Pearl millet as an alternative feed grain for pigs and poultry

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Background - Pearl millet (*Pennisetum glaucum*) has great potential to be grown in Australia as a cereal grain for pig and poultry production. It is a cereal grain with good drought tolerance and hardiness and short growing period. It is commonly grown in the semiarid regions of Africa and Asia. The new varieties currently being developed are twice the size of the old Katherine pearl millet (9 g/1000 seeds vs 20 g/1000 seeds, Douglas *pers comm*). However data on Australian varieties of pearl millet (PM) is inadequate to characterize their nutritive value.

Objective - To compare the chemical composition of new PM varieties with that of sorghum and Katherine pearl millet.

Design – Fifty-five varieties of PM and 2 of sorghum were grown at Biloela Research Station in a randomised block design with 4 reps. Bulked sub-samples of the grain were collected and analysed for their chemical composition at Animal Research Institute, Yeerongpilly). The data was compared with published values for sorghum and Katherine PM.

Outcomes - The protein content of new varieties of PM ranged 10.5 –17.94% with the mean value of 14.85% compared to sorghum 14.2% and Katherine 13.7%. Eighty-seven percentage of PM samples tested had protein content greater than 14%. The fibre (2.6,5.1 & 2.2), ash (1.85, 2.3 & 1.2) and fat (5.8, 6.5 & 2.8) content of PM were lower than Katherine but higher than sorghum. The PM varieties had a superior amino acid profile than sorghum. Lysine (3.45 & 2.3), methionine (2.52 & 1.5), cystine (6.02 & 4.4) and threonine (5.09 & 3.5), respectively for PM and sorghum.

Conclusions- The data suggests that new varieties of PM being developed in Australia can replace sorghum in pig and poultry diets and has the potential for providing an alternative feed grain for intensive livestock producers.