

### Trace Minerals in Pig Feed

Different feed rations are fed to pigs at different ages and stages of production so that the pig's nutritional requirements are met as closely as possible and also so that a good meat quality and lean carcass is produced.

Trace minerals, such as copper, iron and zinc, are included in feed and are important to provide a balanced nutritional diet, as well as providing health benefits.

Copper – is needed in the formation of proteins in blood, called plasma proteins, that are associated with the release of stored iron into the blood – thus copper deficiency can lead to anaemia. Copper plays an important role in enzyme functions and is important for most cells in the body – high levels are found in the liver which is the main storage organ in the body. Copper deficiency can also result in piglet diarrhoea and, importantly, a depressed growth rate in older pigs.

Iron – is usually found bound to a protein in the blood, called haemoglobin, which carries oxygen to cells and muscles in the body where it is needed. Within the body, there is an amount of iron that is recycled but this is not 100% efficient and thus there is a dietary requirement for iron. Due to a piglet's very fast growth in the first 3-4 weeks of life, there is a high demand for iron that cannot be met by a sow's milk alone, so most piglets are supplemented either orally or by injection with iron shortly after birth. Iron deficiency results in a decrease in haemoglobin and so a decreased level of oxygen is carried around the body, resulting in a weak piglet that has a poor appetite and later can become pale with an increased respiratory rate and scour. The result can be an unthrifty pig, or can even result in death.

Zinc – is essential for pig health as it is required by several enzymes and also involved in skin development. Pigs deficient in zinc show poor growth, decreased feed intake and can have a compromised immune system.

Inclusion of high levels of trace minerals however, can result in toxicity or affect the pig's absorption of another mineral – for example, a high level of copper can lead to a deficiency in zinc.

Supplying the correct amount of trace minerals can be difficult, especially as the trace mineral content of raw materials varies depending on a number of factors including the locations where they were grown, different soil types or the use of particular fertilisers. How the mineral is found is also important, whether it is an inorganic form or it is found bound to proteins, where generally the mineral is more easily absorbed at the same time as the protein.

There is growing evidence suggesting that trace mineral requirements are not consistently being met in modern genetics. Studies investigating the impact of trace minerals on immunity therefore, are being considered as a means to maximise pig health and growth.

## Significant Diseases Charter - Reminder

Please can we encourage our clients to register themselves on the new 'significant diseases' charter that was launched by AHDB Pork last year. This was drawn up as part of a contingency plan by the Pig Health and Welfare Council in response to potential future challenges from diseases such as Porcine Epidemic Diarrhoea (PEDv).

This new charter is an extension of the original Swine Dysentery Producer charter, which was created so that producers could voluntarily sign up and share information quickly in the event of an outbreak. Charter members agree to share certain information and, should a member's farm become infected, to take precautions to minimise the spread of infection.

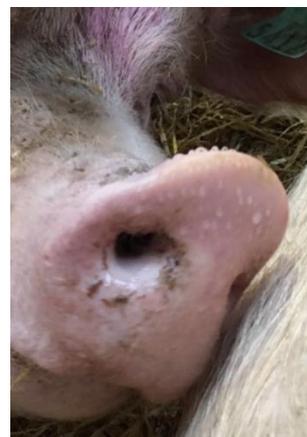
**Producers who are already members of the Swine Dysentery Charter will need to sign up again as this replaces the original version.** Please [click here](#) to register through the AHDB Pork 'Pig Hub'.

## Pigs Can Sweat...from their noses...

In a number of our recent newsletters we have been mentioning the high level of active Swine Influenza, also known as 'flu, that has been seen in both sows and finishers over the winter and early spring period.

Infection with the Influenza A virus results in various clinical signs including a high temperature. To decrease high temperatures, the body produces sweat, which then evaporates.

Pigs can only sweat from their nose, but it is unusual to see this very obviously. The picture on the right was taken from a sow with a severe 'flu infection that was running a very high temperature.



Picture courtesy of Paul Reeve

## Current Clinical Trends – What are we seeing out there?...

Recently we have had reports of variable semen quality results, linked with a lower conception rate on farm.

Please ensure that storage of the semen is correct – your semen incubator temperature (16-18°C) should be checked regularly, particularly as we get into warmer weather. Warm semen uses the energy in the diluent quicker, and hence its viability deteriorates more quickly, leading to increased fertility problems.



Please speak to your vet if you have any concerns.

## Feedback

Please let us know if there is anything that you would like including, or more information on, in a future newsletter.

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