

Case report: selenium toxicosis in a pig farm

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An error in feed dosage caused selenium toxicosis in a farrow-to-finish Piétrain pig herd with nine sows. Of the farm's 40 pigs, 11 were poisoned. Clinical signs were anorexia/low feed ingestion, lesions of the coronal edge of one or more hooves (n=11/11), lameness (4/11), posterior paresis (3/11) and/or alopecia on the tail (2/11). After ruling out notifiable swine vesicular diseases, infectious pododermatitis (foot rot) and ergot intoxication, serological analysis measured selenium concentrations of 7-8 mg/L of serum in 4 pigs 8 days after the first clinical signs appeared. Normal values are between 0.1-0.2 mg/L. One boar was euthanized due to its deteriorating condition. Analysis of the feed confirmed a concentration of 30 ppm of selenium in the meal, whereas the formula indicated 0.4 ppm, and a concentration ≥ 5 ppm is considered toxic. The feed company confirmed that human error caused the overdose. Serological monitoring of 3 of the 4 pigs initially sampled, 15 and 67 days after withdrawal of the feed, measured serum selenium concentrations of 4.20 ± 0.26 and 0.13 ± 0.06 mg/L, respectively, and confirmed a return to normal 2 months later. Selenium toxicosis can cause severe ulcerative lesions on the coronary edge of the hooves that are similar to those caused by notifiable swine viral vesicular diseases (i.e., swine vesicular disease, foot and mouth disease, Seneca Valley virus disease and vesicular stomatitis). It should thus be included in their differential diagnosis. Due to the slow decrease in serum selenium concentrations, a 60-days waiting period should be observed before slaughter following an episode of poisoning.