

By
I.A. Schipper
Assistant Veterinarian

W. E. Dinusson
Animal Nutritionist
Experiment Station

S
544.3
.N9
A8
no.311

NDSU LIBRARIES
N D A C *Extension Service, Fargo*
NORTH DAKOTA AGRICULTURAL COLLEGE

ANEMIA IN BABY PIGS

ANEMIA is a condition of deficiency in quantity and/or quality of red blood cells. When applied to humans it is often described as "tired blood."

A deficiency of red blood cells may result from losses through hemorrhage, diseased or improper functioning blood forming organs or an inadequate supply to the blood forming organ of the necessary raw materials for the manufacture of blood.

The red blood cells contain hemoglobin -- the red coloring -- that is essential for the transportation of oxygen from the lungs to all parts of the body. Hemoglobin also serves as the carrier for broken down oxygen -- carbon dioxide -- from all parts of the body to the lungs, where it is expelled. A constant supply of oxygen to the body cells and continued removal of carbon dioxide from the body cells are necessary if the body is to remain alive. When either of these processes is not carried out at a required rate the cells slowly suffocate and digestion and growth are impaired. Anemic animals are constantly under stress and thus more susceptible to infections and contagious disease.

The most frequent cause of anemia in swine is a deficiency of the required elements for blood formation. The two elements lacking most often are iron and copper. Only minute quantities of iron and copper are present in the sow's milk.

Our modern methods of swine husbandry -- cement floors -- have removed the pig from its natural source of iron and copper -- the soil. These essential elements must be supplied to the baby pigs' diet through artificial means.

Supply the Baby Pig with Iron and Copper

Iron and copper are often supplied at weekly intervals by oral administration of a solution containing these elements. The solution may be administered orally with an oil can, from plastic bottle and tube, nipple or pipette. It may be brushed or sprayed on the sow's teats.

The iron copper solution consists of:

13 oz. ferrous sulfate
16 oz. sugar
2 oz. copper sulfate
1 gal. water

Though anemia may to a degree be prevented by this procedure it requires additional labor. In addition, an overdosage by this method may cause the baby pig to have digestive disturbances. This method of administration may allow quantities of the solution to pass down the wind pipe and into the lungs. Any foreign material in the lungs will cause pneumonia.

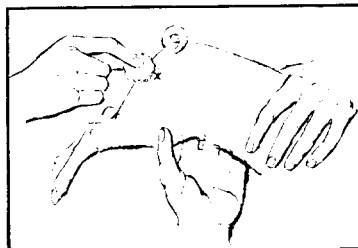
Another method of providing iron and copper is by placing sod or soil in the pen for the baby pigs. This should be done at weekly intervals. It is an inexpensive method of adequately preventing anemia in baby pigs. In our area it requires storing the parasite-free soil or sod collected in the fall from areas where swine have not been pastured, so that it is readily available during early spring farrowing when the ground is frozen. In some areas the soil is low in iron and copper and these elements must be added before the soil is made available to the baby pig.

Injectable preparations of iron recently have been made available to the swine industry. These preparations --known as iron dextran preparations-- are injected into the muscles of the baby pig. One injection at 3 to 7 days following farrowing may be adequate. In some instances a repeat injection is required at 14 to 21 days following farrowing. The needle used for injection should be small enough to prevent a large skin opening and "flow-back" of the injected material. Injections should be made deep into the muscle area. These injectable iron preparations are very effective in preventing or treating anemic pigs. They are reasonably inexpensive and easily administered.

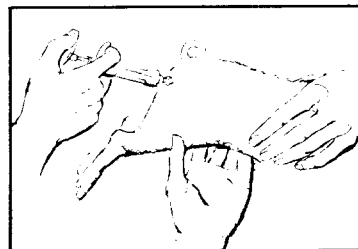
Apply a good disinfectant to the site of injection to avoid infection. Sterilize all needles and syringes before using.

Anemic pigs are usually 8 to 11 lbs. lighter than the non-anemic pig at weaning time. Preventing anemia provides the baby pig with the possibility of making a hog of himself.

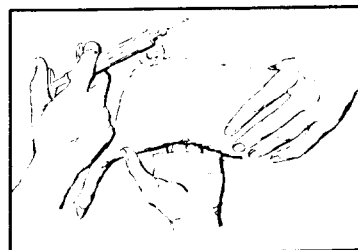
Step 1 - The pig is held underarm, between the knees, or by an assistant. Apply disinfectant to the site of injection with cotton. Pull down skin and fat with thumb as shown. Approximately halfway along a line between the thumb and the root of the tail is the best injection site.



Step 2 - Before injecting iron dextran, point the needle upward and gently press the plunger to expel all air from the syringe. The needle is inserted at right angles to skin, and 2 cc. of iron dextran is injected straight into the ham muscle at a depth of ½ inch.



Step 3 - Withdraw the needle rapidly after injection, and allow the skin to return to normal position. This will seal the fluid in the muscle and minimize leakage.



Step 4 - Clean the needle well with cotton moistened with disinfectant before injecting next pig.

Remember !!!

- Sow's milk is usually deficient in iron and copper—the two essential elements for the prevention of anemia.
- Our modern-day swine husbandry has removed the pig from its natural source of iron and copper -- the soil.
- Anemia can easily and inexpensively be prevented by supplying parasite free soil to nursing swine.
- Anemic pigs are under stress, more subject to infectious disease, and will not gain efficiently.

Presently there are many injectable iron preparations available to the swineman. Not all these preparations are effective in combating anemia. Consult your veterinarian before making a choice of these products.

Above drawings courtesy of Armour Veterinary Laboratories, Kankakee, Ill.

North Dakota Agricultural College and the United States Department of Agriculture Cooperating. E. J. Haslerud, Director of Extension Service. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.