



Uniferon Best Practice Recommendation

Optimal iron supplementation without iron overload

Modern pig production needs iron supplements for its new born. In some piglets, an additional dose of iron injected during weaning may increase weight gain, better the piglet's health, and potentially reduce days-to-market.

But too much iron – iron overload – will have the opposite effect.

How to avoid iron overload?

Too much iron is toxic. First of all, although no-where near toxic levels, the injection of more than the recommended 200mg iron in one single injection is not advised. Studies have shown that, all other things equal, increasing the dose from 200mg to i.e. 300mg in the initial single injection has little add-on effect on the haemoglobin development in newborn piglets. Iron dextran is by far the most widely used iron injectable form which has been shown to have a high margin of safety.

Data suggest that the standard initial injection of 200mg iron in 3 days old piglets, although optimal at this point, may not be enough to see the piglets safely through all the way to weaning. The combination of the piglet's own iron stores, the initial dose injected, and the iron from the sow's milk simply may not cut it, and the average piglet can run into iron depletion halfway through the weaning period.

An obvious answer to this iron depletion is to administer more iron. If the piglet needs more iron it should have more iron, not only from a production perspective but also and in

particular from an animal welfare perspective. A large challenge in this respect, however, is to avoid iron overload.

Iron supplements in the form of iron-enriched moss and feed additives may be a way to go and are indeed used by some, but the iron uptake is hard to control; is the individual piglet getting the right amount of iron to live up to its full growth potential? The larger piglets are the piglets on an all-milk diet. Efforts to manage iron via feed may therefore at best be a waste and at worst cause iron overload in the not-so-large piglets.

This leaves the administration of supplemental iron via injection a viable and safe approach; however, there are diverging opinions as to why, when, and how much should be administered as second iron injection. Data suggests that the average piglet will in fact experience iron depletion around day 17, given it has received the first iron supplement of 200mg right after birth. On average, the piglets would therefore benefit from a supplement of 150- 200mg at this time, with the added benefit of not subjecting any of the healthy piglets to the risk of iron overload.

Sincerely
The Uniferon Team