



Field evaluation of haemoglobin (Hb) level and influence of application method on Hb status in piglets at weaning on Dutch farms

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Background and Objectives

Iron deficiency anaemia (IDA) is an important health problem in piglets, it is controlled by routine application of iron. The aim of our study was to evaluate the haemoglobin (Hb) of piglets at weaning in farms in the Netherlands and to assess the possible influence of route of application and type of iron.

Material and Methods

Twenty-one randomly selected farms from different production regions using different forms of iron supplementation (dextran, gleptoferron) and route of administration (injection-504 piglets x needleless-126 piglets) were included. Within each farm, ten randomly selected litters from different parity sows have been assessed (30 piglets/farm, 630 piglets in total). One small, medium and large piglet per litter were sampled, Hb levels were measured immediately on farm (HemoCue®). Piglets were classified as follows: Hb levels < 90 g/l are considered to be anemic, Hb levels ≥ 90 g/l and < 110 g/l are suboptimal and Hb levels ≥ 110 g/l are optimal.

Results

The type of iron treatment has effect on the percentage of anaemic piglets (6,5% for gleptoferron vs 12,4% for dextran), see table 1.

Table 1. Type of iron treatment and Hb classification (%)

Type of iron treatment	Optimal	Suboptimal	Anemic
Gleptoferron (n=291)	54,6	38,8	6,5
Dextran (n=339)	46,6	41,0	12,4

Application method (IM injection x needleless) has low effect on % of anaemic piglets (9,9% vs 8,7%), the main difference was found in % of optimally supplied piglets (Hb ≥ 110 g/l) (53,4% vs 38,1%) as well for median Hb values (111 vs 105 g/l), see table 2.

Table 2. Application method and Hb classification (%)

Method	Optimal	Suboptimal	Anemic
IM injection (n=504)	53,4	36,7	9,9
Needleless (n=126)	38,1	53,2	8,7

Slight numerical difference in effect of the type of product administered by needleless application was observed with more optimal piglets treated by gleptoferron (38,5% vs 36,7%), see table 3.

Table 3. Application method, type of iron and Hb classification (%)

	Optimal	Suboptimal	Anemic
IM injection, gleptoferron	62,6	32,3	5,1
IM injection, dextran	47,6	39,5	12,9
Needleless, gleptoferron	38,5	52,1	9,4
Needleless, dextran	36,7	56,7	6,7

Discussion and Conclusion

There was visible evidence of influence of different route of administration of iron supply efficiency. The percentage of non-anaemic piglets (Hb >9 g/dL) was variable from one farm to another depending on product used and this categorisation seems to be sensitive criterion beside Hb levels. Gleptoferron based products administered by intramuscular injection tend to have better hematinic efficiency in the field.