

## Farm System review examples.

The two examples below are each a composite of real properties that AbacusBio have worked with but the details have been merged to both produce a more useful example as well as protect identity. It is important to note that each of these examples starts with a discussion of options and constraints – it is not just about income. Some options have implications for total or peak labour requirements and skills, or one of several other factors that can influence their desirability.

### Example 1

1) This farm is a well-run 600ha effective South Island Hill country property in a normally summer reliable area, it has a good history of fertiliser application, and livestock genetics are assessed as being at the better end of the range for the breeds involved (Romney ewes and Angus X Hereford cows).

The property currently runs 3600 ewes, 950 hoggets, and 120 cows plus replacements.

Generally all lambs are finished averaging 17.7kg and lambing % sits around 134%. Ewes are not weighed at mating but based on ewe carcass weights it is expected that mating weights would be around 68kg (fleece free). The top 80% of steer calves are sold, the remainder are taken through and finished at 2 ½ year old. All heifer calves are kept, with those not kept for replacements being finished to slaughter.

The forecast Gross Income (net of stock purchases and using the same pricing schedules across all comparison models) is \$660,000 which is \$116/su. Cost structures are reasonably well constrained with 20ha of winter crop and 600 bales of balage made.

The farm has an area of exposed country that often has high lamb losses but otherwise grows well and there is an 80ha area deer fenced by a previous owner which includes a functional deer yard. Currently the farm does not run deer but the management expertise could cope with a deer enterprise if it was attractive.

Options considered: The farmer and consultant discuss quite a number of alternative system options (with constraints) and then agree on investigating the following ones using Farmax.

- 1) Consider having fewer ewes and keeping most ewe lambs through to sell as two tooth @ \$150 with these being grazed on the exposed country through spring.
- 2) Consider options to increase the proportion of terminal sire lambs including buying replacements as two tooth from a large neighbouring property with good genetics so they can mate all ewes to terminal sires and produce heavier weight lambs.
- 3) Take on up to 150 dairy heifers on grazing contracts
- 4) Look at finishing all their own calves and what adjustments to stock numbers would be needed.
- 5) Consider reducing cow numbers to around 85 and increasing other stock numbers
- 6) Would it be worthwhile increasing the area of winter crop?
- 7) Would it be worthwhile finishing some hybrid weaner deer? – buy in autumn, finish late spring.

The Benefit:

The best combination of these options achieves an increase in annual margin of \$71,700. One option which produced a slightly lower margin was preferred as it had some potential labour saving advantages.

## Example 2

Example 2 is from a 450 ha eff property (580ha total) which regularly becomes dry over summer and the current farm practise is to sell around half their lambs as stores. The property currently breeds their own sheep and cattle replacements. The variable but unreliable summer means that weaning weight is very important and it also means that sometimes it is difficult to rear replacements to target weights. Ewe live weights are lower than example 1 resulting in lambing %'s averaging around 130%

The lambs that are retained to finish grow well on new pastures that are sown with a low rate of summer crop. The farmer is very reluctant to grow more specialist summer crops as he believes the benefit doesn't justify the cost. Steer calves are sold at the calf sales other than the tail end calves which are finished along with surplus heifers.

When discussing options to change the farm system there were two main themes – firstly to achieve a lift in profitability in an average season without adding in high cost cropping options, and secondly, to provide greater flexibility in the system to be able to really capture the opportunity of good growth summers as well as minimize the cost and impact of more severe seasons.

Currently the property is forecast to produce a Gross Farm Income of \$100.34 per SU (net of stock purchases) from 4970 su which compares pretty well with similar properties in the district.

Options considered:

- Reducing cow numbers a little, continue selling calves but begin to purchase R2 steers in the autumn to finish by the following Nov/Dec with capability to add more weight in a favourable season.
- Test the merits of having part of the ewe flock being a "flying flock" of good sized 1 year ewes purchased in the autumn, mated to terminal sires, early lambed and weaned with all ewes killed in Dec plus large % of lambs drafted pre-Xmas.
- Investigate the option of buying all replacements as 2 tooth to achieve more consistent 2 tooth weights and mate all ewes to terminal sires to help lift sales around weaning
- Investigate how a herd of around 100 dairy heifers would fit into the system
- Look at the impact of low cost options to improve the pasture quality on about 50ha of the best land.

The Benefit:

The best combination of options that met the farmers needs show an annual improvement in net margin of just under \$30,000pa. There are a number of other significant benefits that will take time to show in practise but can be tested on the Farmax model – this is the ability to handle tough years and to capture the opportunity of growthy years. The revised system can do significantly better in both scenarios – saving costs, improving consistency of performance and with the flexibility to maximize the profitable use of feed in a growthy year.

The farmer is now keen to use Farmax to further investigate the potential to develop some of their better land into lucerne for grazing and lamb finishing, and also compare the use of lucerne silage as a cattle wintering option with wintering cattle on fodder beet.