

## SHAPE OF THE VULVA AND FERTILITY IN MERINO EWES

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Ewes with permanent infertility caused by clover disease may have an altered appearance of the vulva (Adams 1979). Preliminary observations on a number of commercial flocks grazing oestrogenic pastures showed that not every flock exhibited this change, particularly if they were not mulesed. Vulval change was observed in a number of flocks, and the opportunity was taken to determine whether it was related to fertility.

Mature Merino ewes were examined in each of five commercial flocks grazed on pastures of the kind normally found in Western Australia, based on oestrogenic subterranean clover. Flock numbers varied between 172 and 754, and all the ewes had been mulesed. The ewes' vulvas were classified at lamb marking (Flocks A-C) or at mating (Flocks D and E) as having: a normal appearance, with a pointed ventral commissure (Type 0); a commissure pointed ventrally but with a band above the clitoral orifice (Type 1); bands above and below the clitoral orifice (Type 2); or complete fusion across the ventral commissure (Type 3). The visibility of the clitoris was also recorded. Ewes were also classified at the same time (Flocks A-C) or at the subsequent lamb marking (Flocks D and E) as having lambed or not. Results are given in Table 1.

TABLE 1 Proportion (and %) of ewes failing to lamb, classified according to their vulval shape

Vulva	Flock A	Flock B	Flock C	Flock D	Flock E
Type 0	10/47 (21%)	32/106 (30%)	70/317 (22%)	17/59 (29%)	6/59 (10%)
Type 1	3/18 (17%)	2/21 (10%)	25/119 (21%)	8/32 (25%)	2/34 (6%)
Type 2	8/21 (38%)	5/18 (28%)	35/121 (29%)	26/69 (38%)	5/30 (17%)
Type 3	29/86 (34%)	10/37 (27%)	67/197 (34%)	18/37 (49%)	11/63 (17%)

In each flock a similar pattern of fertility was observed, regardless of the overall fertility level. Ewes with a vulva of Type 1 were the most fertile, while twice as many ewes with a vulva of Type 3 did not lamb when compared with ewes classified as Type 1.

It is not clear whether the vulval change depends only on the amount of clover disease, because the fertility was similar in ewes with or without a visible clitoris, and growth of the clitoris is also produced by phyto-oestrogens (Adams 1979). Furthermore, it is possible that the vulval change is promoted by the mulesing operation, as mentioned above. Nevertheless, regardless of its mechanism, the change does consistently distinguish groups of ewes with differing fertility within the flock.

ADAMS, N.R. (1979). *Aust. Vet. J.* 55: 22.

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