Mary Neumann and her husband Jerry, reside at Stone Arc Farm, Monroe, Wis. in the heart of Green County's dairyland. They have a registered herd of Angus and have raised orphan bull calves for feeders and heifer calves for embryo transfer recipients. Mary, an RN with a BSN, is a clinical nursing instructor. Realizing the importance of electrolyte balance from her work in obstetrics and pediatrics, she put the knowledge into practice on the farm and obtained positive results. It has been a great satisfaction to both of them. Jerry and Mary hope this can help others to save those profitable calves.

Save That Calf!

Replace lost fluids as soon as possible in severely stressed or anemic calves.

Calves represent the profitability of a cow-calf, embryo transfer or orphan calf operation. For a number of reasons, the young calf becomes stressed or anemic. Dehydration occurs rapidly and death is the result!

Stress to a calf may come from various conditions: weather, extreme temperature changes in barns and sheds, poor quality or quantity of colostrum milk, absence of colostrum milk and poor mothering ability by the cow.

Anemia can come from poor feed or poor assimilation by the cow during the last trimester or last three months of pregnancy.

Tests have shown that lack of trace minerals at the time of conception can cause serious birth defects altering normal development of the calf's vital systems.

Systems of the calf work in conjunction with each other, not separately; therefore, it is important to keep in mind the importance of fluid electrolytes in our animals.

Some items to have on hand to meet the various needs of a sick calf are: (1) enema bag or hose for older animals, (2) rectal thermometer, (3) bottle and nipple, (4) electrolyte ingredients for recipe contained within and (5) variety of syringes and needles.

by Mary Neumann

Bottle feeding the young calf may be more time consuming than pail feeding, but if the nose would happen to become immersed in the milk, the possibility of milk being aspirated into the nasal passages, and the lungs, could produce aspiration pneumonia. The bottle is hung at a comfortable height for the sucking calf, not too high so the calf must strain to reach the nipple and not so low the calf has trouble swallowing.

Between feedings the bottles are washed in a mild bleach-soap solution and rinsed thoroughly to promote cleanliness and prevent cross contamination.

Bottle feeding allows one to detect decreased appetite and listlessness early. These symptoms detected early can save a calf from severe distress and provide a healthier survival.

It is important to remember that the body of a calf is small and any sudden fluid loss will upset the electrolyte balance of the calf's fluid system; thus putting the calf in real jeopardy.

A well hydrated calf is capable of giving any infection or stress a strong resistance!

Anytime an animal refuses to eat or drink, it should be considered sick! The animal is telling a person that its appetite is gone and if something isn't done for it **now,** it will **die!**

HOMEMADE ELECTROLYTE SOLUTION

- 1 pkg. Sure-Jell dissolved in 1 qt. warm water
- 1 can beef consomme
- 1 tsp. low-sodium salt
- 2 tsp. baking soda
- 1 qt. very warm water

The temperature, the turgor of the coat, the presence of scours and the calf's eyes should be evaluated. Normal temperature for a calf is 100-102 F. The turgor of the calf's coat is determined by pinching the coat, note if it returns to its normal position rapidly or slowly! The slower it returns to normal position the more dehydrated the calf's condition is presently.

A good homemade electrolyte solution is: 1 package Sure-Jell dissolved in 1 quart warm water, then add 1 can beef consomme, 1 teaspoon low-sodium salt, 2 teaspoons baking soda and 1 quart very warm water. This electrolyte mixture is substituted for milk or milk replacer for 24 to 36 hours depending on the severity of the calf's condition.

When the calf is found very dehydrated, the solution is administered 1 quart every two hours for three times and then 2 quarts every 3 to 4 hours for 24 hours.

Injection of amiovet forte according to directions can help a very stressed calf regain strength more rapidly. This solution may be obtained from a veterinarian. It contains vitamins, amino acids and electrolytes, which gives the calf an extra boost when needed.

Tube feed the calf with an enema bag if the animal refuses to eat! With the tubing, measure the distance from the opening of the mouth, to the base of the ear, down the throat and along the calf's body to approximately where the first rumen lies. Mark the tubing with a marker and fill it with the electrolyte solution and clamp it off. Now, insert the tubing on either side of the tongue, loosely holding the fingers on the roof of the mouth. This has a two-fold purpose, it prevents the calf from biting the tubing, and secondly it enables the calf to suck the hand prompting the swallowing reflex which will facilitate the insertion of the tubing. It will also prevent the tubing from entering the bronchus of the lung.

After the tubing is inserted, listen to the breathing pattern of the calf. Stressful breathing, could be an indication of the tubing entering the lung. If no changes have been indicated by the calf's breathing, another possible indication that the tubing may have entered the lung can be seen by bubbles coming through the solution; however, a few bubbles are normal as a small portion of the tubing may not have been completely filled.

When the administration of the solution is completed, clamp the tubing by bending or pinching the tubing and gently but rapidly remove it. This will help prevent any dripping of the solution into the bronchus tract, which could ultimately be aspirated into the lungs.

If the calf has scoured numerous times, three probiotic boluses, containing natural rumen flora, are given twice on the first day, reduced to two boluses twice a day for two more days. These will help restore natural flora lost during the scouring period.

It is important to remember that the body of a calf is small and any sudden fluid loss will upset the electrolyte balance of the calf's fluid system; thus putting the calf in real jeopardy.

If the calf does not have an elevated temperature, continues to eat, but has a loose runny stool, 30 cc of a paragoric solution obtained from a veterinarian, can be administered orally and followed by the electrolyte solution fed in a bottle. Milk or milk replacer should be withheld for 24 to 36 hours. The paragoric solution should be given before the morning and evening feedings, but the electrolyte mixture should be administered every 3 to 4 hours.

An easy and accurate way to administer the paragoric solution to a young calf is to pour a small amount of the solution into a cup and draw up the solution in a 30 cc syringe without the needle attached. Put the syringe in the calf's mouth, along the side of the tongue. Holding the mouth closed, slowly administer the solution, allowing the calf to swallow normally. A smaller syringe could be used and given repeatedly to get 30 cc administered.

It is advisable to keep the calf off milk 24 to 36 hours. If the calf is on the cow, the cow could be milked for this period until the calf is eating and restabilized. Once the calf has been restabilized, resumption of milk feedings should be observed closely for quantity taken.

Electrolyte solution can be supplemented in between milk feedings, the first days on milk, to make sure sufficient fluids are taken.

The electrolyte solution is helpful in re-establishing electrolytes in older calves, yearlings and adult animals. The solution can either be tube fed with a hose or added to a small bucket of drinking water. Electrolyte solution added to drinking water has proven helpful during periods of stress from heat, cold or during respiratory infections in large animals. One might expect an animal not to like the taste of this home recipe, but quite surprisingly they like it from the first taste.

Using a milk replacer with a high percentage of milk products, very small amounts of antibiotics and a small amount of fresh cows milk, proved to be the most successful formula for the calves. There are certain intrinsic factors in fresh whole milk, that can not be duplicated by man in a milk replacer.

A story is told about two California scientists, who made sea water and put it to the test by dropping shell fish from the ocean into their man made sea water. Soon shell fish began to float as if they were dying. One of the scientists said, "Add 1 cup of natural sea water to the aquarium." After natural sea water was added, all shell fish began to move about naturally and were able to live in the water. The God-made intrinsic factors are necessary to sustain life. The calf obtains the same natural intrinsic factors, when a cup of cow's whole milk is added to the formula.

The farmer, who diversifies farming by raising both hogs and cows may be interested in the use of the electrolyte solution in treating Transmissible Gastro Enteritis (TGE) at farrowing time. Little pigs can be removed from the sow and fed a combined solution of the milk replacer and electrolyte formulas. The little pigs may go to market a few weeks later, but they will live!

Antibiotics can be administered according to the infection. By treating scours and loss of appetite conservatively for 24 hours, one may find antibiotics are not necessary. Antibiotics will be more effective if administered only when needed.

Close observation, early detection of a problem and replacement of body fluids through electrolyte administration are important keys to a healthier animal. The fewer setbacks experienced during early life, produce greater gain and general good health.

When a calf is observed to be without an appetite or scouring, **do something now,** don't wait until chore time. Replace those lost fluids as soon as possible and save all calves!!!!