Summary only

NUTRITIVE VALUES OF LUCERNE LEAF-PROTEIN CONCENTRATE[1] AND LUPIN-SEED MEAL[2] AS PROTEIN SUPPLEMENTS TO BARLEY DIETS FOR GROWING PIGS

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In the first of three experiments, pigs of 25 kg liveweight confined to unshaded yards for 8 h daily became photosensitive when fed to appetite for 42 days on barley diets containing either 12.5% or 25.0% leaf-protein concentrate (LPC). The severity of the reaction and its rate of development increased with the concentration of LPC. However, even the most severe reaction was mild, involving inflammation of the ears with some exudation over a short duration.

In the second experiment, pigs housed indoors were fed isocaloric barley diets containing various proportions of fish meal, meat and bone meal and LPC, with or without added methionine hydroxy analogue from 25 to 80 kg liveweight. The results indicated that:

(1) LPC was inferior to either a combination of fish meal and meat and bone meal, or meat and bone meal alone, as a protein supplement to barley. Unlike fish meal, LPC did not improve the value of a barley/meat and bone meal mixture.

(2) A barley/LPC mixture may be deficient in methionine.

(3) The apparent digestibility coefficients of the energy and nitrogen fractions of LPC were low (0.40 for each).

In the third experiment, the progressive replacement of fish meal by lupin-seed meal (LSM) in isocaloric diets of similar lysine content, gave linear improvements in both the rate of gain and the feed conversion ratio of pigs growing from 25 to 85 kg. The apparent digestibilities of energy and nitrogen were similar for all diets, although the crude fibre content of diets increased from 7.4 to 12.4% of the dry matter, as the dietary concentration of LSM increased from 0 to 37%.

[1] "X-PRO", manufactured by Batley-Janss Enterprises, Brawley, California, U.S.A.
[2] *Lupinus angustifolius* var. Uniwhite.