

**Brief communication**

**MAMMARY BLOOD FLOW ANTE AND POST PARTUM  
IN COWS\*)**

Changes in mammary blood flow and the weight of udder occurring about the time of parturition in goats have been reported by *Linzell* (1960, 1966a, b) and *Reynolds* (1965). The present paper now gives the results of the determination of mammary blood flow before and after parturition in cows. The experiments were done on 3 unanaesthetized animals in standing position using *Rasmussen's* antipyrine-absorption method (1965), with manual compression of the external pudic vein during blood sampling. The blood flow values are the average of 3 periods of 10 min. In 2 cows (nos. 1 and 2) the udder weight was estimated from the volume of a plaster bandage mould made after milking out on the day of the experiment (*Kjærsgaard* 1968).

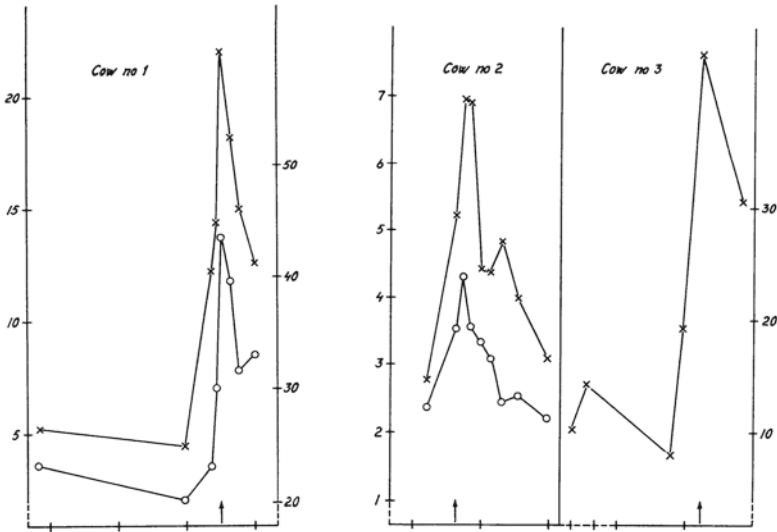


Figure 1.

Figure 2.

x—x: udder blood flow. o—o: udder weight.  
 Ordinate on the left: l/min.  
 Ordinate on the right: kg.  
 Abscissa: time in months. Arrow indicates partus.

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The results, in Fig. 1, show the findings in an RDM cow (Red Danish Milk Breed) and, in Fig. 2, the findings in 2 Jersey cows. The absolute blood flow in the 3 cows was low in the dry period, then it rose during the 2—3 weeks before parturition and reached a maximum about the time of parturition. In the course of 2—3 weeks after parturition the blood flow fell 25—50 %. *Linzell* has made similar observations in goats, while *Reynolds* states that the mammary blood flow increases further after parturition.

As in the goat it appears that the udder weight, which was determined in 2 of the animals, doubled during the same period as the blood flow increased 3—5 times, and that after parturition the udder weight decreased. If the blood flow is related to the weight of tissue in these 2 cows, we get 21—23 ml/min./100 g of udder in the dry period, which is similar to *Rasmussen's* report of 26 ml/min./100 g in a cow with a daily milk yield of 0.5 l/day. The maximum blood flow about the time of parturition varied from 37 to 59 ml/min./100 g, and approximately 3 weeks after parturition of the above 2 cows it was found to be 27—42 ml/min./100 g. It is interesting that all these figures are similar to the blood flow per 100 g of udder tissue in goats (*Linzell* 1960, 1966a, *Reynolds*).

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