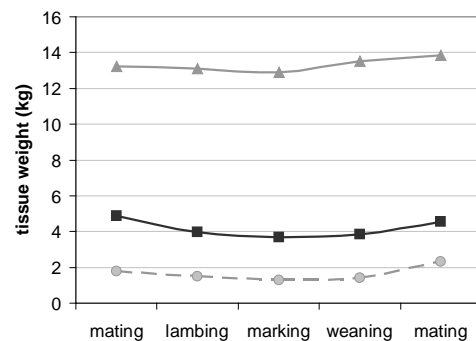
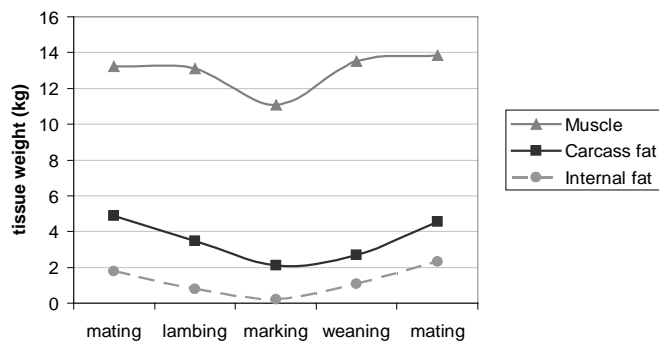


Are ‘selfish’ ewes the best ones to breed from?

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Research using Blackface sheep at SAC has shown that ewes with higher levels of muscle are more productive than their fatter counterparts. The ability to mobilise both muscle and fat depots to fuel lactation for growing lambs leads to heavier lambs and fewer lambs lost before weaning. However, ewes that mobilise larger amounts of their own body tissues are more likely to die, or be culled from the flock, compared to ewes that do not mobilise their body fat and muscle reserves. In other words, ewes that ‘look after number one’ (themselves) rear poorer and fewer lambs relative to those who ‘give it their all’, yet they are most likely to be in good condition themselves and survive through the year. These results tell us that there is a biological trade-off when it comes to animal performance and leave us in a bit of a dilemma – which type of ewe do we want? Higher-producing, but shorter-living, or lower-producing and longer-living?



The ‘giver’: Ewes losing and gaining more fat and muscle are likely to wean more better lambs, but may survive less years in the flock

The ‘taker’: Ewes losing and gaining less fat and muscle may survive longer, but at the cost of weaning fewer or poorer lambs

The answer to that question depends very much on the relative returns we get for our draft and cull ewes compared to the prices we get for lambs. The results suggest that keeping females in the breeding flock because they maintain their own condition throughout the year, may have a negative impact on the number and weights of lambs reared to weaning. As long as ewes that have lost condition over summer can regain it before tupping, they are likely to be the more productive individuals, although they may need to be culled sooner than other ewes in the flock. For the pedigree breeder, the simple answer to this dilemma is to know which animals in your flock have better overall productive performance compared to others, *via* the use of selection indices. The indices used by hill breeds in the UK produce higher scores for animals that carry genes for rearing heavier litters to weaning *and* genes for better ewe longevity. For the commercial producer, buying high index tups to produce your female replacements will result in a ewe flock with these preferred combinations of genes and so will minimise the risks associated with the known biological trade-offs.