CASSAVA LEAF MEAL (MANIHOT ESCULENTA CRANTZ) IN GROWING AND FATTENING RATIONS FOR SWINE

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The scarcity of raw materials normally used in the preparation of concentrate feeds for animals is one of the serious problems facing hog production. This situation cannot be improved while producers continue depending exclusively on those ingredients which traditionally have been used in concentrate formulas, because some can be used only in limited quantities, others compete with human consumption, and many are imported or produced in the country in very small amounts.

Recently, some new raw materials have been included in hog diets, a clear example being the use of cassava roots. However, the foliage of the plant is not utilized, which amounts to some 3.5 tons per hectare. (Marcano, 1974).

Most investigation done on cassava leaves has concentrated on its chemical and biological composition, and protein values from 20.6 to 30.4 percent on basis of dry matter have been reported. (Barrios and Bressani, 1967; Roger, 1959).

Roger and Milner (1963) and Eggum (1970), studying the aminoacids of the protein present in dehydrated cassava leaves, indicated that it is similar to the protein of the grass and legume meals commonly used in animal feeds. However, although the cassava leaf protein is a good source of lysine, it is deficient in methionine and marginal in tryptofan.

Little research has been done which studies the effects of cassava leaf meals in swine feeding, although in limited trials it has been shown that cassava leaf meal fed to hogs in pasture constitutes a satisfactory substitute for alfalfa meal, and that considerable quantities can be consumed if the animals are given small amounts of concentrates. (Mahendranathan, 1971).

Velloso, et al (1967) suggested that cassava leaf meal could be used satisfactorially to substitute alfalfa at levels of 5% in fattening rations. Although little is known about the quality of the hog carcasses produced with this type of diets, Mahendranathan (1971) reported that hogs fattened with higher levels of cassava leaf meal added to concentrate feeds, gained less fat than hogs receiving lower levels in the ration.

To obtain more information about the nutritional value of cassava leaf meal for swine a 112-day feeding trial was made, using 40 cross-bred pigs of approximately 24 kg. The animals were distributed at random in five lots, which received diets containing 0, 7, 14, 21 and 28% cassava leaf meal (treatments I to V, respectively). The animals were slaughtered with an average weight of 98.7 kg. and the carcasses were submitted to analysis.

With respect to feed consumption, weight gain and feed conversion, no statistically significant differences were observed However, feed conversion values during the growth period were: 3.03, 3.16, 3.38, 3.17 and 3.46 for lots I to V, respectively, which represent statistical significance (P 0 5), treatment I being superior to the rest

Statistically significant differences were also observed for dorsal fat and meat tenderness, treatment V presenting the least thickness of dorsal fat (3 01 cm), and treat- - - ments III and IV the most tender meats In yield, carcass length and area of the longissimus dorsi at the height of the tenth rib, no significant differences were observed

The experimental results permit the conclusion that cassava leaf meal may be used in hog feeds, especially for growth and fattening rations. The use of this material in the ration did not incur any negative effects in feed consumption values nor in weight gain for the animals studied.

With increased levels of cassava leaf meal in the diets administered, feed conversion values suffered, but the thickness of dorsal fat was reduced, and carcass yield values increased.

Selected references: Marcano, J.: Tesis de Grado, 1974. Esc Agr. U.D.O. (Venezuela); Barrios, E.A. and Bressani, R : Turrialba, 1967. 17 (3):314; Roger, D.: Econ. Botany, 1963. 17: 211-216; Eggum, B. O.: Brit. J. Nutr; 1970. 24 (3): 761; Velloso, L , Silveira, J., Rodriguez, A. J., and Robinson, N. W : Bol.de Ind. Animal, 1957 24: 53-57; Mahendranathan T.: Malasian Agr. Journal, 1971 48 (2) 60.