

Dairy Farm Management

Veterinarian demonstrates practical disease control

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BEFORE getting into the detail of the subject to be discussed, it is important to make clear to the reader the attitude and relationship of the writer to the farm on which he had his experience. In the first place he states he is definitely not a scientist nor a particularly good student of Veterinary Science. He attended Oregon State College 2 years studying animal husbandry, then Cornell University 4 years where he received a veterinary degree as well as some animal husbandry courses sandwiched in. The farm is owned by a corporation in which he has a small interest, thus giving him somewhat an attitude of a part owner. His capacity is that of manager and a board member responsible only to the president and board of directors of the corporation.

Now a little about the farm itself. The dairy farm proper consists of a little under 500 acres of flat sandy loam soil, all of which is irrigated from wells and pipe lines. This land is in the heart of the orange and vegetable belt of Southern California, which makes it of high market value and from which high returns must be made to justify its ownership. Only cattle feed is grown on this land. There are approximately 900 milk cows on the farm plus heifer calves under 6 months of age and springer heifers. The balance of the heifers are raised on cheaper land in other sections of the state. The total number of heifers usually runs between 600 and 700 head in addition to several hundred head of beef cattle kept on the heifer ranches.

As one can see from the size of the herds, there is no limit to the amount of time that could be spent on veterinary work alone. For instance, one could keep busy much of the time in the diagnosis and operation of animals affected with traumatic gastritis. A conscientious practitioner could spend 4 hours a day in the calf barns nursing and treating calves for scours and pneumonia. Since it was impossible to give personal attention to many individual animals, most of the veterinary work was directed toward prevention of disease or in cases where preventive methods failed, to the supervision of treatment.

Preventing Calf Scours

One of the main factors in the prevention of calf scours and pneumonia on this farm is seeing that the calves are born in a dry, warm, and reasonably clean place. An attempt is made to have all cows calve in regularly disinfected box stalls with clean, deep bedding. Another important factor is employing a good calf man. The proper feeding of the calf for the first 10 days will eliminate half of the scours and pneumonia. Although these two diseases find their way into large herds under the best of conditions, damp bedding causes more pneumonia than any other factor. The use of biologics was unsuccessful but sulfasuxidine for scours, and sulfathiazole and sulfamerazine for pneumonia lowered the mortality to a very satisfactory level.

When the calves are approximately 6 months old they are ready to be trucked to the heifer ranches. At this time they re-

ceive blackleg bacterin and are vaccinated against Bang's disease. As the heifers approach 2 years of age they are put with the bulls and checked about 3 times a year for pregnancy. As the heifers approach calving time they are brought back to the dairy farm and are fed well to get them in shape. Ninety percent of the dystocias in heifers can be eliminated by feeding for maximum growth and having them in good strong condition before calving.

Of prime importance is the elimination of off-feed conditions caused by dietary blunders. In this respect the author has been very successful. Free access is given to roughage consisting of $\frac{2}{3}$ alfalfa hay and $\frac{1}{3}$ silage. Even when the cow is on pasture a good quality dry roughage is supplemented. For grain the average cow gets 10 pounds of 13 percent protein mixture which contains much bulky feed such as the pulp by-products, rolled grains, and bran.

Mastitis Problem

Probably the most costly of all bacterial infections affecting the dairy cow is mastitis. The herd on this farm is free from mastitis since the correct rules of modern milking were followed to retard the spread of this disease. In large herds infected with this disease, where all replacements are raised, or where only few outside cows are bought and then quarantined until checked by laboratory procedure, streptococcic mastitis can be eliminated entirely from the herd and continue to remain free if the herd is placed in the hands of a competent veterinarian with full authority. As a treatment for the disease tyrothrycin is injected into the infected udders during the dry period.

As yet, tuberculosis is not out of the picture. When considering a large herd, there is still the constant danger of an old non-reacting carrier spreading the disease and thus break down the control program. Many herds have the bad feature of giving a large percentage of atypical, and thus suspicious, reactions to the tuberculin test. These reactions are explained by many authorities as caused by skin lesions, but in many cases no skin lesions can be found. Since a spreader in a herd could ruin years

of constructive breeding, the whole milking herd is tested every 6 months and at each test a sample of 2 or 3 of these suspicious reacting cows are branded with a "T" on the jaw and sent to the abattoir for post-mortem examination.

Bang's Eradicated

In the herd under consideration, Bang's disease is a thing of the past, having taken its place with other diseases that have been conquered by scientific ingenuity. In 1928, the company started testing and segregating but got nowhere. In 1934, a new man was put in charge who immediately began experimenting with strain "19." At first, half of the calves were vaccinated when they were placed in the milking herd and checked against the other half which served as controls. The results of vaccination were so nearly perfect that all calves have been vaccinated since 1936. In 1941, when a large percentage of the herd had been vaccinated as calves, a peculiar event occurred. At that time blood tests were made every 3 months with practically no new reactors. One of several springer heifers which were bought and supposedly had been vaccinated as calves aborted in the dry cow corral. On the next test about 20 cows, all of which had been vaccinated, showed agglutination in low titers, all under 1:100. In 6 months time all these reactions had disappeared and no abortions were observed. Undoubtedly these cows had become infected and then overcame the disease in a short time.

Prevention of Brucellosis

Since the beginning of the war it has been found necessary to discontinue blood testing, and with a tremendous increase in demand for milk in the area, many outside cows have been brought in from many sources. These cows were vaccinated with strain "19" the day of their arrival, regardless of their age or stage of pregnancy, and no clinical evidence of Bang's disease has occurred.

Milk fever and retained placentae appear to go hand in hand and are a constant source of trouble for the dairyman. It was noted for several years that cows with a tendency towards hypocalcemia were very

apt to fail to expel the placenta. Of course, many cows that did not clean properly did not show clinical symptoms of hypocalcemia and yet had a low calcium level in the blood. It was also observed in a few cases that when the symptoms of milk fever showed up soon after calving and before the passing of the placenta, that administration of calcium would be followed by expulsion of the placenta in a short time. Just as an experiment, the hospital man was instructed to give every cow 500 cc. of 30 percent calcium gluconate solution subcutaneously just prior to calving or immediately following. The results were very encouraging and it was agreed that the routine procedure of injecting calcium has decreased the incidence of retained placentae at least 70 percent. Retained placentae are treated by removing all the placenta that is free, which is generally little, and injecting into the uterus several quarts of mineral oil. The oil is introduced again in 2 days if necessary.

Traumatic Gastritis

The loss in milk production as well as in beef salvage caused by traumatic gastritis is estimated to be in the thousands of dollars per year in this herd. In 1943, 4,000 tons of baled hay were fed by this farm. The fact that 200,000 pieces of baling wire were used to bale the hay makes it easy to see why wire can frequently be found in the stomachs of these cattle. The operation to remove wire is rather simple and quite satisfactory in early cases but making a reasonably accurate diagnosis and operating is a time killer and is confined to bulls and the more valuable cows of the foundation families. The only sensible way to handle this situation is to eliminate baling wire entirely.

The breeding efficiency of the herd is checked regularly. Complete and accurate records of estrus, service dates, abortions, calvings, blood tests, tuberculin tests, evidence of mastitis, retained placentae, dystocia, milk fever and yearly production are all kept on one sheet for each cow. At a glance over the page of a certain cow, one can quickly determine her value as a breeding cow or profitable pro-

ducer. Each cow has her number branded on her hip for easy and accurate identification. An attempt is made to check for pregnancy on all cows that have been bred 8 weeks. Those found to be open are brought into estrus again by the expression of the corpus luteum after which these cows usually conceive very satisfactorily. This constitutes the bulk of the sterility work except in the cases of valuable breeding animals where it is thought more time could be spent. The beef herd is examined once a year and only pregnant cows are carried over. There is an excess of heifer calves in this beef herd so that top calves for quality are kept for breeding and the balance are spayed, carried with the steers and fattened as 2-year-olds.

Summary

This discussion constitutes a rough sketch of some of the routine and more important phases of the veterinary practices on this farm. Although it represents only a small part of the work, it is the most important phase of the work. More money can be made for the owner of a large dairy farm through disease control than by any other dairy farm management practice.

To young graduating veterinarians, this type of work cannot be recommended too highly. It is extremely interesting and diversified in character. On the other hand, many failures occur on large farms, especially where the veterinarian has no authority. The veterinarian is not usually the cause of the failure, but because of lack of authority his ideas of sanitation and disease control are not carried out. Probably the most successful dairy farm in the world was under the management of a veterinarian. The late Dr. Maynard Rosenberger took over the management of the Adohr Milk Farms at Los Angeles in the early stages of its development and built a successful dairy herd of over 5,000 animals.

The number of sheep on farms and ranches decreased about 7 percent during 1943. The January 1, 1944 number of 51,718,000 head was the smallest since 1940. Stock sheep decreased about 3 million head and sheep and lambs on feed about 1 million head. —*Sheep Breeder*.