PERFORMANCE OF MERINO TWINS - THE FICTION AND THE FACTS

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INTRODUCTION

For several decades, most State Department's of Agriculture have been encouraging producers to breed for higher reproductive rate, generally by advocating selection of twin born rams for use over the ewe flock. In contrast producers tend to rank twin birth very low on their list of criteria for ram selection and see increased twinning as a low priority in increasing reproductive rate (Clarke 1976). This paper outlines some common producer attitudes to twinning in Merinos and presents data which would seem to contradict these attitudes.

PRODUCER ATTITUDES TO TWINNING

According to a survey of 400 producers in Victoria (Clarke 1976), wool producers "were frequently not in favour of twins". A majority felt that selecting twins was too difficult a task for commercial breeders. In general Merino producers want more single lambs by reducing the proportion of dry ewes.

In Western Australia, a major concern of wool producers in regard to twinning is their perception of difficulty in rearing twins. Producers often say that ewes "leave the weaker twin behind". This attitude is similar to that described by Clarke (1976) in which Victorian producers nominated mothering ability as the second most important factor contributing to lamb (including twin lamb) survival. Despite this concern, many producers are unaware of the true extent of lamb losses in their flocks. In the Victorian survey (Clarke 1976), the majority of breeders felt that they lost 10% or less of their lambs, compared with much higher levels recorded with supervised lambings.

A second major concern relates to the appearance and level of production of the twin born animals. In Victoria, up to one third of producers in the three wool growing zones surveyed felt that "twin lambs turn out to be culls"(Clarke, 1976). This attitude seems more pronounced in WA than in Victoria, possibly due to the longer dry autumn typical of WA.

These assumptions by producers concerning twins may be largely due to ignorance of the true birth-rearing status of the animals in their flocks and of the actual levels of mortality suffered.

SOME FACTS ABOUT TWINS

1. Survival of twins

In general the mortality rates recorded for twins are about twice those of singles (Watson, 1972; Butler, unpublished). Data recorded on Western Australian Research Stations suggest an average mortality for single born lambs of about 15% compared with 30% for twins (Croker 1966). These statistics, demonstrate that twin births result in 65% more lambs reared than single births.

2. The production and physical appearance of twin-born sheep

Lax and Brown (1967) have summarised previously published data concerning the effect of multiple birth on fleece weight and its components, and on liveweight. Compared with the average single-born Merino, the average twin is lighter, cuts less wool of slightly greater fibre diameter and has fewer follicles per unit area of skin. Over its lifetime, the average Merino twin cuts about 4% less wool than a single (Brown et al, 1966). At 18 months of age the penalty of twin birth on liveweight is of the order of 3 - 7 % (Drinan, 1968; Lax and Brown, 1967). When the flock is reared under conditions of adequate nutrition, the differences between twins and singles may become negligible (Gallagher and Hill, 1970).

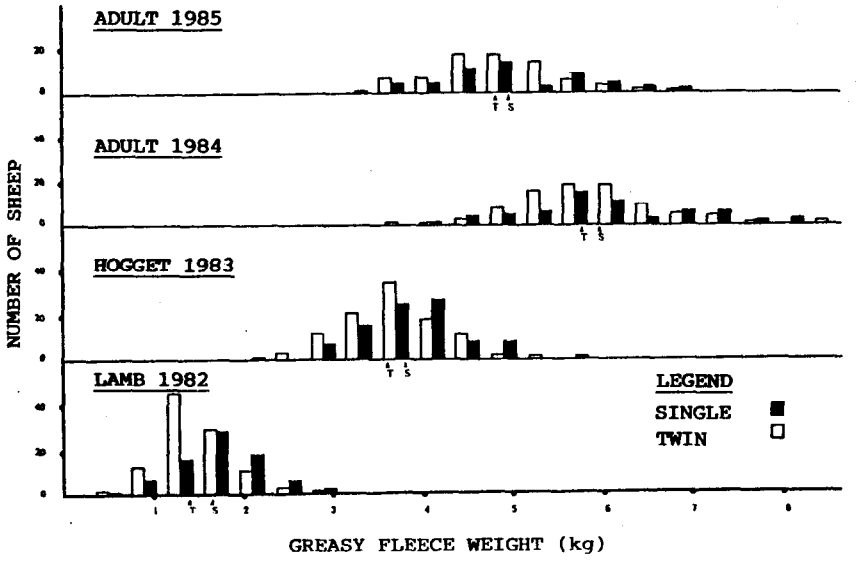

Figure 1. The number of singles and twins in each greasy fleece weight class at each of four sequential shearings.

Figure 1 illustrates the fleece weight of a population of sheep from lamb shearing to second adult fleece. The flock consists of 55% twins and 45% singles. The arrow marked with a T or S identifies the mean value for twins and singles respectively. It is apparent that production of twins and singles is normally distributed about their respective means. In these data the mean for twins is 15% lower than that for singles at lamb shearing, and is reduced to 3% difference at adult shearings, illustrating compensatory gain (Allden, 1970, Dawe 1972).

A similar situation exists in respect to live weight (Butler, unpublished data). Therefore any truncation of a flock (eg the lightest group or "tail of the mob") consists of a mixture of singles and twins, the proportion of singles and twins depending largely on the proportion of twins in the whole flock.

Table 1 illustrates that in general, twins are similar in appearance to singles. These data are scores for overall visual excellence assessed by a stud sheep classer of a complete drop of merino ewe hoggets. Eighty six percent of singles and 91% of twins were visually assessed score 3 or 4.

Table 1. The number of singles and twins in each visual "overall score" category when classed at 15 - 16 months of age (score 5 = excellent).

	CLASSING SCORE					
	1	2	3	4	5	TOTAL
No. of singles	1	7	90	188	40	326
No. of twins	1	6	37	52	2	98

CONCLUSION

Twins are a "normal" and largely unavoidable component of a flock of sheep, the proportion depending mainly on the level of reproductive rate. Increased twinning rate is a necessary component, along with proportion of ewes lambing, of any increase in reproductive rate. Survival rates of twins in general are such that a twin birth confers a considerable advantage, in terms of numbers of animals alive, compared with a single birth. Although the average production of twins is lower than that of singles, individual production values are distributed normally about their respective means. Therefore the animals included in any range of production levels within the flock will generally involve both singles and twins.

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