

Effects of Iodine Level on Performance and Thyroid Traits of Growing Pigs¹

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Abstract

Four experiments involving 163 pigs were conducted to determine the effects of iodine level in a corn-soybean meal diet on body weight gain, feed required per unit gain and thyroid status. Pigs fed the basal diet (.055 ppm iodine) with no supplemental iodine had lower plasma protein-bound-iodine levels, hypertrophied thyroids and trapped a greater amount of a 5 μ c dose of radioiodine (¹³¹I) as compared with those fed diets to which iodine was added. Weight and uptake of ¹³¹I by thyroidal tissue decreased quadratically ($P < .01$) with increasing level of iodine in the diet; however, gain and feed/gain responses were not significantly ($P < .05$) affected by iodine level. Least squares breakpoint estimates indicated that thyroid weights and ¹³¹I uptake plateaued at levels of .031 and .077 ppm added iodine, respectively, suggesting that the iodine requirement of the growing pig is approximately .086 to .132 ppm of the diet.

Footnotes

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