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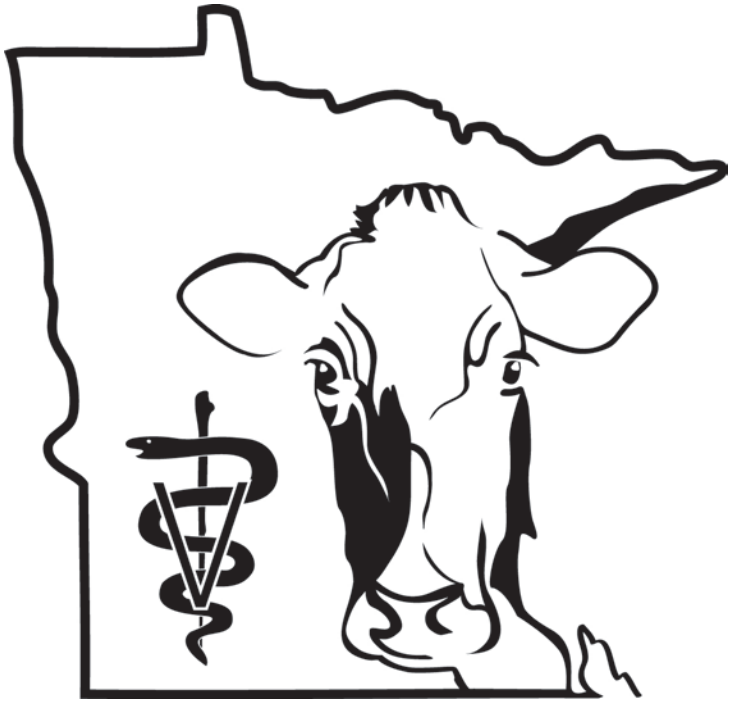

ST. PAUL, MINNESOTA
UNITED STATES OF MINNESOTA

Implementation of the Dairy Quality Assurance Program

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The Dairy Quality Assurance Program (DQAP) appears to have taken on a regulatory look due to recent changes in the Interstate Milk Shipper regulations, and many producers are participating in order to comply with regulations or avoid regulatory action. The DQAP provides excellent educational material useful in helping dairymen who have experienced a drug residue violation, but it should not be considered a regulatory program.

How can we successfully change the compliance attitude to a self-motivated DQAP which in itself results in drug residue avoidance? To succeed in this effort requires the change from a compliance mentality to goal setting with a farm plan. It is this process which we hope to achieve through the Drug Use Record system.

Goals

1. **Avoid risk** by shipping residue free milk.
2. **Avoid communication mistakes** on farms by proper identification, records and an on-farm plan.

Plans

Implementing a Drug Use Records system which encompasses most of the 10 Point Plan. There are three parts: Drug Use Records which includes a drug inventory record, treatment records and a farm plan.

1. Drug Inventory Records

Drug inventory records are generally absent and neglected on most farms. Most dairies try to keep track of drugs used by maintaining them in the location as designated by the PMO. Not all dairies control drug inventories by identifying a single (or limited) vendor to purchase drugs and biologicals, and fewer keep a written record of these transactions. On farms which keep track of drug use, there are seldom records to identify drugs purchased or account for their use. In herds where drug control is accomplished, more thoughtful decisions are made on disease treatment, and better records for milk and meat withholding are maintained. Inventory records are the weakest link in most drug control systems.

The drug inventory should identify the proper drug use category: over-the-counter (OTC), prescription (Rx), or extra-label use (ELU); decision for use, labelling, proper screening test; and type of animal and disease conditions for intended drug use.

Drug Inventory

Drug name	Date purchased	Type of drug OTC	RX	ELU	Use	Properly labelled yes	no	Screening Test	Animal treated Lact	nonlact
CefaLaK	1-7-93	✓			Mastitis	✓		Delvo-P	✓	
Pen G	1-22-93	✓			Pneumonia	✓		Delvo P	✓	
Amoximast	1-22-93		✓		Mastitis	✓		Plant	✓	
Naxcel	2-4-93		✓		Pneumonia	✓		Plant	✓	
Naxcel	2-4-93			✓	Pneumonia	✓		Plant		✓

2. Treatment Records

There are many different types of treatment records which can be used ranging from inexpensive cow cards or notebook records to highly specialized computerized records that provide rapid drug use summaries and analysis. The best record is one that is kept and used to assess treatment strategies and avoid residues.

Clinical Mastitis Evaluation: The Mastitis Committee of the American Association of Bovine Practitioners has produced two records forms currently used and working well on dairies. Information for analysis is also included with these records. One record is specific for clinical mastitis treatment, which is one of the major reasons antibiotics are used and a primary contributor to milk residue violations. The recorded information includes animal identification and the milk withholding time. Other information includes treatment, dose and route of administration, screening test, milk culture results and a method for evaluating cost of clinical treatment.

Developed by: American Association of Bovine Practitioners
Sponsored by: Quality Milk Promotion Services

CLINICAL MASTITIS EVALUATION

FARM NAME: Quality Farms TIME PERIOD: Jan 1993

COW ID	DATE OF CLINICAL MASTITIS	QUARTER(S)	TREATMENT/ DRUG(S) USED	DOSE, ROUTE, TIME (AM/PM)	DAYS TREATED	DATE & TIME MILK OK TO SELL	DAYS MILK WITHHELD	REMARKS (INITIALS, CULL, DEATH OR RESIDUE TEST)
1	1-2	RF	Albacillin tube	IMM (A/P)	2	1-7A	5	PHS
2	1-4	RR	Albacillin tube	IMM (A/P	2	1-9P	5	PHS
3	1-5	LF	Oxytocin	IV BID	5	OK	0	DW
4	1-10	RF, LF	Pen G / Cefa-Lak	20cc IM / IMM (A/P)	2	Test 1-16P	6	Delvo P-1-16 OK PHS
5	1-15	RF	Fluids	IV & oral	4	Cull	non-saleable	Cull - 1-20 DW
6	1-15	LF	Cefa-Lak tubes	IMM (A/P)	2	1-20P	5	PHS
7	1-18	LR	No Tx - milked out	daily 3-4x	3	OK	0	DW

Daily Treatment Record: This second record sheet collects similar information, but does not provide as much information on clinical disease. It can be used as a more simplified barn sheet for identifying treated animals which can be transferred or maintained as a permanent drug use record. These are only two examples of many types of records available for use.

DAILY TREATMENT RECORD

Developed by: *American Association of Bovine Practitioners*
Sponsored by: *The Upjohn Company*

HERD: _____ TIME PERIOD: _____

TREATMENT CODE			
BRAND NAME	DOSE	ROUTE OF ADMINISTRATION	WITHDRAWAL: MILK (hrs) / MEAT (days)
1			
2			

COW ID	TREATMENT TIME: DATE	AM	PM	DC	PEN	DIAGNOSIS: RF / LQ / RR / LR		TREATMENT USED	WITHDRAWAL TIME: MILK (hrs)	MEAT (days)	DATE, TIME MILK OK TO SELL	DATE IN TANK	RESIDUE TEST: DATE TESTED	TEST RESULTS	REMARKS (for example: outcome of previous treating or dosing)
401	2/2	X	X				Mastitis	Cefalonium Tube	96	4	2/7, P	2/7	Deliv 2/7, A	Neg	PMS
433	2/5	X	X			X	Mastitis	Oxytocin 1cc	0	0	-	-	-	-	Milk out 4x daily PMS

3. Farm Plan

The third part of a Drug Use Record system includes a farm plan. A single page farm plan has been implemented on many farms which asks specific questions about farm practices to identify areas for discussion of the 10 Critical Control Points of the Dairy Quality Assurance Program. Also included is an example of a "treatment plan" for a specific farm problem which should be developed with your client to help in drug use and treatment decisions. These treatments can vary in specifics, and differ between farms, but the more detail the plan has for a particular farm and its disease problem, the greater likelihood there will be impact on that farm on decisions of disease control. These plans should be reviewed and evaluated as often as necessary and at least once a year.

FARM PLAN
for Avoiding Drug Residue

Part I

I. **AVOID RISK** (Ship only **Residue free** milk)

Follow labels and test milk from treated cows before adding their milk back into the herd milk supply.

If you Treat it; Withhold it; Test it.

CCP 1. My herd health program consists of: (p 5)

Treatment Plan

It is difficult to develop a generalized treatment plan that can be used successfully on all dairies. The type and level of disease differs for each herd, as well as the knowledge and skills of the producer. Some producers must be instructed specifically causing as to the directions for treating a disease condition in a cow, while other producers have the education and skills to handle diagnosis and make informed decisions on therapy. Therefore, a general guideline for diagnosis and treatment (example below) should be developed individually between the veterinarian and the producer. However, to assure responsible drug usage and residue avoidance, a farm-specific treatment plan should be created for each farm and maintained in a record system (i.e. drug use notebook) where all workers on a farm can refer. A treatment plan should include the person(s) making the diagnosis, treatment decisions, person(s) responsible for treatment, drugs for use, withholding time for milk and meat, and means to assess treatment results. The degree to which the veterinarian is directly involved in each of the steps will determine the specifics required in the written plan (See example of a treatment plan for toxic mastitis).

Guidelines for Clinical Mastitis Treatment

Mild	Moderate	Severe
Initial: 1. Strip out quarter. 2. OTC antibiotic (IMM) if unresponsive after 3 days. Chronic: 3. Re-treatment with antibiotic of little value. Strip out quarter. 4. Collect milk for bacterial culture and sensitivity.	1. Strip out quarter (or) 2. Intamammary OTC or Rx lactation tubes at label doses. 3. Anti-inflammatory drugs (Rx) if not responsive in 24 hours. 4. Collect milk for bacterial culture and sensitivity. 5. "Extra label Use" antibiotic only if non-responsive or resistant to commerical product.	1. Strip out quarter 2. Fluids (IV or oral) 3. Anti-inflammatory drugs (Rx). 4. Collect milk for bacterial culture and sensitivity. 5. Antibiotic treatment based on milk culture of affected quarter. ELU drugs if necessary.

It is important that goals and plans are developed if the DQAP is going to be implemented. After you and your client have developed the goals and plans for the farm, the records and activities should be routinely evaluated. Routine herd visits are good times to discuss the farm's progress. If records are not being used or treatment plan not adhered to, then it is likely that the goals and plans were not that of the producers but that they were only your plans. If the plans are not being followed then it is time to discuss what the producer wants to accomplish and is willing to do. ONLY WHEN THE GOALS AND PLANS BECOME THAT OF THE PRODUCERS ARE THEY LIKELY TO BE IMPLEMENTED.

Specific Treatment Plan (Example)

Dr. Al Curem
Milk River Veterinary Services
Bulk Tank Highway
(607) 123-4567

Toxic Mastitis Protocol

Off-color milk and elevated temperature:

Oxytocin IM or IV, 2 ml and strip out affected quarter every two to three hours for the first day.

2 bottles of IV Aminoplex dextrose and electrolytes solution.

Withholding milk: Do not ship milk until normal appearance.

Withholding for meat: No withholding necessary.

If noticeably hot quarter, and/or off feed, and/or sunken eyes:

Banamine IV 500mg (10ml) once, if need to repeat, treat 24 hours later (followup injection may be IV or IM).

Eltrad 4000 oral electrolyte solution, 1/4 package to 5 gallons water, pass stomach tube into rumen, administer one to two 5 gallon buckets. Extremely dehydrated cows may take as much as 20 gallons or additional IV electrolytes.

If the cow and quarter are responding well, may need to repeat for second day.

If the cow is not responding well after the first day, please call the clinic to discuss.

Withholding milk: 96 hours after last banimine treatment. (FARAD)

Withholding for meat: 96 hours after the last banimine treatment.

Heifer mastitis: Etiology, treatment and control based on the causative organisms

Bacteria	*Streptococcus agalactiae*	*Staphylococcus aureus*	*Staphylococcus sp.*	*Streptococcus species*
High risk periods	Birth to weaning	3-9 months (puberty) Breeding Time Calving	3-9 months	Prior to and post calving.
Source	Feeding mastitic milk. Group housing young calves. Cross suckling. Organisms isolated in oral cavity for short period following feeding.	Feeding mastitic milk. Teat injuries or trauma. Cold weather - chapped teats. Housing conditions. Flies. Bedding.	Teat skin and ducts. Environmental conditions. Bedding (eg, straw)	Housing and bedding. Maternity stalls & pens. Contaminated bedding.
Signs	Subclinical: High SCC High bacteria count. Clinical: Clots or off-color milk. Agalactia (blind quarters).	Subclinical: High SCC. Reduced production. Clinical: Hard, swollen quarters. Abnormal milk. Occasional blind quarter. .Gangrene.	Primary subclinical. Moderately elevated SCC. Sporadically clinical.	Elevated SCC. Clinical. Mastitic milk (most self-limiting first two months).
Treatment	Early Lactation: Antibiotic therapy (i.e. penicillin-type intramammary products) Reculture and retreat if necessary (90%). Late Lactation: Dry cow therapy (95%).	Lactation therapy: Varies 40-65%, unless chronic. Dry Cow therapy: Cull if nonresponsive to treatment. Pre-lactation therapy: 50% IMI reduction. (highly infected herds)	Lactation therapy: .Treat if clinical (antibiotic IMM or frequent milk out) Dry cow therapy.	Lactation therapy: .Tx clinicals early. (antibiotic IMM &/or frequent milk out) Subclinical often self-limiting (1-2 mo.).
Control	Individual housing. Prevent cross suckling. Avoid feeding mastitic milk. Culture heifers at calving. Isolate and treat infected cows. (*Strep ag* herds)	Avoid feeding mastitic milk. Prevent cross suckling. Clean, dry housing and bedding. Fly control. Milk first after calving. Segregate from infected cows. Culture high SCC.	Clean, dry bedding. Early treatment if clinical.	Clean, dry maternity pens. Clean, dry milking herd housing (free-stall or stanchions).