EVALUATION OF DRIED SUGARCANE FRACTIONS AS AN ENERGY SOURCE FOR FINISHER PIGS.

J.B. Gaughan*, N.A. Miller** and R.J. Hampson**

Pig production in many developing countries is limited by the necessity to import grain and/or the lack of suitable locally grown feedstuffs. Sugar cane (*Saccharum spp.*) is readily grown in many countries and produces more energy and dry matter per hectare then any other crop (Pigden, 1974); However, its high fibre and cellulose content have limited its usefulness in pig nutrition. The non lignified components (NLC) of sugar cane may be useful as a pig feed (Table 1). For a description of the process see McMeniman, Elliot and O'Sullivan (1990).

Table 1. Composition of Non Lignified Component of Sugar Cane.

DM %	NDF g/kg DM	Sugars %	C.F. %	C.P. %	CHO %	Fat %	Ash %
93.8	262	47.95	15.0	2.8	87.5	1.1	3.7

Forty eight Large White pigs with an initial mean weight of 53.39 kg were assigned (4 male and 4 female/pen) to one of six diets. The diets were isonitrogenous and contained either 0, 10, 20, 30, 40 or 50% NLC. Feed intake ranged from 2.25 kg/pig/day at start of the trial to 2.95 kg/pig/day at the end when the pigs weighed 95 kg. Feed intake, weight and backfat were measured weekly. Eye muscle area (EMA) was measured on the carcase using electronic grid (Cosign Ltd). Feed conversion ratio (FCR) protein deposition rate (PDR), fat deposition rate (FDR) and energy utilization in relation to protein deposition rate (PDRE) and fat deposition rate (FDRE) were calculated.

Table 2. The effect of NLC on Eye Muscle Area, Feed Conversion Ratio, Protein Deposition Rate, Fat Deposition Rate and Energy Utilization.

Sucrafeed (%)	0	10	20	30	40	50	SEM	P
Treatment	6	1	2	3	4	5		
EMA (cm2)	39.5	45.6	46.9	39.6	51.8	51.0	2.189	0.1313
FCR (kg/kg)	2.96	3.19	3.07	3.55	3.48	3.18	0.571	0.2342
PDR (g/day)	121.0	118.3	126.6	131.1	106.4	122.9	3.452	0.7955
PDRE (g/MJ DE)	2.40	2.65	2.49	2.48	2.88	2.56	0.070	0.3547
FDR (g/day)	56.0	51.6	41.0	35.8	31.5	46.1	6.782	0.1581
FDRE (g/MJ DE)	1.94	1.64	1.29	1.10	1.03	1.28	0.142	0.0438

The inclusion of the NLC had a significant affect ($P<0.05$) on FDRE. All other parameters were not significant. However, there was a mean increase of 19.0% in EMA and a mean 26.4% decrease in FDR for pigs fed on the NLC while FCR increased by 10.2% (Table 2).

The results indicate that the NLC may be a suitable energy source for finisher pigs. An added benefit may be the reduction in fat deposition and the increase in eye muscle area, which will be beneficial to the producer if paid on lean meat yield. The cost of producing NLC in Australia is likely to be prohibitive. Its usefulness is therefore limited to areas where sugar cane can be purchased at significantly lower costs than in Australia and where the other alternative is to import grain. Further work is needed before recommendations on its use can be made.

McMeniman, N.P., Elliott, R. and O'Sullivan, M. 1990. The use of dried sugar cane fractions as the principle energy source in sheep rations. ***Animal Feed Science and Technology***. 28:155-168.

Pigden, W.J. 1974. Derinded sugarcane as an animal feed - a major breakthrough. ***World Animal*** Review. 11: l-5.

* Department of Animal Production, The University of Queensland, Gatton College Lawes 4343.

** Field Facilities Division, The University of Queensland, Gatton College Lawes 4343.

(*NLC* supplied *as Sucrafeed* by Fractionated Cane Technology - Brisbane, Qld).