Cassava peel is the main by-product of cassava based industries. This constitutes about 18% of the whole root (Oyejide and Amezie 1977). With the increased high turnover of cassava peel from such industries, nutritionists are becoming more concerned as to the use of this by-product in animal feeding. The incrimination of the cyanogenic glucosides of cassava in endocrinological and neurological disorders (Oyejide, 1987; Osuntokun 1968; Ibekwe 1979) has focused the attention of animal productionists to the metabolic and possible pathological effects of cassava in large term experimental feeding trials. Studies on pigs by Osuntokun and Opake 1979, Maner and Gomes 1973, Tewe and Maner 1980, 1981 supported this claim.

Three diets were formulated to contain 0, 96 and 400 ppm dietary thionoate level. Diets II and III contained 40% cassava peel. Blood samples were analysed for some serum metabolites. Concentration of thiocyanate in various organs were also determined. Female animals were slaughtered at the end of trial (72 days), weights of different organs were obtained while the thyroid, ovary, uterus, and ovicord were subjected to histological analysis. They were fixed in Bume's solution and stained with Haematoxylin and Eosin (H.E.). Histograms were viewed under the light microscope at a power of 10x. Epithelial thickness, endometrial and myometrial thickness of the uterus and ovicord measurement were with the calibrated eye-piece microscope.

Performance and cost per gain were similar on all treatments. Apart from the serum urea and cholesterol levels which were not different, a sugar level of 45.4 mmol/litre in diet II was observed (P<0.05) lower on the maize control ration, other metabolites showed no significant differences (P>0.05). Serum urea averaged 41.5, 40.4 and 34.64 mg/dl in diets 1 to III respectively for the serum collected at the end of the trial. Serum cholesterol levels for the same period were 155.0, 137.5 and 134.2 mmol/litre for diets 1 to III respectively. Serum thiocyanate concentration was also significantly higher (P<0.05) in different organs of pigs on the cassava peel diets as compared to corn based ration. The organs were kidney, heart, liver, spleen and lungs.

Histological examinations and slide measurements showed hyperplasia of the epithelium of the thyroid of animals on the cassava peel diets with the condition severe as cyanide level increased. Epithelial heights of the ovary, spleen and thyroid decreased with increase in cyanide level. The myometrium of the uterus showed no statistically difference between treatments (P>0.05) in its thickness, while for the endometrium, there was a significant difference (P<0.05) among these treatments. While the myometrium thickness of the ovicord increased with dietary cyanide level, there was a corresponding decrease of the endometrial thickness. There was also an increase in the number of mature ovarian follicles on the cassava peel rations.

Conclusions:
The performance data show that cassava peel based rations can be offered to growing finishing swine without reducing the profit margin as long as diets are adequately supplemented with protein and energy. Our observations however show that the carcass of the cassava fed pigs had higher fat deposits in comparison to the control. This might be due to the higher supplementation of the cassava peel rations with palm oil in an attempt to augment the calorie level of the feed. The higher thiocyanate concentration of organs on the test diets indicates that consumers of meat from animals fed cassava based diets might be ingesting higher thiocyanate than usual. Increased serum urea levels on cassava peel rations must have resulted from the constant depletion of the sulphur amino acid particularly methionine which is used for the detoxification of cyanide. High serum thiocyanate level on test diets is a result of high oil content in the diets. Pathological lesions observed in the thyroid gland indicate endocrinological anomalies in the experimental animals on cassava diets. The pathological lesions in the reproductive organs especially the possible delatarious effect of cassava peel based rations in the diet of the reproductive herd.

Selected references: