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Sheep programmes for Esperance settlers with limited finance

R.J. Doyle
G. D. Oliver

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FARMING in the Esperance region has now passed through the phase of experimentation into the phase of consolidation.

But not all new settlers are prosperous. On occasions, a lifetime ambition to own and operate a farm has ended in failure because the settler has been forced through economic circumstances to give up his block. Too often this follows the unequal struggle of trying to develop a block with too little capital.

There are strict limits to what can be achieved by hard labour, perseverance and ingenuity, although these characteristics are essential where finance is limited. This article discusses several alternative budgets for a settler developing a virgin block in the Esperance region with only $20,000 in cash after procuring the land.

It is assumed that the settler is prepared to work full or part-time on another job and to accept a modest standard of living for himself and his family. He should be able to earn a total of about $2,500 a year working full time, and with this provide accommodation, transport and living expenses for himself and family.
His aim, however, is to be a full-time farmer as soon as possible.

The budgeting procedure used assumes full use of contracting services in the early years for clearing, cropping and sheep management. In most cases it is better for a settler to use a contractor than to own and operate equipment of his own; it also gives him more opportunity to work off the farm.*

As sheep numbers increase, however, the time must arrive when evenings and weekends are inadequate for farm jobs which cannot be done by contract. The limit for full-time work off the farm has been set at 2,000 sheep (wether equivalents), with a proportional reduction to zero off-farm earnings at 3,000 sheep. Thus there would be no debit to the farm business for living expenses with 2,000 sheep but at 2,500 there would be a debit of $1,250 a year. At 3,000 sheep and above the debit will reach $2,500.

While opportunities exist for borrowings in excess of 150 per cent. of equity (through combined borrowings from banks, stock firms and hire purchase companies) it is assumed that the settler would limit his total borrowings to $30,000. The interest on borrowed money is an important development cost and has been allowed at an average of 7 per cent. over all classes of loans. The interest on new items of expenditure has been calculated on a monthly basis—for example the total cost allowed in a calendar year for a new 3,000 yard dam paid for on April 1, would be $790, made up of $750 for the dam itself and $40 for interest at 7 per cent. for nine months. This method has also been applied to farm receipts.

It would be wasteful for the settler to hold all his initial cash in a current account, although, as he would be spending it over two or three years, it would need to be fairly readily available. One obvious answer is to keep a small proportion in a cheque account and the rest in savings accounts. This should allow him to average 3½ per cent. a year on the cash balance during the early stage of development. This interest has also been calculated monthly.

The development budgets for which programmes are outlined compare different development and stocking rates.

*For contract rates used in budgets see Appendix I.

This article compares five alternative development budgets for new settlers with limited starting capital ($20,000 after procuring land) on the Esperance Downs.

The budgets show that the settler can place himself in a difficult financial position through a combination of overclearing, initial understocking, and over-borrowing in relation to expected income. (This also applies to settlers with more than $20,000.)

Such a policy results in insufficient annual income to meet living expenses and loan and interest payments.

The best budget shows that a property on the Esperance Downs can be developed successfully with limited finance, provided the amount and rate of clearing and stocking is tailored to starting capital, borrowing power, and to expected annual income.

Within this framework best results are achieved through the use of high seeding rates for pasture in the first year, and high superphosphate rates in the first and second year. This policy, though it requires higher initial expenditure per acre, results in higher stocking rates early in the programme, with resultant earlier and higher net return.

While the detailed budgets discussed apply to the Esperance Downs area the development policies involved can be related to light land development areas throughout Western Australia. All have similar problems and new settlers in all areas tend to fall into the same traps—trying to develop a new property with too little capital, overclearing, overborrowing and (where the main farm income is from sheep) not stocking heavily enough in the early years of development. These budgets are mainly for new settlers; however they also serve as a warning to settlers already partly established who may be about to embark on further ill-considered development.

Development programmes under the five budgets are given but detailed budgets are not printed in this article. They may be obtained by writing to the Officer-in-Charge, Rural Economics and Marketing, Department of Agriculture, Jarrah Road, South Perth.
# ALTERNATIVE DEVELOPMENT PROGRAMMES (SHEEP) ESPERANCE DOWNS

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget “A”</th>
<th>Budget “B”</th>
<th>Budget “C”</th>
<th>Budget “D”</th>
<th>Budget “E”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chain 500 ac. (paddock (a))</td>
<td>Chain 500 ac. (paddock (a))</td>
<td>Chain 500 ac. (paddock (a))</td>
<td>Chain 500 ac. (paddock (a))</td>
<td>Chain 500 ac. (paddock (a))</td>
</tr>
<tr>
<td>2</td>
<td>Firebreak and burn and plough (a)</td>
<td>Firebreak and burn and plough (a)</td>
<td>Firebreak and burn and plough (a)</td>
<td>Firebreak and burn and plough (a)</td>
<td>Firebreak and burn and plough (a)</td>
</tr>
<tr>
<td></td>
<td>Chain 500 ac. (paddock (b))</td>
<td>Chain 250 ac. (paddock (b))</td>
<td>Chain 500 ac. (paddock (b))</td>
<td>Chain 500 ac. (paddock (b))</td>
<td>Firebreak and burn and plough (a)</td>
</tr>
<tr>
<td>3</td>
<td>Replough, rake, seed and fence (a); also purchase first 250 wethers</td>
<td>Replough, rake, seed and fence (a); also purchase first 250 wethers</td>
<td>Replough, rake, seed and fence (a); purchase first 250 wethers</td>
<td>Replough, rake, seed and fence (a); purchase first 250 wethers</td>
<td>Replough, rake, seed and fence (a); purchase first 1,000 wethers</td>
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<tr>
<td></td>
<td>Firebreak and burn and plough (b)</td>
<td>Chain 500 ac. (paddock (b))</td>
<td>Firebreak and burn and plough (b)</td>
<td>Firebreak and burn and plough (b)</td>
<td>Firebreak and burn and plough (b)</td>
</tr>
<tr>
<td>4</td>
<td>Top-dress (a)</td>
<td>Top-dress (a)</td>
<td>Top-dress (a)</td>
<td>Top-dress (a)</td>
<td>Top-dress (a)</td>
</tr>
<tr>
<td></td>
<td>Replough, rake, seed and fence (b)</td>
<td>Replough, rake, seed and fence (b)</td>
<td>Replough, rake, seed and fence (b)</td>
<td>Replough, rake, seed and fence (b)</td>
<td>Replough, rake, seed and fence (b)</td>
</tr>
<tr>
<td></td>
<td>Purchase 500 wethers</td>
<td>Purchase 375 more wethers</td>
<td>Purchase 750 additional wethers</td>
<td>Purchase 500 more wethers</td>
<td>Purchase 500 more wethers</td>
</tr>
<tr>
<td></td>
<td>Firebreak and burn and plough (c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
</tr>
<tr>
<td></td>
<td>Replough, rake, seed and fence (c)</td>
<td>Purchase 625 more wethers</td>
<td>Purchase 750 additional wethers</td>
<td>Purchase 500 wethers for (a) and 500 ewes for (b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Purchase 1,000 wethers</td>
<td>Debit balance $28,952</td>
<td>Debit balance $17,046</td>
<td>Debit balance $28,952</td>
<td>Debit balance $33,107</td>
</tr>
<tr>
<td></td>
<td>Debit balance $35,274</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Top-dress (a), (b) and (c)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
</tr>
<tr>
<td></td>
<td>Net income $1,199</td>
<td>Purchase 250 wethers for (b)</td>
<td>Purchase additional 500 wethers for (b)</td>
<td>First lambs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Debit balance $34,535</td>
<td>Debit balance $13,433</td>
<td>Debit balance $29,517</td>
<td>Debit balance $27,283</td>
<td>Debit balance $27,283</td>
</tr>
<tr>
<td>8</td>
<td>Sold out</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Top-dress (a) and (b)</td>
<td>Net income $5,714</td>
</tr>
<tr>
<td></td>
<td>Net income $2,525</td>
<td>Net income $519</td>
<td>Net income $5,051</td>
<td>Debit balance $22,232</td>
<td>Debit balance $18,314</td>
</tr>
<tr>
<td></td>
<td>Debit balance $10,908</td>
<td>Debit balance $28,698</td>
<td>Debit balance $22,232</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Development programmes for the five Budgets discussed in this article
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Budgets A, B and C use Merino wethers; Budgets D and E include Merino ewe breeders. However, the basic development system for all budgets is the same: Chaining, followed by firebreaks, burning and one ploughing in the second year with reploughing, raking and seeding in the third year.

Lack of space prevents publishing full details of the budgets. Copies of these may be obtained by writing to the Officer-in-Charge, Rural Economics and Marketing, Department of Agriculture, Jarrah Road, South Perth.

**Budget A**

A general criticism of the development plans of settlers with restricted capital is that they limit their chance of success by spending too much money on clearing. This leaves too little money for the purchase of sheep to stock pastures. This fault is illustrated in Budget A which outlines a farmer's financial position when he clears 1,500 of his 2,000 acres in three years (500 per year), seeds with clover at the rate of 10 lb. per acre, applies one bag of No. 1 copper-zinc superphosphate per acre at seeding, and stocks at one-half a sheep per acre in the first spring-rising to two sheep per acre by the third spring.

The results of this procedure are:

**YEAR 1:** The cost of chaining 500 acres is met by the interest earned on his own cash so that he finishes up with more money ($20,294) than he started with ($20,000).

**YEAR 2:** The cost of chaining the second 500 acres, and further development on the first 500 acres, reduces his cash by $1,201 so that he ends the year with $18,993.

**YEAR 3:** Chaining a third lot of 500 acres, further development of the second 500 acres, and seeding and stocking (at one-half a sheep per acre) the first 500 acres, together with the provision of fences, water, buildings, etc., causes a heavy drain on and reduces the cash credit balance of $7,084.

**YEAR 4:** Further development, seeding and stocking changes this credit balance to a debit balance of $10,539.

**YEAR 5:** At the end of the fifth year, with only 1,500 acres of pasture and 1,750 wethers, he has also reached his borrowing limit of $30,000.

The settler is now in a fix from which he has little hope of extricating himself.

A big area of fallow east of Esperance. A general criticism of settlers with restricted capital is that they limit their chances of success by disproportionate spending on clearing.
without selling out. If he coasts in the sixth and subsequent years, that is, undertakes no new development and continues in a full-time job, he can only hope for $1,400 a year to reduce his indebtedness and meet farm taxation. This would be unsatisfactory to most lenders at a debt level of $27,000.

What is needed, of course, is more sheep to make better use of the development already undertaken. But this is not a practical proposition. The addition of 750 sheep (with current operating costs and interest less returns) would raise the debt level to $35,700 by the end of the sixth year. If the settler coasted in the seventh and subsequent years he would only have $1,200 to meet farm taxation and loan repayment. Thus he would be in a worse position coasting with 2,500 sheep than with 1,750 sheep. The reasons for this would be the loss of some off-farm income and a higher interest bill.

**Budget B**

Budget B illustrates the advantage of limiting clearing and using the money saved to purchase extra sheep. Clearing is limited to 750 acres (half the area in the first budget) of which 500 acres is chained in the first year and 250 acres in the second. The only other change in procedure is that the sheep carrying rate is advanced to three per acre in the fourth pasture year as finance is available.

This is an improvement on Budget A. By the end of the fourth year the settler has only a small debit balance of $3,000, compared with $10,000 on the first budget. His maximum debit balance occurs at $14,700 with the close of the sixth year.

While on the basis of annual income Budget B is better than Budget A, it is still not entirely satisfactory. When the plan is consolidated by the end of the eighth year, the settler would have about $2,500 to meet farm taxation and loan repayment providing he continues to live on $2,500, obtained partly from the farm ($625) and partly from off-farm work ($1,875). This may seem a poor result from 2,250 sheep but there are two main factors which limit progress. One is the price of wool (40 cents per lb. has been assumed) and the other is the cost of sheep replacements. During the eighth and succeeding years the replacement cost of 450 culled sheep (one-fifth of the total flock) is $2,100 (net). Replacement for deaths costs a further $1,000.

**Budget C**

Budget C caters for 1,000 acres of clearing (500 in each of two consecutive years) in an attempt to use up the maximum loan ($30,000) and to provide a greater annual income from additional sheep. Using the same development procedure as Budget B, sheep numbers can be raised to 3,000. With this number of sheep the...
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settler would have to give up off-farm work. At the close of the seventh year the debit balance is $29,517. However, the annual surplus income in subsequent years is insufficient to support this level of borrowing. In the eighth year the debit balance is reduced by only $800.

Budgets D and E

Budgets D and E continue the search for a way to get the settler on to the farm full-time in eight to ten years. In these budgets, ewe weaners are used for stocking as well as wethers. So that the financial results from these two systems are comparable it is necessary to have the same basic sheep programme. It is assumed that wethers are purchased gradually according to stocking rate and financial restrictions until the number reaches 1,500. Further purchases are restricted to ewe weaners until a ewe flock of 1,200 has been established. The rate of development of the ewe flock again depends on the stocking rate assumption and finance. Other assumptions required for these budgets are:

- The lambing rate is 70 per cent.
- Ewes lamb in August.
- The ram rate is 3 per cent. and they are purchased for $60.
- Ewes yield 10 lb. of wool compared with 12 lb. from wethers.
- The price of ewe weaners is $10.50 on the farm.
- One ewe is equivalent to one and a quarter wethers.
- Lambs realise $6 on the farm.

With “spring” lambing hand feeding should not be required, although extra fencing is provided to separate the ewe flock.

Budget D follows the same general plan as Budget C, in that 500 acres are cleared in each of two consecutive years (1,000 acres altogether) and the sheep stocking rate is raised to two wethers per acre of pasture by the third pasture year and three wethers, or their equivalent, by the fourth pasture year.

This budget brings about a marked improvement in the surplus income position in the eighth year; $5,000 is now available for loan repayment and taxation compared with $800 on Budget C. Furthermore, this plan can be carried through without exceeding the loan limit of $30,000.

Budget E follows the clearing and cultivation programme of D (500 acres of land cleared in each of two consecutive years) with a similar concentration of ewes after an initial purchase of 1,500 wethers. However, instead of stocking with half a sheep per acre in the first pasture year and increasing the rate to three sheep by the fourth pasture year, sheep are stocked at two per acre in the first year and three per acre in the second year. The quantity of seed sown is increased from 10 lb. to 20 lb. per acre and the super application is increased from 180 lb. to 360 lb. (180 No. 1 + 180 plain). Plain super is also applied at double rate (360 lb.) in the second pasture year.

In one respect Budget E is at a disadvantage when compared with Budget D. It exceeds the loan limit in the fifth year by $3,100, but as it is satisfactory in other respects this may not be sufficient to invalidate it with lending institutions. The advantages of this final programme are:

1. The settler can give up off-farm work one year earlier, in the fifth year.
2. The debt level at the end of the eighth year is only $18,300 compared with $22,200, the higher expenditures on seed and fertiliser being more than offset by earlier returns and a lower overall interest charge.

Further budget comparisons will follow in a future article comparing cover cropping with the best budget in this article (Budget E.) Such comparisons should assist the new settler—but not the settler who is already in a poor position created by policies similar to those in Budgets A, B. and C.

APPENDIX I—PRICES AND COSTS

For development costs, the prices used in the budgets are:

CONTRACT SERVICES

Chaining, $1 per acre.
Making fire breaks and burning, 50c per acre.
# APPENDIX II.—STOCK ACCOUNT FOR BUDGET “D”

<table>
<thead>
<tr>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ewes</strong></td>
<td><strong>Wethers</strong></td>
<td><strong>Lambs</strong></td>
</tr>
<tr>
<td><strong>Wethers</strong></td>
<td><strong>Ewes</strong></td>
<td><strong>Wethers</strong></td>
</tr>
<tr>
<td>Stock on hand at 1st January</td>
<td>1,500</td>
<td>970</td>
</tr>
<tr>
<td>Purchases</td>
<td>1,000</td>
<td>340</td>
</tr>
<tr>
<td>Natural increase</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
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<td>1,500</td>
</tr>
<tr>
<td>Sales</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Deaths</td>
<td>970</td>
<td>1,425</td>
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<tr>
<td>Stock on hand at 31st December</td>
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**Sheep Shorn**

<table>
<thead>
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<th>Wethers</th>
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<td>1,475</td>
<td>@ $4.8 = 7,080</td>
<td>1,402</td>
<td>@ $4.8 = 5,193</td>
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# APPENDIX III.—STOCK ACCOUNT FOR BUDGET “E”

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<tr>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
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<tbody>
<tr>
<td><strong>Lambs</strong></td>
<td><strong>Hoggets</strong></td>
<td><strong>Ewes</strong></td>
</tr>
<tr>
<td><strong>Wethers</strong></td>
<td><strong>Ewes</strong></td>
<td><strong>Wethers</strong></td>
</tr>
<tr>
<td>Stock on hand at 1st January</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural increase</td>
<td>175</td>
<td>175</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>175</td>
</tr>
<tr>
<td>Sales</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Deaths</td>
<td>500</td>
<td>1,500</td>
</tr>
<tr>
<td>Stock on hand at 31st December</td>
<td>172</td>
<td>172</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>175</td>
</tr>
</tbody>
</table>

**Sheep Shorn**

<table>
<thead>
<tr>
<th>Ewes</th>
<th>$</th>
<th>Rams</th>
<th>$</th>
<th>Wethers</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>491</td>
<td>@ $4.00 = 1,964</td>
<td>15</td>
<td>@ $6.00 = 90</td>
<td>1,475</td>
<td>@ $4.80 = 7,080</td>
</tr>
<tr>
<td>953</td>
<td>@ $4.00 = 3,812</td>
<td></td>
<td>28</td>
<td>@ $6.00 = 174</td>
<td></td>
</tr>
<tr>
<td>338</td>
<td>@ $1.60 = 541</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sheep Shorn</th>
<th>Sheep Shorn</th>
<th>Sheep Shorn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ewes</td>
<td>$</td>
<td>Rams</td>
</tr>
<tr>
<td>906</td>
<td>@ $4.00 = 3,624</td>
<td>28</td>
</tr>
<tr>
<td>460</td>
<td>@ $1.60 = 736</td>
<td></td>
</tr>
</tbody>
</table>
Initial ploughing, $2.25 per acre.
Reploughing, $2 per acre.
Raking, $2.50 per acre.
Seeding pasture, $1.75 per acre.
Topdressing superphosphate, 70c per acre.
Urea topdressing, 80c per acre.
Sheep shearing, 45c per sheep.
Crutching, 12c per sheep.
Fencing, $5 per chain.
Dam sinking, 25c per cubic yard (including catchment).

MATERIALS, STOCK, BUILDINGS, etc.
Clover seed, 15c per lb.
Superphosphate, prices for No. 1 and Plain as at 17th July, 1967, plus $4 freight. Bags or bulk as appropriate.
Wethers, $8.50 on the farm (including replacements).
Ewe weaners, $10.50 on the farm.
Other current sheep expenses, 21c per sheep. Total sheep expenses including shearing and crutching 78c per sheep.
Shearing shed and yards, $3,000.
Shearing shed equipment, $1,000.
Living quarters, $1,500.

The prices used in the budgets for products sold are:
Wool, 40c per lb.
Culls, $4 per sheep.

Other assumptions which have a bearing on the budget estimates are:
Wool per wether, ewe and lamb shorn averages 12, 10 and 4 lb. respectively.
One-fifth of the total flock is culled each year.
One 3,000 yard dam for 1,200 sheep.
DON'T SPRAY TWICE!

KILVAL controls woolly aphid — with only one spraying

This year, don't spray twice against woolly aphid. Wait until your trees have full foliage cover, then spray once only with KILVAL. Orchardists throughout Australia have reported outstanding results from KILVAL in the three years since it was introduced. KILVAL gives complete control of woolly aphid, and also controls mites where they are not resistant to organo-phosphate insecticides. KILVAL leaves no deposit on your fruit, and it does not affect natural predators. Spray KILVAL once only to ensure complete protection against woolly aphid.

WHY ACCEPT...
• Damage to roots and laterals?
• Destruction of buds?
• Loss of export markets and downgrading of the crop due to contamination and smutting?

The most effective and economical means of controlling this menace is by the annual application of KILVAL — the one-spray systemic insecticide.

'KILVAL'
the one-spray treatment
for woolly aphid

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(Incorporated in N.S.W.), Melbourne and Sydney

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