

The positive significant effect of these treatments was observed mainly in single pregnant ewes; this observation was correlated with a significant increase of milk yields during machine milking when $17\text{-}\beta$ oestradiol was injected to sheep selected for their low plasma oestrogen levels during pregnancy. Hormonal treatments at the end of pregnancy, increasing plasma levels of prolactin, thyroxin and corticoids, were without effect on milk yields during machine milking for 28 days.

One single injection of oestradiol benzoate (15 mg) on day 144 of pregnancy produced a significant increase of the secretory activity of the mammary tissue, however, the development of the mammary gland was unchanged. This treatment did not modify the milk composition and did not seem to affect the subsequent fertility of treated ewes as compared with controls.

Maternal behaviour in sheep : mechanisms of mother-young recognition

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The inadapted reactions of the ewe can lead to difficulties in the practice of sheep husbandry: refusal of lambs, difficulties in fostering as in adaptation to artificial feeding. The study of maternal behaviour can help in solving these problems. The results presented here only deal with the mutual recognition of lamb and ewe.

Some individual recognition is accomplished at a distance by bleats; however, the success of a suckling attempt at a short distance depends on ewe identification of the lamb by olfaction. Ewe anosmia eliminates lamb discrimination. Such females allow any young to suckle, the behavioural sequence leading to suckling being disorganized.

This indicates that the maternal bond is established by olfactory cues during a critical period postpartum; the role of other sensory information develops later through the learning process.

4) ECONOMICS

Working time in sheep farming

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While references have already been published, systematic study of the working time for different activities in sheep farming systems was only completed in 1976. The B.C.M.E.A. and the I.T.O.V.I.C. tape record oral descriptions of the activities concerned as they occur, so that

they may be timed and analysed. Sheep handling activities such as drenching, sorting for sale and foot trimming, as well as daily feeding, are recorded.

Studying partial and overall working times, the different techniques and equipment used are compared in relation to herd size and farming conditions. For example, not including forage cultivation time, a worker can manage 300 ewes in zero grazing conditions in 50 p. 100 of his work time, 54 p. 100 of which is for daily activities and 46 p. 100 for seasonal or occasional activities.

An enlarged E.E.C. : the sheep outlook

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The United Kingdom produces 50 p. 100 of sheep-meat in the E.E.C., and France 25 p. 100. Italy has a large flock, but produces little sheep-meat, which is oriented towards third-world countries. Other member states represent less than 10 p. 100 of the E.E.C. market.

As sheep-meat is not under any common regulation, each member state applies its own policy. Protected by a very efficient threshold-price system, French market prices are about 100 p. 100 higher than British, but what would be the equilibrium price in a freetrade system within the E.E.C.?

The author shows what the market equilibrium would be in 1980. Britain's self-sufficiency would increase from 55 p. 100 in 1975 to 80 p. 100 in 1980, both by decreased consumption and increased production. The E.E.C. would import a total of 250 000 tons (300 000 in 1975), so the world market would not be very depressed. The average equilibrium market price would be about 110 p/kg (Britain: + 35 %; France:— 35 %).

The entrance of Britain into the E.E.C. means both increasing self-sufficiency for the whole E.E.C. and greater regional specialization within it. As Italy would become the main wine producer, Britain would become the main sheep-meat producer.

Reçu pour publication en mars 1977.