



Why renew? A sheep farm example

Renew pasture

Sow

Renewing paddocks with poor growth or high weed content can give high financial returns. In this example, we’ve used top end renewal costs (\$1420/ha), and this returns \$4830/ha additional income over 4 years, depending on the system. This has an internal rate of return of 70%,¹ few other investments can match.

This return can come in two benefits. First, increased annual and seasonal pasture production allows a higher ewe stocking rate, and produces more lambs, value \$3150/ha. Second, extra DM yield allows a crop of lambs to be finished, and the increased feed quality of the new pasture allows faster lamb growth rates, valued at \$1680/ha. The total value of these two operations is \$4830/ha.

Typical costs of renewal

In this example after a crop, herbicide is sprayed to kill weeds prior to cultivation. Full costs are presented, but these should be partly attributed to the cost of the crop.

Direct costs/ha	\$ (inc. GST)
Appropriate herbicide(s) applied	60
Primary cultivation (plough) ²	210
Light cultivation ²	145
Roller drill ²	145
<i>Rohan SPR 18 kg/ha, Apex 2 kg/ha, Ruru 2 kg/ha roll³</i>	310
Establishment fertiliser including spreading ²	380
Broadleaf herbicide ³	170
Total cost	\$1420

¹ Based on annual cash flow after investment (financial-calculators.com)

² Estimated retail prices, October 2024

³ Average price for North and South Island-based contractors, October 2024

Cost benefit example

This example considers a case where new pasture increases growth by 4 t DM/ha, which is often achievable, but depends on the situation. The extra yield increases carrying capacity by 2.8 ewes/ha in year one, while the new pasture is still establishing, and by 4.5 ewes/ha once the pasture is established.

Farm type	Unproductive pasture	Productive pasture
Summer dry	6-10 t DM/ha/yr	10-14 t DM/ha/yr
Summer safe	10-14 t DM/ha/yr	14-18 t DM/ha/yr

New pastures typically have a higher feed quality, as you replace weeds in the old pasture with desirable species. This allows lambs to be finished faster (e.g. 200 g/day) than old pasture (e.g. 120 g/day), setting up the opportunity to trade and finish an extra 15 lambs/ha. This would vary year to year depending on rainfall and availability of store lambs.



Productive, high quality pastures drive stock performance.

Gross margin from extra productivity

Return/ha from extra ewes run	\$	Return/ha from lamb finishing	\$
First year increase ¹ 2.8 ewe/ha x \$194/ewe	540	First year increase ³ 15 lambs/ha @ \$28/lamb	420
Second year increase ² 4.5 ewes/ha @ \$194/ewe	870	Second year increase ³ 15 lambs/ha @ \$28/lamb	420
Third year increase ² 4.5 ewes/ha @ \$194/ewe	870	Third year increase ³ 15 lambs/ha @ \$28/lamb	420
Fourth year increase ² 4.5 ewes/ha @ \$194/ewe	870	Fourth year increase ³ 15 lambs/ha @ \$28/lamb	420
Total benefit/ha extra ewes (over 4 years)	\$3150/ha	Total benefit lamb finishing (over 4 years)	\$1680/ha
		Total benefit ewes + lamb finishing	\$4830/ha

¹Loss of growth of 1500 kg DM/ha with renewal. This is subtracted from 4000 kg DM/ha benefit first year, to give a net gain of 2500 kg DM/ha. A ewe intake requirement of 660 kg DM/year allows an extra 2.8 ewes/ha, each returning a gross margin of \$218. (This is based on income: 1.2 lambs @ \$140/lamb, plus cull ewe income @ \$50, plus 5 kg wool @ \$1.60/kg. Less expenses: freight \$2, animal health \$6, shearing expenses \$5, ram purchase 20% of rams (1:50 service) @ \$800 (= \$4), interest 8% on capital (= \$15).

²4000 kg DM/ha/year increased pasture with 75% Utilisation. A ewe intake requirement of 660 kg DM/year allows an extra 4.5 ewes/ha.

³Assuming average lamb LWG on old pasture 120 g/day (i.e. 100 days to gain 12 kg), on new pasture 200 g/day (i.e. 60 days to gain 12 kg). Allowing for an extra 15 lambs/ha from 40 days extra grazing at a gross margin of \$28/lamb. (This is based on lambs growing at 200 g/day, for 40 days, gain 8 kg LW; at 46% yield gives an extra 3.7 kg CCWT @ \$9.20/kg CCWT (\$34) plus 1 kg wool @ 1.6/kg (\$1.60). Less expenses: freight (\$1.70), animal health (\$1.90) shearing (\$3), interest (\$1) gives a gross margin of \$28/lamb).