

Dam's Blood Therapy In Calfhood Disease Control

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IN THE summer of 1939 a herd of dairy cattle, consisting of 6 of the most common breeds, came under the supervision of the ambulatory clinic of the Veterinary Division of Iowa State College. The most outstanding thing noticed was the high death rate among the calves produced there, which ran over 40 per cent. Investigation revealed that there were a number of causes of calf mortality and the chief single cause was a common disease of calves variously known as White Scours or Calf Scours. This disease often manifested itself in the form of an acute febrile condition accompanied by extreme depression, much as described by Hutyra and Marek under the name of Septicemia of the New Born.

Some calves were born weak and sick and lived only a few hours to a few days. Many others were strong and vigorous at birth but developed a temperature of 105° to 107° F. in 2 or 3 days, became unable to stand and often died in 2 or 3 days after appearance of the first symptoms. Those that survived this stage developed a fetid diarrhea and usually pneumonia. Any calves that recovered from the pneumonia remained emaciated and weak until they reached the age of about 6 months, when growth and development seemed to become nearly normal.

Many things had been done in the line of prevention and treatment. Commercial bacterins and serum were used profusely. All known and some relatively new intestinal antiseptics and astringents, in-

cluding a number of sulfonamides were employed. Various vitamins and combinations of vitamins were used and all these agents were often administered together. In spite of all this effort the morbidity and mortality rate remained high.

It has been known for a long time that 100 to 200 cc. of dam's blood exerted a beneficial effect on weak, sick calves and foals when administered subcutaneously and repeated if necessary. This procedure was given a trial and resulted in so much benefit therapeutically that speculation was aroused concerning its prophylactic value. On Dec. 26, 1940, a new treatment program was begun. It consisted of giving every new calf 200 cc. of citrated dam's blood subcutaneously as soon after birth as was practical, always in less than 24 hours after birth. Since that date every calf born in this herd has received 200 cc. of citrated dam's blood. A study of the accompanying chart will show the results of this prophylactic treatment.

The equipment and technic are simple and inexpensive. A supply of 250 cc. serum bottles with rubber stoppers, some 12 gauge, 2 inch hypodermic needles each fitted with about 15 inches of rubber tubing, a 40 cc. syringe and some 14 gauge, 1 inch hypodermic needles and a stock bottle of 10 per cent sodium citrate solution, all carefully sterilized, are all the special equipment needed. Thirty cc. of the 10 per cent sodium citrate solution are placed in each bottle by means of a syringe and needle. This makes a slightly stronger

solution than is usually recommended, but is necessary to prevent coagulation of the blood of all cows.

To draw the blood the cow is securely restrained in a stanchion or gate by a halter and nose tong. The jugular furrow on the selected side is moistened with a topical antiseptic. A tourniquet or choke rope is placed around the neck of the cow and drawn tight. The end of one of the rubber tubes is wedged into a prepared bottle and the needle introduced into the distended jugular vein. When the bottle is full of blood the tourniquet is loosened and the needle withdrawn. The bottle is then restoppered. Each bottle then contains 200 cc. of blood and 30 cc. of sodium citrate solution.

The calf is held on the floor on its side and the area of the neck, shoulder and thorax of the upper side is thoroughly rubbed with an antiseptic agent. Forty cc. of blood are injected subcutaneously at a time, spacing the injections at least 4 inches from each other. With one exception, no calf so treated has developed septicemia in less than 30 days and most of them never exhibit any symptoms.

The following list of births includes everything but premature births and abortions. The list of deaths includes every animal that failed to reach the age of 6 months.

Year	Number born	Number died	Per cent of loss
1936	104	43	41.3
1937	84	39	46.3
1938	83	31	37.3
1938	128	63	41.4
1940	133	50	37.5
1941	137	26	18.8
1942	133	36	27.0
1943	147	22	14.2
1944	138	25	18.1
1945	141	22	15.6
1946	150	26	17.3

In the 6 years, 1941 to 1946 inclusive, 864 calves were born and treated prophylactically with dam's blood. Of this number 18 per cent died, a difference of 22 per cent from the previous 5 year average of 40 per cent. This represents 186

calves saved. At the owner's valuation of \$125 for a 6-month-old calf this amounts to a saving of \$23,250.

A plausible theory to explain this is that the disease is caused by some infectious agent. The cows are immune by having been exposed and lived through the disease and their blood contains antibodies which, when given to the calves, produce a passive immunity in them.

Raise Puppy Before Attempting To Rear A Child

Dog people who have been saying all along that the raising of a puppy is the finest sort of preparation for rearing of a baby, now have scientific backing for their beliefs, reports a national research group.

Lawrence K. Frank, director of the Caroline Zachry Institute on Human Development, a recognized authority on child care who himself has raised 6 children and many puppies, is the expert who has just spoken up on the subject. An understanding of the fact that babies are "human puppies" can be enormous help to parents in dealing with the problems and vicissitudes of raising a family, he states in an article in the New York Times Magazine. Latest findings of researchers indicate that not only are the behavior and reactions of babies and puppies strikingly similar, but that the emotional needs of babies and puppies also are identical.

Both puppies and babies, when newborn, are dependent, helpless and demanding, he points out. They require frequent feedings and much sleep, and crave petting and affection. They lack coordination and judgment. They like to chew and lick any and all objects. They are easily frightened by noises, lights and painful sensations, and if seriously frightened or hurt may lose their natural courage and trust. When hungry, hurt or uncomfortable they whimper or cry. Shame, modesty cleanliness, respect for the possessions and rights of others are all entirely lacking, and are only gained through training.