

A NOTE ON THE DRY PERIOD IN A HERD OF BUTANA CATTLE (A NORTHERN SUDAN ZEBU)

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Buttana cattle is a local type of the short-homed zebu indigenous to Northern Sudan. The available data on its productive and reproductive performance (Alim, 1962, Khalifa and Shafei, 1968 and Khalafalla and Khalifa, 1985) are rather limited. The present work presents information on the length of dry period in a herd of Butana cattle. The data used in this study were taken from records of Atbara Dairy Research Station in the Nile Province, in Northern Sudan. Management of the herd and objectives of the station have been reported by Khalafalla and Khalifa (1985). The climatological normals of Atbara indicate that there are three seasons which could be described as follows:

Mean temperature	Relative humidity%
	(degree C)
Winter (Nov. - Feb.)	24.4 33.5
Early Summer (March - June)	32.1 20-0
Late summer (July - Oct.)	33.3 32-5

The data comprised 151 dry period records registered during 1975 to 1979. The data were tested for effect of season of calving (e.g. winter, early summer and late summer) and for the effect of age of cows expressed in parities (first to :urth) and in years (2.5 - 3.5, 3.5 ~ 4.5, 4.5 - 5.5, 5.5 - 6.5 and older cows).

RESULTS AND DISCUSSION

Length of the dry period." The mean length of dry period found in this study was 139 S.D. 106 days which reflects a very high degree of variation. The frequency distribution indicates that 46.5% of the cows had dry period less than 100 days. The long dry period found in this study is in agreement with dry periods reported for other types of zebu cattle (Mahadevan, 1985), but is considerably longer than dry periods reported for temperate zone cattle in their original habitat (Schaeffer and Henderson, 1972). The effect of season of calving on the length of dry period: Dry period was longest in summer calvers and it was shortest in winter calvers. The length of dry period were 108.3, 153.3 and 155.0 days for the winter, early summer and late summer calvers respectively. Differences between seasons were not significant ($P > 0.05$). The adverse effect of hot summer temperature was noted in this Butana herd (Khalifa and Shafeei, 1968 unpublished) and on pure Jersey cows (Kapur and Sharma, 1971) in India. Experimental findings indicate the importance of nutrition and management particularly, housing and grazing practices in hot summer in shortening length of dry period. Night grazing is recommended for productive cattle subjected to strong solar radiation on day time grazings (Williamson and Payne, 1959). The influence of age of cows on length of dry period: Irrespective of parity dry periods were longer than desirable. The dry period was longest in the first parity group (160.8 to 123.4 days) with a tendency to decrease in subsequent parity groups e.g. 101 to 66.2 days in the four parity cows. The difference between parities, however, were not significant. When age of cows was expressed in terms of years, dry period was found to be significantly longer (242 to 119.5 days) in the youngest group (2.5 - 3.5), than in the older groups in which it tended to decrease e.g. 92.2 to 74.8 days in cows older than 6.5 years. The effect of age on dry period appears to be masked by the influence of nutrition and management. Cows calving in lean condition could not withstand the lactation demand, and is expected to dry early and that their fertility is impaired. This is particularly true in the tropics, where management and nutrition of young cows, and especially pregnant heifers are almost neglected. Under these unfavourable conditions, first calvers are expected to dry earlier and

hence have the longest dry period. Similar conclusion was reported for native cows in Egypt (Ragab et al, 1954), Northern Sudan Cattle (El Amin, 1969), and Indian cattle (Singh and Desai, 1962) The situation however, is different in the temperate zone- where nutrition and management are adequate, and optimum dry period for dairy cows is 50 - 60 days. A reasonable dry period is important for economical production as it enables cows: (a) to replace body nutrients lost during the previous lactation; (b) to repair and replace the secretory tissue of the udder; (c) to allow the unborn calf to develop and (d) to help store body reserves for the next lactation. The long dry periods of cows in the tropics; however, were found to have no economic benefit (Jha and Biswas, 1964); and it increases the calving interval (Khalafalla and Khalifa, 1985). The present results emphasise the importance of dairy herd management in the Sudan, and particularly the heifer-calvers to shorten length of dry period and increase the productive life of the cows.

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