AVOPARCIN AS AN ADDITIVE FOR A COTTONSEED MEAL SUPPLEMENT
FED TO FIRST AND SECOND CALF ZEBU CROSSBRED FEMALES DURING THE DRY SEASON

B.M. BURNS*, K.J. HOBBS**, G. FORDYCE** and D. REID***

The problem of lower fertility in lactating first-calf heifers appears to be more severe in northern than in southern Australia, reflecting the harsher nutritional conditions which occur during the dry season in the north (Entwistle 1983). Further, the adoption of Zebu and its crossbreds in this area has improved survival rates but reproductive rates have remained low. A characteristic pregnancy pattern in northern Australia is one in which cows may only calve in alternate years. A reason advanced for low conception rates in first-calf heifers is the need for this class of female to supply nutrients not only for lactation, but also for continued growth. In addition, lactation anoestrus is undoubtedly the largest single component of female infertility in tropical cattle (Holroyd 1985).

First calf cow conception rates in Zebu crossbred females are generally 20-40 percentage units lower than that of mature cows. Dry season supplements based on true proteins (e.g. cottonseed meal [CSM]) caused significant differences in heifer conception rates after a prolonged dry season at "Swan's Lagoon", which was attributed to marked liveweight advantages at mating of supplemented animals (Lindsay unpublished data). Further, supplementation studies support the concept of an increase in protein and/or energy intake influencing reproductive activity rather than an influence due to an increase in live weight (Selbert et al. 1976). The use of the rumen modifier monensin has resulted in substantial reductions in the post-partum anoestrus interval (Mason and Randel 1983) and research indicates that avoparcin (AVP) produces responses similar to monensin (Anon. 1982).

Two supplements, CSM (0.5 kg/hd/d) and CSM (0.5 kg/hd/d) + AVP (250 mg/hd/d) were fed twice weekly for a 51 day pre-partum period in 79 three-year old 50% or 75% and 21 four-year old 50% or 75% Zebu crossbred females. CSM supplemented females lost 0.91 kg/hd/d during supplementation whilst the addition of AVP reduced this by 0.13 kg/hd/d (P<0.05). There was no effect of AVP on conception rate. The 50% Zebu crossbred females were heavier than the 75% Zebu crossbreds and hence recorded a higher conception rate (70% vs 47%, P<0.05).

There was no evidence to show that the addition of AVP to CSM at the above rate, for a short period pre-partum in the dry season provided any significant improvement in live weight or fertility over that due to the effects of CSM alone.


* Qld. Dept Primary Industries, P.O. Box 10, Richmond, Qld. 4822.
** Qld. Dept Primary Industries, Swan's Lagoon, Millaroo, Qld. 4807.
*** Qld. Dept Primary Industries, P.O. Box 1085, Townsville, Qld. 4810.