LIFETIME WOOL 14. PUTTING IT ALL TOGETHER IN THE PADDOCK

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'Lifetime Wool' is a national project that is developing profitable ewe management guidelines for woolgrowers across Australia.   The project comprises a series of plot-scale research experiments that aim to determine the dose-response, of both the wool and meat production per hectare in the short term, and the lifetime performance of the progeny in the longer term, to a range of levels of ewe nutrition at different stages of the reproductive cycle (Thompson and Oldham 2004; *these proceedings*). The project also consists of paddock-scale research in cooperation with woolproducers across the main wool producing regions of Australia, with 15 sites spread throughout WA, VIC, SA, TAS and NSW. These experiments are primarily aimed at confirming that results at the paddock-scale fall on the same response surface as those from the plot-scale experiments, exploring the performance of twins verses single progeny and developing the management process.

The standard protocol followed by the co-operators has typically involved joining ~ 1000 mixed aged adult Merino ewes as a single flock. Real time scanning has been used to identify single and twin-bearing ewes conceiving during the first 21 days and the marked udder method (Davis *et al.* 1981) was used to identify single and twin born lambs. From day 21 of joining, two random subsets of the original flock have been managed to achieve predetermined liveweight (LW) and condition score (CS) targets, based on monthly measurements of ewe LW and CS and the quantity and quality of all feeds (fed by hand or on offer in the paddock). GrazFeed^{TM} (Horizon Technologies) has been used to assist feed budgeting decisions. The targets were drawn from either the LW/CS profiles of the CS3-3000FOO or the CS2-1100/1500FOO treatments from the plot-scale experiments (see Ferguson *et al.* 2004; *these proceedings*). The quantity and quality of wool produced by the ewes is measured on a random sample of single (n = 50) and twin bearing (n = 50) ewes from each flock, and the reproductive performance at their next joining will be measured on all ewes. The quantity and quality of wool produced by the progeny will be measured on all progeny of each flock for 2.5 yr. While feed budgeting to achieve pre-determined LW and CS targets is difficult, nonetheless, it can be done successfully (Figure 1).
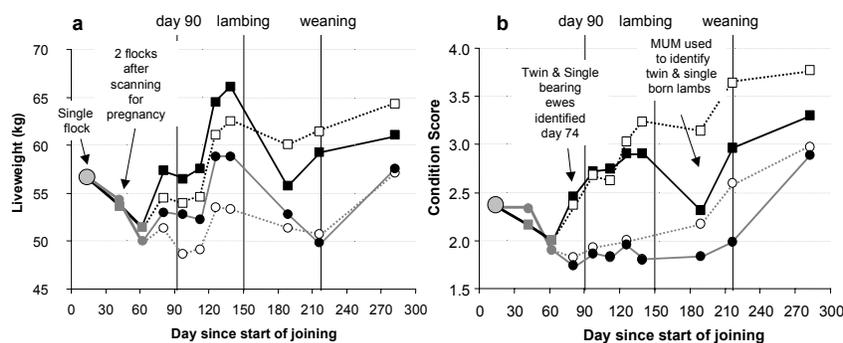
Figure 1. An example of the liveweight (a) uncorrected for wool or conceptus and condition score (b) profiles for the flocks in the on-farm phase of the 'Lifetime Wool' project - the single (open symbols) or twin (closed symbols) bearing ewes are shown for the flocks following the CS3-3000FOO (□) or CS2-1100/1500FOO (○) profiles from the plot-scale experiments.

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