

## MAIZE SILAGE AND/OR ERAGROSTIS CURVULA HAY FOR WINTERING PREGNANT BEEF COWS

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It is generally accepted that inadequate nutrition immediately before and after parturition has an adverse effect on the reproductive performance of the beef cow (Lamond 1970; Wiltbank 1968). In Northern Natal the calving period generally coincides with that time of the year when the nutritional status of the veld is poor. The low calving percentage recorded on veld is thus self explanatory. In view of the lack of information on the wintering of pregnant beef cows in this area an experiment was carried out to study the effects of supplementary feeding of locally produced feeds on reconception in the beef cow.

In May pregnant Africander cows were randomly allocated to the following treatments (winter feeding period 150 days).

1. Maize silage (DM =  $\pm$  34%) *ad lib*.
2. Maize silage *ad lib* and *E. curvula* hay *ad lib*.
3. *E. curvula* hay *ad lib*.
4. Veld only

All the cows in the respective treatments had free access to a protein/mineral lick consisting of 25% yellow maize meal, 25% salt, 25% dicalcium phosphate, 15% urea and 10% biuret during the winter feeding period.

The feed intake, mass changes and percentage reconception of the cows are summarised in Table 1. The results indicate that all the cows in this trial gained in mass during the pre-partum period. The gain was greatest amongst those cows receiving only silage while the reaction on veld was below expectation.

The average mass change for the cows within 14 days *post partum* to the end of the breeding season varied considerably. All the other cows that received supplementary feeding during the winter lost on average between 7% and 11% of their body mass over this period (Table 1). Notwithstanding the loss in mass of the cows that received supplementary feeding they returned the highest reconception percentages (Table 1).

The results achieved in this study are therefore at variance with the belief that a breeding animal must be gaining in mass in order to conceive. The data presented in Table 1 indicate a relationship between body mass at the end of mating and the rate of conception. As the body mass of the cows at the end of the breeding season decreased from 435 kg (silage) to 378 kg (veld) reconception decreased from 87,5% to 25% (Table 1). This tends to substantiate the findings of Lamond (1970), who refers to a critical or target mass before conception can take place resulting in normal fertility. The exact target mass for any specific breed is, however, unknown.

Table 1

*Treatments applied, mean mass changes and percentage reconception of cows due to treatments*

	Feeding treatments			
	Silage	Silage & Hay	Hay	Veld
Number of animals per group	24	24	22	24
Average intake of lick (g/cow/day)	618	303	308	435
Average intake of silage (kg/cow/day)	44,7	27,4	—	—
Average intake of hay (kg/cow/day)	—	3,7	8,4	—
Average mass per cow at start of winter (a)	446	448	451	444
Average mass per cow at start of calving season (b)	534	509	494	448
Average gain in mass per cow $\frac{(b-a)}{(a)} \times 100$ (%)	20	14	10	1
Average mass per cow within 14 days <i>post partum</i> (c)	490	463	448	368
Average mass per cow at end of breeding season (d)	436	424	416	378
Average gain/loss in mass per cow $\frac{(d-c)}{(c)} \times 100$ (%)	-11	-8	-7	3
Reconception (%)	87,5	79,2	68,2	25,0

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### References

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- WILTBANK, J.N., 1968. Research needs in beef cattle reproduction. *J. Anim. Sci.* 31, 755.