

Housing, Parasites, Vaccinations, and Other Dry Cow Problems in the Northern States

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For my part of the program on Housing, Parasites, Vaccinations, and Other Dry Cow Problems in the Northern States, I have chosen farms that are comprised of herds of 30 to 250 cows. This size herd is the majority of our practice. From farms of this size, I have compiled the information and the pictures I wish to present at this time.

I would like to give credit to some of my fellow practitioners for their help in supplying me information from their practices on this subject, namely, Dr. Gerland Heyt, and Dr. Arnold Hentschl.

Type of housing: We have a variety of types of housing. The main type is free stalls, with the remainder being stanchions and tie stalls. The covering of the floors in the free stalls varies from cement with a light covering of straw, or ground corn cobs.

One uses rubber mats, but this has not been very satisfactory. The most common type of floor in the free stall barns is the clay underpad with at least six inches of sand on the top. Sawdust has been discontinued due to severe outbreaks of *Klebsiella* or *psuedomonas* mastitis. These organisms were found in the sawdust before it was put in the stalls.

In the stanchion barn and comfort stalls, straw is mainly used as bedding. A few use rubber mats and here the rubber mats have proved fairly satisfactory.

In the free stall housing there is a fairly large cemented area outside where the silage and hay is fed. Beyond that is a large loafing area that is part dirt and sod. From my observations, after the cows have been milked, they will head out to the feed bunk or to the loafing area. Manytimes the soil becomes trampled and eroded so there is quite a drop where the cement ends and the dirt begins. If this is not carefully watched, it is possible for this drop to become so sharp that it will traumatize the udder as the cows cross at this area, with mastitis as the end result. In very wet weather the cows are usually kept on the cemented area only. I had three herds that used complete confinement, where the cows did not go outside at all. This has been changed, as all but one are using outside lots. I feel that it takes a lot more management to keep a herd's health up under confined housing than when the herd is turned out on some dirt or sod, especially if carried out over a period of years. It has been my experience that the general health of the herd, when allowed outside, has improved, with much less canoe-shaped hooves, sole abscesses and founder.

The holding pen that is used just before milking is

one place that deserves attention when the temperature rises to the high 90's. It is not uncommon to see several cows lie down on the floor where it is cooler. When this happens the udders become filthy. You will see some cows with a full udder leaking milk, and this may be a source of entry for mastitis.

We found that installing some large fans to keep the air moving has been of considerable help in alleviating this condition.

Separation of dry cows: The housing of the dry cows may be the same type as the milking herd. In the free stall type herd, there is usually a separate building for the dry cows and springing heifers.

This also applies to the stanchion barns unless space is of no concern. In this case they are kept in with the regular herd.

Many of our clients bring the springing heifers in with the dry cows, perhaps two months before calving. By mixing these cattle together it is possible for the heifers to become exposed to the organisms that the herd is carrying. They can then develop antibodies and give better immunity to their calves through the colostrum.

When dry cows are separated it is more difficult to keep close observation on the udders for mastitis. Some cases go undetected until it is an advanced stage and treatment is not effective.

Some dairymen run the dry cows and springing heifers through the milking parlor once a day to check the udders and also get the heifers accustomed to coming through the parlor.

I feel that it is essential to separate the dry cows from the milking herd to control the intake of energy.

We recommend reduced corn silage, limited grain, and increased hay intake of dry cows. We also recommend forced feeding of minerals to the milking herd. In the dry cows about our only alternative is to supplement the minerals by free choice. Most of our clients are injecting the cow as she dries up with 6 to 10 ml of A.D.E. Feed analysis is a must to get the proper balance of minerals, protein, and energy. It is here that a proper ratio of dry matter, roughage-to-grain, is important if good production is to be achieved. If this is not followed, off feed, low fat test and overly fat cows will be the result.

In our own area there is a lot of corn silage and high-moisture shelled corn. When this ration is continued in the dry cows we see and increase in the number of cases of fat cow syndrome, displaced abomasum, mastitis, founder cows, sole abscesses,

metritis, off-feed cows, and downer cows. This is most noticeable when this high-energy ration is carried on for periods of at least two years.

Herd separation: A proper place for the cow ready to calve is of prime importance. We do not recommend that the maternity pen be a part of the calf barn. It is my opinion, from the papers I have read, that if a cow is in the carrier state, she is more apt to shed the viruses of I.B.R., B.V.D., and possibly several other viruses upon calving. This is a stress period for the cow and viruses are more apt to be disseminated and spread through the adjoining calves.

My favorite place for the cow to calve, weather permitting, is in a good clean pasture lot. It has been reported from experimental work done in Scotland that calves born in a pasture will carry a higher immunoglobulin level than ones born in a box stall or stanchion.

The next choice is a clean, well-bedded box stall of adequate size and a floor that is not slippery.

A slippery floor in many cases may be a prime cause of a downer cow. If the floor becomes wet and somewhat slippery, the use of a little sand on the floor may be all that is necessary to get the cow up and save irreparable muscle damage.

If a cow happens to calve in a stanchion (and that does happen at times), you may find her down with parturient paresis. There is nothing more disheartening than to see the udder and back quarters hanging over the gutter when just putting a bale of straw in the gutter would have possibly saved permanent muscle damage.

We have had some success, if it is just a slippery condition, by sliding the cow on a 4' x 8' piece of plywood and moving her out on the ground.

When we are called to see a cow that has just calved, or is ready to calve, and is down, it is a routine practice of ours to take a heparinized blood sample and check her calcium level to see if it is true parturient paresis, or if it is some other problem.

We also run a micro-hematocrit test on the same sample. If this test is around 8 mg percent calcium, I continue to run enzyme tests for creatine phosphokinase (C.P.K.) or a glutamic oxalacetic-transaminase (S.G.O.T.). If muscle damage is present, the aforementioned enzymes will rise rapidly, especially the C.P.K., in a surprisingly short time, in a matter of a few hours. From these test results we are in a much better position to determine the proper treatment and what the possible prognosis will be.

We see several cases of cows down during mid-lactation and in many of these cases the blood calcium level will be around 5 mg percent calcium. We have found these cases to respond very well to calcium therapy.

Another point we do stress at calving time is that after the calf is born, and before it gets up to nurse, the udder must be properly cleaned, especially the teats. There is no better way for a calf to start off with three strikes against it than to nurse a filthy teat.

Needless to say, proper medication of the navel is recommended using strong tincture of iodine. We carry an 8 oz. bottle with a squirt top in our satchel and, if we deliver the calf, we use it. If the farmer does not have iodine available, he is dispensed some. There is no better way to get this medication on the navel than by setting a proper example.

Leaving the calf with its mother for the first 24 hours is not objectionable. There were experiments that indicated where this practice was carried out, that this increased the immunoglobulin level in the calves left with their dams over the calves taken away from the dams immediately after birth, when both groups received colostrum. If the calf does not get up and nurse within two hours, some colostrum should be milked out and fed by either a nipple bottle or an esophageal feeder.

In studies done in Minnesota, there appears to be a seasonable effect on the amount of immunoglobulin content in colostrum. Colostrum produced from cows calving in September and October is at a higher level than that produced from cows freshening in February, March, and April. It appears that it would be better to freeze colostrum produced in the early fall months, to be used at a later date than that from the spring calvings.

I recommend feeding the dam's colostrum to only her own calf in herds where a positive case of leukemia has been diagnosed. There is some evidence that by not pooling the colostrum in herds of known leukemia infection, this may possibly prevent the horizontal transmission of the disease.

We have observed an increased number of positive identified cases of leukemia in the past two years in our practice.

Parasitism: In regard to parasite control we have some advantages over our Southern neighbors. There are some parasites that cause us very few problems which I understand are of greater significance farther South.

We make several fecal exams before we make any recommendations. Samples are easily obtained when we are doing rectal exams, using a separate glove for each, and labeling it. Special effort is made to secure samples from the most likely prospects, such as first-calf heifers, or cows that are thin.

I cannot justify recommending complete herd worming if the fecal exam does not indicate the presence of parasites' eggs, despite all the ads and testimonials in the magazines.

From Dr. Heyt's records I have the following figures derived from a four-month check on parasitic infestation in 1975.

Farms Tested	Farm Type	Neg. for Parasites	Positive
12	Beef Cows, calves	0	12
19	Dairy - stanchion housing	7	12
9	Dairy - loose housing (outside)	2	7
3	Dairy - confined housing	2	1
18	Calves - all categories	3	15
61 Total		14 Total	47 Total

In my practice the infestation has not been that high. Out of 40 cows, 10 samples were taken and only one cow was positive, and only one egg per field. In a limited number of cases, the complete confinement yielded the highest incidence of parasitism.

We often find the highest positive fecal exams in the age group of three months to two years. Along with this we often see a much higher incidence of parasitism in stock that are on a lower level of nutrition.

Poor construction of feed managers, drinkers, or tanks where the feed or water is contaminated also leads to infestation. Sanitation is probably the key factor in controlling parasitism.

In some of the advertisements where evidence is shown that by six-day treatment of milk cows, production increases, I have often wondered whether this is due to a reduction in parasites, or is it due to an anabolic effect from the wormer that might give a temporary rise in milk production and then drop off.

I have seen very few cases of tape worms in cattle. They seem to be of little consequence on the whole.

Coccidiosis can be a problem when dealing with young cattle and is often associated with a breakdown in sanitary conditions. Many times it will gain entrance and do considerable damage before it is definitely diagnosed and by this time it is a major problem. Again, this condition is more prevalent in young cattle than in mature animals.

Lice are a much more frequent problem and many times it goes unnoticed until it is a serious problem. The greatest number of cases occur in November through May. It is most easily overlooked in dry cows. The months of June through September normally have adequate control of lice due to fly spray, which seems to control lice at the same time.

Flies can be a major problem, especially face flies. If there is a pink-eye outbreak, the face fly may spread the disease.

Grubs are sometimes observed, but are most frequent in springing heifers where fly control is not practiced.

Vaccinations: We do recommend calfhood vaccinations for brucella. Calves are vaccinated between the ages of three to seven months.

We had one outbreak in Michigan in a herd of approximately 800 head. Most of this herd has not been calfhood-vaccinated. In I.B.R. and B.V.D., we try to vaccinate heifers nine months of age up to one month before breeding, but prefer the 9- to 12-month range.

In the face of an outbreak of diagnosed I.B.R., I do not hesitate to use naslagen. In some herds I use naslagen on an annual basis. In a few herds we have used an intramuscular vaccine of I.B.R. and B.V.D. on cows that had calved two weeks prior and up to breeding time, but this was in the face of an outbreak and in a semi-closed herd. This practice is not generally recommended.

Vibriosis has not been a significant problem, as in our practice a majority of the herds use artificial in-

semination. I feel this is a major contributing factor for the low incidence.

We have a few herds that use some form of vaccination for mastitis, mostly a commercially prepared vaccine of mixed bacteria. I have questions in regard to their value. In two herds, I encountered anaphylactic reactions in which one cow died and several others had very severe reactions. The results were not too gratifying. Possibly the use of an autogenous vaccine would be of more value.

Urticaria is another condition which we have encountered. This most often happens after one milking has been skipped, and it most frequently occurs in Jersey herds. We have good results by milking the cow and using antihistamines. In a few herds we have given the antihistamines as the cows are dried up, with success.

In handling cows to be dried up, if a herd is showing a WMT test of three or above, or if a cow has had a history of mastitis during the lactation, dry cow treatment is recommended. If the owner will cooperate, we recommend testing the cow by culture method and only treat the positive cows. This is the method of choice when possible. The product of choice is dicloxacillin or Quartermaster. It is administered on the last milking and left in the quarters. In this procedure a double warning is given to the dairyman to take extra care in cleaning the end of the teat, and then again cleaning it with an alcohol swab before putting any canula up the teat canal. If this procedure is not followed, I would rather not treat the quarter.

A practice that I have thought to have some merit is to spray the end of the teat with a product called Aeroplast dressing, distributed by Parke-Davis Co., after the quarter has been dry treated. This will seal the end of the teat and seems to last through most of the dry period. I realize that there is a possibility of sealing-in some anaerobic organisms, but so far we have not had any adverse results from this practice. I feel this prevents the entrance of bacteria up the teat, and especially during the first part of the dry period.

In handling a prolapse of the uterus on a cow that is down, we pull both hind legs out behind the cow with her lying on her sternum. I use a uterine repeller which helps in replacing and positioning the uterus. In retained placenta we will often find one or more infected quarters. The retained placenta, unless it can be removed with little effort, are not removed manually. We infuse a solution of furacin and tetracycline, combined, along with a hypo of estrogen. If the cow's temperature is elevated, we administer oxytetracycline at the rate of five to seven grams in an electrolyte solution or lactated Ringer's solution intravenously, depending on the size of the animal. Instructions are left to follow with some antibiotics until the placenta is cast off by itself which may occur in five to seven days. The aftercare is re-examination in approximately 10 days to see that involution of the uterus is progressing satisfactorily and, frequently, another uterine infusion is given at this time. Culturing of a smear from the uterus may

be necessary for the non-responsive cases.

Most dairymen have been made aware of the fat cow syndrome with all of its ramifications and causes. When we do have the occasion to see a fat cow case, this is our approach: choline orally, dextrose intravenously, plus vitamin B complex intramuscularly. The uterus usually needs treatment, and there is a good possibility the udder will also need treatment. Even with this our success has not been to satisfactory.

If a left DA is present we employ the use of a WBC and a differential count as well as the enzyme tests to determine if surgery or salvage is the best recommendation.

In the left DA, we attempt the blind suture

technique if we can hear a gas sound when the cow is rolled on her back. If this is not present, and the condition reoccurs, we may advise surgery if conditions warrant it.

In closing, I hope I have shared a few ideas with you which have been of value in our practice.

Questions

1. The best months to freeze colostrum are ____ to ____.
2. It would be advisable not to pool the colostrum from ____ - infected herds.
3. We find the greatest number of parasites in ____ animals, and in calves that have ____ nutritional level.
4. Some factors that seem to affect founder in cattle are ____ and ____.
5. An example of an external parasite which may be a major problem is ____.