THE NUTRITIVE VALUE OF PYRETHRUM RESIDUE FOR RUMINANTS IN PAPUA NEW GUINEA

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Pyrethrum Marc (PM), the residue obtained after solvent extraction of pyrethrins from the dried, ground flowers of Chrysanthemum cinerariaefolium, is available in the highlands of Papua New Guinea in amounts up to 240 t/year. Pyrethrum Marc was evaluated as ruminant feed in a digestibility trial with sheep. Pyrethrum Marc has (g/kgDM) 453 NDF, 118 CP and 72 ash. Eight Priangan type wethers weighing 18.5kg, housed in metabolism cages, were given one of four diets A, B, C and D, during two 25d periods. Diet A was pasture hay (Cenchrus ciliaris, 78gCP/kg) given ad libitum. Diets B and C consisted of pasture hay and PM at approximate ratios of 2:1 and 1:2 respectively. Diet D was PM given ad libitum. Feed intake and faeces and urine production were measured during the last seven days of each period. Drymatter intakes were 684, 869, 1142 and 1017g/d (68, 84, 106 and 96g/d/MJ.75) for diets A, B, C and D respectively. Intake of hay was reduced at the rate of 0.403g/gPM eaten on diets B and C. Digestibility of DM, OM and NDF were not different between the four diets, the respective means being 0.52, 0.54 and 0.54 (P>0.05). On the basis of digestible OM and DM the mean ME content of the diets can be estimated to be 7.2 MJ/kgDM. Mean N retention of 3.0g/d on diets C and D was significantly higher than N retained on diets A and B (P<0.01). It can be concluded that PM is a satisfactory ruminant feed to replace poor quality tropical pastures at levels of up to 700g/kgDM. PM-hay and PM-copra meal diets containing 700gPM/kgDM have produced liveweight gains of 57g/d and 120g/d respectively in another study.

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EWE PUBERTY OBSERVATIONS IN MERINO WEIGHT-SELECTION FLOCK

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Observations were made on the influence of long term selection for and against weaning weight on reproductive characteristics in the puberal ewe.

A flock of 101 ewe lambs of five genotypes (weight plus and minus, random and two intermediate genotypes) which lambed in September 1983 was pasture fed and monitored for concurrent oestrus and ovulation (puberty) through the 1984 and 1985 seasons until joining in April 1985. Poor pasture conditions in 1984 led to slow growth rates in all genotypes. Once oestrus had been detected (by raddled vasectomised ram) ovulations were checked by laparoscopy; live weights were recorded fortnightly.

Fifty six per cent showed first oestrus (FO) with only 5% attaining puberty as lambs in 1984; there was no significant difference between genotypes for age FO (238±43d) while the heavier genotypes were significantly heavier at FO (mean genotype range 22-27 kg, P<0.05). Two or more oestruses were recorded for 30% of the flock with a mean interval of 34d (range 6-103d).

During the 1985 season, 98% of the remainder had reached puberty by joining. Again there was no significant difference between genotypes for age at puberty (503±38d) and the heavier genotypes were significantly heavier (mean genotype range 28-41 kg, P<0.95), and the onset of the two-tooth breeding season coincided with that of mature ewes of identical genotypes (mid December). Hence, between genotypes, age would appear to be a more critical determinant of FO and two-tooth puberty than live weight, with prior extensive photoperiod exposure being the possible cause in two-tooths. FO live weight is a fair predictor of puberal live weight (r 2 .45, P<0.01).

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