Receive requests for farm participation in the IRM program and invite those whom it is judged may have special interests or gain special benefits from an IRM program. b) Identify participating IRM farms. c) Help organize a team for each farm. The team participant should be selected in association with the farmer. Attached is a IRM team makeup recommendation suggesting potential team resource people. The encouragement is to be very broad and far ranging in considering those people to be included on the team. d) consider a fee for recapturing costs associated with the IRM team.
6. Individual IRM farmer activities: a) contact local committee to express the interest. b) Complete the questionnaire which is being prepared by the record subcommittee. c) Work with the steering committees to establish team. d) Be available for additional input to the team. e) Host a farm fact-finding visit by team members. f) Be available for additional input to the team. g) Meet with the team to discuss the recommendations. h) Provide feedback to the team for final disposition of recommendations. i) Determine a plan of action jointly with the team. Agree and make a commitment to the plan of action. j) Complete an annual review of implementation and progress including short-term goals.
7. IRM team responsibilities: a) The individuals of the team need to agree to participate and agree to the fee arrangement. b) Make an invited farm visit. c) Review the farm data and questionnaire. d) Formulate recommendations in each team members individual area of expertise. e) Identify opportunities for improvement. f) Meet with the team members and farmer to integrate and to prioritize recommendations. g) Determine the plan of action jointly with team members. h) Reformulate recommendations following annual review. i) Cooperate with extension personnel in collecting and providing data to the central IRM committee. j) Establish the duration of the arrangement. k) The general recommendation is for two to five years. l) Be available as resource during implementation of the recommendations. m) Consider including additional team members and research personnel. Request the involvement of other specialists.

TIPS ON USE OF FLUIDS AND ELECTROLYTES FOR SCOURS

1. Most calves are acidotic (acid) at the start of scours, but can become metabolically alkalotic (basic) in a short time with the continued use of most commercial electrolytes. Don't administer electrolytes forever.
2. Electrolytes mixed with milk often prevent the curd from forming in the calf's stomach and hasten the flow of feed through the calf. Therefore, little energy is absorbed by the calf. Never mix electrolytes with milk. Administer electrolytes in water 20 to 30 minutes after feeding milk.
3. Never mix half milk and half water. This practice also prevents the formation of curd in the calf's stomach.
4. Feed milk to scouring calves every six hours, followed with electrolytes in 20 to 30 minutes.
5. Never take milk away. Feed 10 percent of body weight in milk divided into four-times-a-day feeding.
6. Continue feeding every six hours for two to three days. Then go to three daily feedings eight hours apart for another two to three days. By this time, you should be able to return to twice-daily feedings.
7. Fee electrolytes full dose for one day. Then cut the dose in half for two days; discontinue after three to four days.
8. Always begin electrolyte feeding with lactated Ringers solution with dextrose and potassium chloride for two days, but then go the saline solution since you do not want to create an alkalosis. **--Dr. Sheila McGuirk, School of Veterinary Medicine, University of Wisconsin, Utah State University Veterinary Newsletter, 1/91 as reported in Veterinary Newsletter, University of Georgia, No. 271, April 1991.**

ROUTINE VETERINARY CARE OF VIETNAMESE POT-BELLIED PIGS

Recently many practitioners have been asked to provide care for Vietnamese Pot-Bellied pigs. These pigs are fast becoming popular and growing number of people are purchasing them as pets and for breeding. The prices on these little porkers are sometimes astronomical, hence their owners are desirous of providing them with the best preventive medical care.

The Individual Pet Pig

When one or two Pot-Bellies are to kept as pets, they will require a minimum of preventive care. When pigs are first obtained, they should be considered to be infested with sarcoptic mange. Sarcoptes suis is prevalent in commercial pigs in New York, and it is likely to also be found in Pot-Bellies. Pigs should be given an initial injection of ivermectin (1 mg/75 lbs or 300 ug/kg) which is repeated in two weeks. This will eliminate mange and also provide a general anthelminthic. Subsequent deworming should be done every six months using products such as dichlorvos, levamisole, fenbendazole or pyrantel.

Pigs should be vaccinated yearly for erysipelas. If leptospirosis is prevalent in the area and pigs will be outdoors, then a 5-way lepto vaccine should also be given.

Breeding Animals

Ivermectin should be used in the same way as described above for pet pigs. If the breeder does not maintain a closed herd, it may become reinfested when new pigs are added, and all pigs in the herd will again required treatment with ivermectin to achieve freedom from mange. Sows are vaccinated to protect them from reproductive diseases and in order to provide passive immunity to their offspring. Six weeks and again 3 weeks prior to each farrowing, sows should be given an erysipelas and colibacillosis (containing K88, K99 and 987P antigens) vaccine.

Piglets are typically weaned at about 4-6 weeks of age and sows ar bred on their next estrus which usually occurs 3-7 days after weaning. Vaccines for reproductive diseases (5-way lepto and porcine parvovirus) are given to the sow about 2 weeks before breeding.

Boars should be vaccinated for leptospirosis and erysipelas every 6 months.

Sows should be dewormed 3-7 days before each farrowing. This will eliminate worm eggs in the sow's manure, and if the farrowing area is kept clean, piglets will have minimum exposure to worms.

Piglets that are sold at about 5-8 weeks of age do not need vaccination or deworming, but should start a deworming program soon after transfer to their new home. **--Dr. Barbara Straw, Swine Veterinary Extension - Veterinary Update, Cornell Veterinary Extension, 3/91, as reported in Veterinary Newsletter, June 1991.**

BOVINE PRACTITIONERS ANNUAL FALL CONFERENCE
October 10-11, 1991 Frederick, MD

A conference for bovine practitioners, sponsored by the Virginia-Maryland Regional College of Veterinary Medicine, College Park Campus, the Maryland Cooperative Extension Service, and the American Association of Bovine Practitioners, District II, will be held at the Holiday Inn, Frances Scott Key Mall, Frederick, MD. The conference starts at noon on Thursday, October 10 and concludes at 4:45 pm on Friday, October 11.

For conference information or a program brochure, please contact Dr. Douglas Carmel, VMRCVM, University of Maryland, College Park, MD 20742 (301) 935-6083.

THE PHARMACOKINETICS AND EFFICACY OF INTRAMAMMARY GENTAMICIN FOR THE TREATMENT OF COLIFORM MASTITIS

Well managed herds with very low somatic cell counts in bulk milk and a low prevalence of both Staphylococcus aureus are more likely to experience a higher incidence of clinical mastitis due to coliform organisms than herds with higher average bulk somatic cell counts. On average, 50% of the cows in these better managed herds will have a case of clinical mastitis each year. Nutrition has been shown to affect the severity of many cases, the need for therapy confronts practitioners on a daily basis.

Following infection, bacteria numbers in milk increase rapidly, reaching peak levels within 12 hours. Rapid declines in these numbers follow the migration of neutrophils into the glands. Though often severe, most infections usually clear spontaneously within four to nine days. The changes which occur within the gland are a result of endotoxins released from the bacteria, much of which follows phagocytosis of the bacteria by the neutrophils. These endotoxins cause the release of potent mediators of inflammation which in turn elicit the clinical signs of mastitis.

From a practical standpoint, therapy cannot begin until clinical signs appear, which is usually after peak bacteria counts have occurred. Regimens of therapy have included the use of antimicrobials, fluids, stripping of infected quarters, anti-inflammatory agents, calcium, and glucose. There are currently no antimicrobial agents approved for the treatment of coliform mastitis in lactating dairy cattle, so practitioners are faced with the dilemma of extra-label drug use. Antimicrobial agents are often administered in acute mastitis cases, though their efficacy remains largely unproven. The practitioner is thus faced with the risks of drug residues in milk and meat for a questionable value of the antimicrobial therapy.

Selection of antimicrobial therapeutic agents is often dependent on in vitro culture and sensitivity. Consequently, Gentamicin (GM) is used extensively for the treatment of coliform mastitis in the field. As GM is poorly lipid soluble, parenteral doses of the drug do not readily achieve minimum inhibitory concentration (MIC) in milk. Intramammary doses of 250 or 500 mg of GM readily achieve concentrations in excess of MIC. Absorption of GM into the gland from the milk was thought to be minimal, though cows with inflammation in treated quarters appear to absorb more GM than normal cows.

To examine the course of infection and the response to therapy, eight cows, lactating for at least 14 weeks, were infused in one quarter with 50 colony forming units of Escherichia coli. Fourteen hours later, after clinical signs had begun, four cows were treated with 500 mg GM for four milkings, and a total of 2000 mg. The other four cows were left as untreated controls. Milk samples were collected for analysis of bacteria counts, somatic cell counts, serum albumin, IgG_1 and GM concentrations. Blood samples were also collected for GM concentrations.

Gentamicin did not affect either the severity or duration of the infections when compared to controls. Peak bacteria counts and the duration of bacteria counts were similar in both treated and untreated quarters even though MIC was achieved in all treated quarters. Also, GM was still detected in the milk of two of the treated cows seven days after the last treatment. Blood samples showed concentrations of GM 0.37 mg/ml throughout the treatment and for 12 hours after the last infusion.

Previous studies in sheep have indicated that the $t_{1/2}$ of GM from renal tissue is between 42 and 59 days. While similar data is not available in the bovine, one study demonstrated an even higher accumulation of GM in bovine renal tissue than in the sheep. It must be assumed that it would take ten times $t_{1/2}$ to achieve a 99.9% elimination of GM from the kidneys, or a meat withholding time from 14 to 19 months.

The treatment of acute coliform mastitis with GM, and perhaps antimicrobial agents in general, to reduce the severity and economic losses of infection has questionable value. The emphasis of future research on the therapy of acute clinical mastitis should seek methods to ameliorate the effects of endotoxin rather than the inhibition of bacterial growth.

Abstracted by Hal F. Schulte, III, MS, DVM, QMPS, Geneseo Laboratory, from the article with the same title by R. J. Erskine, R. C. Wilson, and M. G. Riddle, Jr., College of Veterinary Medicine, Auburn University that appeared in the Proc Int Symp Bov Mastitis, Indianapolis, IN, September 13-16, 1990.

NEW PARASITE DATA WARNS AGAINST REDUCED DOSAGE

If a deworming treatment fails to completely control gastrointestinal worms, parasite populations can quickly damage cattle performance, even after treatment. A recent study demonstrates the advantage of administering the recommended dose of fenbendazole compared to the widely used one-half dose of ivermectin. The efficacy of fenbendazole was evaluated for the control of gastrointestinal parasites of cattle when administered orally at the routine dose rate of 5 mg/kg of body weight, compared with ivermectin given at 50 percent (100 mcg/kg) of the recommended dose.

The cattle used in the study were Hereford and mixed breeds averaging 539 pounds and were harboring natural worm populations. Five animals received fenbendazole, while five animals received a half dose of ivermectin. Five animals were left untreated to serve as controls.

Participants in the study included Dr. Bill Kvasnicka and Dr. Les Krysl at the University of Nevada-Reno, and Dr. Don Bliss of Verona, Wis. Seven to fourteen days following treatment, because of a reported slow parasite kill by ivermectin, the cattle were necropsied for total worm recovery, identification and count.

Excellent efficacy was recorded in the fenbendazole-treated group against larval and adult stages of all worms found. Overall, fenbendazole was greater than 99 percent effective.

Ivermectin given at a reduced dose was not found to be efficacious, with an overall efficacy evaluation of only 43 percent. Ivermectin's efficacy at this reduced dose was especially poor against Cooperia spp. and Nematodirus helvetianus.

These results mean that a half dose of ivermectin does not provide reliable removal of internal parasites. This is particularly important in calves and yearlings. These age groups of cattle are commonly infected with parasites of the small intestine such as Cooperia and Nematodirus. **--Beef, April 1991.**

Mean Worm Count

Nematode species & developmental stage:	Control	FBZ Oral	.5 Ivomec S.Q.
*Ostertagia ostertagi**	80	0	40
*O. ostertagi***	0	0	280
O. ostertagi Adult	19,680	0	560
Trichostrongylus axei	840	0	240
Cooperia spp.**	40	0	80
Cooperia spp. Adult	7,280	0	12,480
Nematodirus helvetanius	1,040	0	2,960
Oesophagostomum radiatum	40	0	0
Trichuris discolor	40	40	0
Total/Group (% Efficacy):	29,040	43 (99%+)	16,640 (43%)

* inhibited early 4th stage larvae ** developing 4th stage larvae

PREGNANCY TESTING VALUE

Many producers feel that pregnancy testing their stock cows in the fall is not always cost-effective. They feel that because cull cows are worth more on the market in the spring, it pays them to winter the cows and sell them at a higher market price if they don't calve in the spring. Gene Futrell and Marvel Smith of Iowa State University depict the average price paid for Iowa utility cows from 1980 to 1989.

Month	$/cwt
May	42.97
June	42.18
July	41.97
Sept.	42.00
Oct.	40.85
Nov.	38.54

As stated, May and June prices are better than October and November by an average of $2.88/cwt, or $31.68 for a 1,100 lb. cow. There are doubts as to whether an open cow could be fed for 7 months for a total of $31.68. The interesting fact, though, is that the September price (a more realistic time to send the cows to slaughter when they are found open). If a pregnancy check is done in mid-September and the open cows are sold then, the price will be higher.

The table below explains how pregnancy testing and a recommendation to sell open cows and late calvers are the most cost-effective service veterinarians can provide the beef cow-calf producer. The example concern a 100-cow herd with 5% open cows and 5% late calvers (calves bon more than 100 days after the first calf born); all open/late calvers sold in October/November. The producer's net income from spending $266.90 to pregnancy exam 100 cows, sell 5 open and 5 late calvers is an impressive $2,032.10, or a return on investment of nearly 800%. This makes pregnancy testing appear more affordable. It is, in fact, the most cost-effective procedure that can be done.

Extra Cost Without Pregnancy Testing		Extra Cost With Pregnancy Testing
$1,000.00	Hay @ $50/ton (10 cows @ 2 ton/cow)	
40.00	Minerals and salt	
120.00	Pasture Stalks	
	Pregnancy exam	233.50
56.00	"Unneeded" parasite control	
60.00	Machinery, equipment, fuel, interest on feed @ 12%	
	Hired labor	25.00
	Interest income from sale of cull cows	(-150.00)
1,000.00	Decreased income from sale of 5 late calves (200# @ $100/cwt)	
	Extra profit from cows sold May/June vs Oct/Nov (5 cows @ 31.68)	158.40

--From Kansas State University Notes from the Extension Veterinarians, as reported in Large Animal Veterinary Report, Vol. 2, Number 5, May 1991.

LEPTOSPIROSIS - DIAGNOSTIC GUIDELINES

There are three species within the genus Leptospira: L. interrogans, L. biflexa, and L. parva. All veterinary pathogenic leptospira belong in the L. interrogans species, of which there have been more than 170 serovars isolated and characterized. The leptospires are extremely susceptible to the conditions of postmortem degradation so are more readily isolated from the live acutely-infected animal. Since isolation procedures usually present problems with proper specimen collection and overgrowth with saprophytic type bacteria, serologic tests become important in diagnosis of leptospirosis. The microscopic agglutination lysis test (MAT) offers a reliable and very sensitive test, but must be interpreted with certain criteria in mind. There are two cardinal principles: 1) if possible, compare paired serum samples (3 weeks apart), 2) sample 10% of the herd or a minimum of 10 animals. Include both normal and affected animals where possible. Guidelines for interpretation of the leptospira MAT: A) A four-fold increase or decrease in paired titers is significant and indicates a recent exposure. B) A titer of > 800 in the majority of samples from the herd is significant in non-vaccinated animals. A titer of < 800 on a single animal is not diagnostic and requires supplemental testing. C) Seroconversion in the majority of animals is significant. Most animals with clinical leptospirosis and/or abortion due to leptospiremia will have tiers > 3200. However, there is much animal to animal variability in immune response to leptospira. On the other hand, it is important to note that a positive serology (> 1600) does not always indicate disease. It may indicate exposure, but other diagnostic tests and clinical signs need to be present to diagnose disease. Other infectious diseases may produce hypergammaglobulinemia, which may produce non-specific serologic reactions. Also, keep in mind that there are causes for hemoglobinuria other than leptospirosis.

Different animal species respond uniquely on serologic testing. The horse tends to have low background titers to multiple serovars. Our laboratory observed this recently when testing monovalent inoculated horses during quality control testing. Cross reactions between serovars is common and convalescent samples are usually needed to ascertain the infecting serovar (the specific titer will usually remain while crossreacting titers drop off). **--Dr. R. D. Welsh, Oklahoma Animal Disease Diagnostic Laboratory Newsletter, FALL 90, as reported in Herd Health Memo, No. 6, 1990-91, University of Kentucky, Lexington, KY.**

48-HOUR REMOVAL GIVES BOOST

Forty-eight hour calf removal can increase calf crops 4 to 8 percent within herds using a confined breeding season, according to Glenn Selk, Oklahoma State University. The basic concept is to remove the physical stimulation of the calf, causing the release of hormones from the cow's brain to initiate estrus, says the Extension beef cattle reproduction specialist.

Cows in body condition scores (BCS) of 4 or 5 respond best to short-term calf removal, says Selk. Those in BCS 6, don't need it, while cows below BCS 4 generally have problems rebreeding anyway.

Selk warns that if calf removal is done in conjunction with calf-working time, producers should work the calves just before returning them to their dams. "During a calf-working program, the calf is under stress from the vaccination and examination procedures," says Selk. "To stick it in a pen away from its dam, a situation that will cause it to eat next to nothing, directly after undergoing calf-working stress is an accident waiting to happen."

He advises placing the calves in a pen with fresh water, some high quality grass hay and a small amount of sweet feed. While the calves will spend most of their time bawling, the grain will reduce some of their stress and restlessness, says Selk. **--Beef, April, 1991.**

INTERSTATE MILK SHIPMENT RULES AMENDED

The National Conference on Interstate Milk Shipments (NCIMS) was held April 22-26, 1991. The NCIMS convenes every two years to recommend changes and modifications to the Pasteurized Milk Ordinance (PMO). The PMO is the basic standard for certification of interstate milk shipments, participated in by all states and territories of the United States.

Several problems presented were in regard to the drug labeling and storage requirements of the PMO. One addition was made to the labeling and storage requirements:

> Labels of drugs stored on dairy farms will now be required to bear the active ingredient(s).

The active ingredient provided on the manufacturer's or distributors label will satisfy this requirement if it is not obscured by a label applied by the veterinarian. If the name of the active ingredient is obscured or not present on the label, it must be added.

> The Conference voted to amend the PMO where appropriate to use the term "drug" as defined in the Federal FD&C Act.

The industry will screen ALL bulk milk pickup tankers for beta lactam drug residues. Other drug residues will be screened for by randomly sampling bulk milk pickup tankers. State regulatory agencies will monitor industry surveillance by making unannounced inspections to collect milk samples and review industry program records.

Testing methods validated by AOAC and/or recommended by FDA <u>at currently referenced safe levels</u> will be used for regulatory purposes for each drug of concern. Methods will be validated to the safe level.

> Regulatory action will be taken on positive results of the tests.

Until tests are validated, the dairy industry may use any test it deems suitable to test for drug residue in milk. If testing reveals the presence of drug residues which exceed safe levels and/or tolerances established by FDA, the milk will be disposed of in a manner that removes it from the human or animal food chain except where it can be acceptably reconditioned.

A Grade A permit of the producer found responsible for a violation will be immediately suspended. A second violation in a 12-month period will result in the producer's permit being suspended for a minimum of four days, or an equivalent penalty. When a third violation occurs in a 12-month period, administrative procedures will be initiated to revoke the offending producer's grade A permit.

A suspended permit may be <u>temporarily</u> reinstated when:

1. drug residues in the producer's milk do not exceed safe levels and/or tolerances established by FDA and
2. the responsible producer and a licensed veterinarian have signed a quality assurance certificate for display in the milk house which states the "Milk and Dairy Beef Residue Prevention Protocol" endorsed by FDA and NCIMS is in place and being implemented.

The appendix explains the difference between safe levels and tolerances. "Safe levels" do not legalize residues found in milk below the safe level. "Safe

levels" are not binding, they do not dictate any result and do not limit FDA's discretion in any way. "Safe levels" do not protect milk producers (or milk) from court enforcement action.

The Conference also proposed to reduce the Federal Somatic Cell Count (SCC) limit from 1,000,000 to 750,000 effective July 1, 1993. FDA will meet with the NCIMS Executive Board this month (July 1991) to further resolve language and implementation dates for each problem. **--Herd Health Memo, No. 1, 1991-92, July 1991, University of Kentucky, Lexington, KY.**

PASTEURELLA HAEMOLYTICA SEPTICEMIA AS AN APPARENT RARE SEQUEL TO MODIFIED LIVE PASTEURELLA HAEMOLYTICA VACCINATION IN CATTLE

Six cases of Pasteurella haemolytica septicemia were identified in the Fall of 1989 from cattle specimens submitted to the South Dakota Animal Disease Research and Diagnostic Laboratory, Brookings, South Dakota. All six cases came with a history of vaccination by a modified live Pasteurella haemolytica product within the previous 2 to 16 days, most within the last 6 days. All cases involved feedlot animals between approximately 400 and 600 lbs. and came from he states of South Dakota, Iowa, and Minnesota. Clinical signs included 4 animals with swelling or abscessation of the injection site, 2 with swollen joints, 1 with CNS signs, and 3 found dead with no clinical signs.

The specimens submitted to the laboratory included 4 whole animals (1 live and 3 dead), and swabs from the injection sites, joints or lung for the remaining two cases. Gross pathological findings of the 4 necropsied animals included 3 with hemorrhage, edema or abscessation at the injection sites, 2 with hemorrhagic and cloudy meninges, 1 with cloudy joint effusion, 1 with vegetative lesions on the ventricular endocardium, and 1 with cranioventral consolidation of the lung.

Histopathological findings in 3 of the necropsied animals revealed severe neutrophilic meningitis with associated bacterial colonies. Injection sites were examined in 3 animals and hemorrhage and edema were the major lesions. In one animal, abscessation was evident at the injection site. In only one of four animals necropsied was fibrinopurulent bronchopleuro-pneumonia present.

Pasteurella haemolytica was isolated from all brains and at least one other organ of all four animals necropsied. Other tissues from which the organism isolated include lung, liver, heart and joint. Pasteurella haemolytica was also isolated from 3 injection sites.

This appears to be a new syndrome. We rarely see Pasteurella haemolytica septicemia in cattle at our laboratory and when we do, it typically is a complication of severe classical pneumonic pasteurellosis. In only one of the six cases reported here, was there any respiratory disease. The morbidity and mortality rates are typically low with this syndrome, although in two herds a high incidence of injection site swellings were reported. Serotyping of these isolates is pending. **--Abstracted from Zeman, D., et al. AAVLD Abstracts (1990), 10 as reported in Notes from the Extension Veterinarians, July 1991, Kansas State University, Manhattan, KS.**

EDITOR'S NOTE

Extension funding for newsletters is no longer available because of substantial budget cuts in Virginia.

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