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PIGLET ANAEMIA — an iron deficiency disease

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PIGLETS are born usually with only about 40 mg. of iron in their bodies and the sow's milk only supplies about 1 mg. of the 7 mg. needed each day by the piglets. This means that if the piglets do not get additional iron, the body stores soon become depleted and anaemia occurs at about one to three weeks of age.

Piglet anaemia is not generally a serious disease in Western Australia because most pigs are born with access to soil which usually contains enough iron to meet their high demands.

However piglets born in concrete pens, or on hard-baked soil, or are given siliceous sands with little iron content, sometimes suffer from iron deficiency. Many other piglets suffer from a relative degree of iron deficiency. This results in unnoticed anaemia causing slower than normal growth rate or greater susceptibility to diseases such as those causing coughing and scouring.

Pigs grow incredibly fast after birth. In fact many pigs are three to four times their birth weight at three weeks of age.

During this rapid growth, there is a great demand for iron by the red blood cells and in the formation of the oxygen carrier haemoglobin. If no iron is available in the diet there is a deficiency of haemoglobin, and anaemia occurs.

Piglets grossly deficient in iron usually show sickness from about 10 days old and a yellowish scour is commonly seen. The pigs are lethargic, and pant after slight exercise. They are generally unthrifty, and fail to grow as rapidly as they should.

Prevention of Iron Deficiency Anaemia

Most soils in Western Australia are a rich source of iron. Piglets reared outside soon start to root about, and get all the necessary iron they require from the soil. However, this is not so in the case of pigs in concrete pens. They should be given a soil containing enough iron to meet their high demands.

These piglets appreciated the dirt supplied to them. This is one way of giving them their iron requirements.
A pinch of reduced iron being dropped into a three-day-old piglet's mouth

Iron from the Soil

There are four main ways of administering iron to piglets.

Piglets can be given access to soil in which iron is present, either by letting them out, or putting earth into their pens daily.

The addition of ferrous sulphate or reduced iron to the soil placed in the pen reduces the amount of earth needed.

Drawbacks to these two methods are that they must be performed daily, and it is not possible to administer the iron with any degree of precision or certainty. This means that the piglets may not get as much iron as they need to grow as rapidly as they are genetically capable, even though actual clinical anaemia is suppressed.

A more accurate method is to dose the pigs individually, either orally or by injection with a scientifically prepared iron supplement.

Oral Administration

An iron compound for oral administration can be obtained in tubes. About a one-inch ribbon of paste is squeezed on to an applicator and smeared inside the piglet's mouth and on its tongue. Doses are necessary on about the third and tenth day of life. This method is reasonably cheap but time-consuming, especially if the sow is roused and becomes excited while the piglets are being handled.

Another similar method is the use of reduced iron—a pinch of which is dropped into the mouth of each piglet on the third and tenth day of life. The crystals lodge in the lining of the mouth and give off iron over a period of time.

Injection of Iron

Injections are considerably more expensive and there can be complications such as allergic reactions and abscess formations following administration. The iron however is implanted directly into the body tissue and is quickly available and
readily assimilated. The usual quantity of liquid compound injected is 2 cc. which may contain between 100 and 400 mg. of iron. Most experiments show little difference in effectiveness, as long as the dose is above 100 mg.

The pastes and injection sometimes contain other minerals and vitamins which may or may not improve weaning weights depending on the food available as well as other management practices.

If your pigs could be suffering from a possible iron deficiency and you are not sure, you can use the paste or injection supplementation on half of the pigs born from several litters. Mark the dosed pigs and weigh all the pigs at weaning. If there is a considerable increase in the average weight of iron supplemented pigs over the others, then you should incorporate one of the above methods of supplementation for piglets soon after birth.

Finally, a warning that giving iron to the sow does not appreciably increase the amount of iron in her milk, and is not a recommended method of overcoming piglet anaemia.
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