

# Residue Avoidance on the Dairy Farm

**Robert L. Darlington, DVM**

11308 S.R. 2

Snohomish, Washington

The dairy consumer cannot have an adulterated milk supply. We all agree to that. The dairy industry has not and will not ignore the problem, as the apple industry did with Alar...

The problem arises from today's advanced technology. What was free of adulteration last year, or the year before, is not the case today... New tests with greater and greater sensitivity are being developed. We used to talk about parts per million, now its parts per billion.

The dairymen that I work with and myself all feel that the dairyman who is going to stay in the industry will respond to whatever level of control necessary. This was demonstrated by our recent ruling on sulfamethazine.

The dairy practitioner is in a position that he or she is working for the dairyman to help increase his profitability, or in the case of sick cows, negate his losses. We have an array of drugs available to us to do this job... unfortunately, the drugs that are labeled and approved for lactating cows if given at label dosages and label routes of administration many times do not reach our goal, which is to negate the loss for the client or even be life saving for our patients.

So, we as dairy practitioners in order to do what we are hired to do, by and for the dairyman, and to fulfill our roles as a veterinarian will take advantage of FDA's position on "extra label" drug usage. This usage of non-recreational illegal drugs in the dairy industry is very widespread to the point that if you leave mastitis lactating or dry cow infusion products out, ninety some percent of what is used is illegal in dosage, route of administration or species of animal on the label.

What we do in our practice to reduce the liability created by extra label usage of drugs starts by educating ourselves of expected withdrawal times for these products. This information is often very difficult to obtain. We run Delvo P tests and Charm II tests at varying intervals following administration of different antibiotics. Then we educate the dairyman as to the withdrawal times we expect from these products.

Data from individual cows tested at twenty-four hour intervals. All data was collected in 3X milking herds. Charm II was used testing oxytetracyclines at 500 ppb and Bata Lactams at 4.8 ppb (0.008 IU.ml).

---

*Paper presented at the Residue Avoidance Symposium AABP Annual Meeting, Kansas City, Nov 14-17, 1989*

Naxel - (Upjohn) Brand of ceftiofur sodium.  
250 mg intramammary  
Positive at 72 hours. Negative at 96 hours  
Dilutes at 48 hours 1:1  
1500 mg. IM for 2 days. Negative at 72 hours.  
Negative 48 hours 1:1 dilution

Tribissen 48% Injection (Coopers Animal Health, Inc.)  
35cc, IV  
Positive at 72 hours  
Negative at 96 hours

Oxyvet 100 Injection (Pfizer)  
60cc IV  
Positive at 72 hours  
Positive at 1:1 dilution  
Negative at 1:10 dilution at 24 hours

Oxyvet 100 Injection (Pfizer)  
60cc Intramuscular  
1/2 negative at 72 hours  
1/4 positive at 1:1 dilution  
All negative at 1:10 dilution at 24 hours

Liquamycin Injectable 50 mg./ml Oxytetracycline HCL (Pfizer)  
60cc intra-uterine  
1/2 cows negative at 24 hours  
Occasional cow still positive at 48 hours  
All negative at 72 hours.  
All negative 1:10 dilution at 24 hours

Procaine Penicillin G in aqueous Suspension  
300,000 U/ml (Pfizer)  
50cc Intramuscular for 5 days  
Variable - as long as 17 days following last treatment (3X milking).

One of the dangers of this program is that if the dairyman doesn't follow the recommended withdrawal time, then the veterinarian is guilty of adulteration if extra label use is involved. But why would a dairyman put milk in the bulk tank sooner than recommended? I don't think it is any different than you or me driving down the freeway...how many times have you knowingly exceeded the speed limit? Why would you knowingly violate the law.

You might have learned from previous experience that you could drive 5 miles over the limit and the patrolman doesn't stop you, or it could be that the time saved was of enough value to you to warrant the risk and you were depending on dilution to prevent you from being cited for speeding. How many times have you driven into a small town and the speed limit drops to 35 miles per hour...you see an officer's lights flashing because he has another car pulled over, you look at the speedometer and it says 50 mph, and you remind yourself how lucky you were that he was busy...this is dilution...not enough patrolmen for the traffic.

The dairyman uses dilution as a solution the same as you and I use it...only he uses it in the milk bulk tank as well.

Using the Charm II test we have tested bulk tanks for our clients and have reported the results back to them and they act accordingly.

#### PROCEDURES BEING RECOMMENDED AND USED ON DAIRY FARMS IN THE NORTHWEST TO NEGATE THE POSSIBILITY FOR ACCIDENTAL ADULTRATION

##### 1. HOSPITAL PEN SEPARATE

Two gates between the dry cows, or hospital pen and milking pen.

Hospital cows are marked with leg bands, neck bands OR leg paint for those in hospital pen.

Different colors of paint are put on the cows that are put back in the herd, i.e. red=offline and green=okay.

Hospital cows and fresh cows are milked last. To minimize use of catch pails in the parlor.

2. TREATMENT LOG BOOK - What medication, how much and route of administration. At the last treatment enter the first possible day of milking on line AND first possible day for salvage.  
If on a farm computer, this data is entered.
3. DELVOP TESTS are run on all cows leaving the hospital pen.
4. DELVOP TESTS are run on every tank of milk leaving the farm.
5. CHARM FIELD TEST is run on bulk tanks on farms where two and one-half hours are not available for running the Delvo P test.
6. Cows treated out of the parlor...milkers have no access to antibiotics.
7. DRUGS STORAGE AREAS are labeled for lactating and non-lactating. All products are properly labeled.
8. Hospital pen milk is not used on day-old bull calves.
9. Early decision of "treat or salvage".  
In our area we have one or two sale days weekly.

In some areas they have five sale days a week and salvage is used a great deal more.

We as Dairy Practitioners are asked:

1. By the dairyman to treat or recommend treatment for sick animals to the best of our medical ability and for the dairyman's economic advantage.
2. By FDA, State Board of Pharmacy and other government agencies to treat and recommend treatment within restrictive guidelines.
3. By the American public to assure the product is wholesome and unadulterated...be it milk or meat.

Dairy practitioners in the U.S. are working very hard to serve the dairy industry and satisfy these three distinct and different areas of responsibilities...all three are addressed in the Veterinarian's Oath adapted in 1954.

#### VETERINARIAN'S OATH

Being admitted to the profession of veterinary medicine, I solemnly dedicate myself and the knowledge I possess to the benefit of society, to the conservation of our livestock resources and to the relief of suffering of animals. I will practice my profession conscientiously with dignity. The health of my patients, the best interest of their owners, and the welfare of my fellow man, will be my primary considerations.

I will at all times, be humane and temper pain with anesthesia where indicated. I will not use my knowledge contrary to the laws of humanity, nor in contravention to the ethical code of my profession. I will uphold and strive to advance the honor and noble traditions of the veterinary profession.

These pledges I make freely in the eyes of God and upon my honor.

The cooperation between AVMA, AABP, FDA and other federal agencies is better today than ever before. The cooperation between dairymen and veterinarians is better than ever before. But, now we are still left driving down the freeway with state police and their detection devices...No posted speed limits and many times without a speedometer.

#### The Dairy Industry Needs:

1. Tolerance levels...so we are not subject to evolution of technology.
2. Drug manufactures to market some of the commonly used drugs for lactating dairy cows...with approved withdrawal times at therapeutically effective dosages.
3. Development and approval of new drugs for lactating cows.
4. Penalties high enough in dollars so NOBODY takes a chance of violation.