

RESEARCH ABSTRACT



PUBLIC HEALTHWORKER SAFETY

Title: Enhancing growth performance in pigs by treating with iron at weaning and feeding antibiotic-free nursery diets containing elevated concentrations of copper or zinc - **NPB #17-052**

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Abstract:

Iron deficiency anemia can develop rapidly in suckling pigs because little iron is stored in the newborn animal; sow colostrum and milk have relatively insignificant iron concentrations; and modern genotypes have the capacity for extremely rapid growth rates. To prevent anemia, it is a standard industry practice to provide supplemental iron to newborn pigs, with intramuscular injections of 100 to 200 mg iron dextran common (Almond et al., 2017). Recent research, however, has demonstrated that many pigs, particularly the largest, fastest-growing animals in a litter, are iron deficient at weaning despite having received iron supplementation during the first week of life (Bhattarai and Nielsen, 2015a; Perri *et al.*, 2016). Anemic pigs at weaning have slower growth rates during the nursery phase of production (Bhattarai and Nielson, 2015b; Perri *et al.*, 2016). An additional iron treatment at weaning could be important, particularly for nursery pigs that consume diets supplemented with pharmacological levels of copper or zinc to enhance growth performance because these trace minerals have been shown to decrease liver iron concentrations and cause anemia (Cox and Hale, 1962). On commercial farms, elevated concentrations of zinc oxide (> 2000 ppm) in nursery diets are associated with a greater risk of anemia in pigs (Perri et al., 2016).

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