If the ewe survives:

• Ewe feed requirement from lambing to sale time
• Wool income at shearing
• Extra sale income from surplus young ewes (or CFA ewes)
• Lambs born get the chance to survive
  • Extra feeding post weaning
  • Extra income associated with the progeny
Scenarios tested

- 2 regions (Great Southern, Cereal Sheep zone)
- 2 times of lambing
- Dry, Single & Twin bearing ewes
- Merino mated to either merino or terminal
- Price sensitivity
  - Lamb $6.50/kg, CFA Ewes $4.20/kg DW, Wethers $1.20/kg LW
  - Wool $21/kg clean for fleece
# Show me the money

<table>
<thead>
<tr>
<th></th>
<th>Mer-Mer</th>
<th>Mer-TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unscanned</td>
<td>236</td>
<td>298</td>
</tr>
<tr>
<td>Dry</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>Twin</td>
<td>280</td>
<td>320</td>
</tr>
<tr>
<td>Export hogget</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>Airfreight lamb</td>
<td>284</td>
<td></td>
</tr>
</tbody>
</table>

- **Central Wheatbelt** +12.50
- **Great Southern** -12.50
- **Autumn lambing** +11
- **Spring lambing** -11
- **Meat ±25%** ±20%
- **Wool ±25%** ±5%
### Back of the envelope calculation

<table>
<thead>
<tr>
<th></th>
<th>Twins</th>
<th>Singles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ewe Sale value</td>
<td></td>
<td>100</td>
<td>26kg @ $4.20/kg – costs</td>
</tr>
<tr>
<td>Wool value</td>
<td>54</td>
<td>56</td>
<td>5kg greasy @ $11.50/kg net</td>
</tr>
<tr>
<td>Lamb Value(^1)</td>
<td>154</td>
<td>93</td>
<td>Shear, crutch, scan, drench, vaccinate</td>
</tr>
<tr>
<td>Husbandry</td>
<td></td>
<td>-11</td>
<td></td>
</tr>
<tr>
<td>Income - Cash Costs</td>
<td>297</td>
<td>238</td>
<td></td>
</tr>
<tr>
<td>Ewe Value</td>
<td>257</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>Cost of feed</td>
<td>40</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Source Young *et al* 2014. Twin Lamb $76/lamb, Single lamb $93/lamb includes cost of feeding the lamb during lactation and post weaning, and the husbandry cost of raising the lamb.
Putting it in context of 2020

How much can you afford to spend in 2020 to reduce mortality

• The value of the ewe
  • Meat price is +25%, Wool price -25% so value of ewe +15%
  • Twin $322/hd, Single $246/hd

• Plus the increased production from the feed
  • Feeding grain increases value of wool produced
    • With a low premium for fine wool there is an increase in wool income
    • With 1.5%/μ premium 30% of the cost of supplement is paid by the extra wool grown

• Lupins $500/t consumed
Ewe mortality at lambing

Condition score pre-lambing

- 0.4%
- 0.9%
- 1.8%
- 3.5%

Ewe mortality (%)
Lamb survival & ewe CS

- Singles
  - 9% at 1.50
  - 7% at 2.00
  - 5% at 2.50
- Twins
  - 11% at 1.50
  - 10% at 2.00
  - 8% at 2.50

Ewe condition score at lambing
Rules of thumb

• It takes 3 kg of grain to stop a kg of LW loss
• It takes 8 – 9 kg of grain to put on a kg of LW (in a paddock)
• 1 MJ of feed grows 1.3g of greasy wool
• The extra wool pays for 20% to 30% of your supplement
Show me the money

• Feeding to maintain weight (compared with losing 0.5 CS)

<table>
<thead>
<tr>
<th></th>
<th>Singles</th>
<th></th>
<th>Twins</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CS at joining</td>
<td>CS 3</td>
<td>CS 2.5</td>
<td>CS 3</td>
<td>CS 2.5</td>
</tr>
<tr>
<td>Cost of grain</td>
<td>$8</td>
<td>$8</td>
<td>$8</td>
<td>$8</td>
</tr>
<tr>
<td>Extra Income</td>
<td>$14</td>
<td>$18</td>
<td>$25</td>
<td>$30</td>
</tr>
<tr>
<td>Profit</td>
<td>$6</td>
<td>$10</td>
<td>$17</td>
<td>$22</td>
</tr>
<tr>
<td>ROI</td>
<td>75%</td>
<td>125%</td>
<td>212%</td>
<td>275%</td>
</tr>
</tbody>
</table>

• Feed for maintenance with confidence that it pays
Show me the money

- Feeding to gain 0.5 CS (compared with maintenance)

<table>
<thead>
<tr>
<th></th>
<th>Singles</th>
<th></th>
<th>Twins</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CS at joining</td>
<td>CS 2.5</td>
<td>CS 2</td>
<td>CS 2.5</td>
<td>CS 2</td>
</tr>
<tr>
<td>Cost of grain</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
</tr>
<tr>
<td>Extra Income</td>
<td>$18</td>
<td>$23</td>
<td>$29</td>
<td>$35</td>
</tr>
<tr>
<td>Profit</td>
<td>-$5</td>
<td>$0</td>
<td>$6</td>
<td>$12</td>
</tr>
<tr>
<td>ROI</td>
<td></td>
<td>26%</td>
<td>52%</td>
<td></td>
</tr>
</tbody>
</table>

- Financially it is OK for twins to be gaining condition over pregnancy
- Singles can be fed up to CS 2.5
Purchase price of ewes

Also needs to consider:

• **Costs & deaths incurred from purchase to lambing** (interest, feeding, mating, husbandry)

• **Multi-year considerations** (Productive life of the ewe, Price changes over time)

• **Alternative landuse** (cropping or pasture renovation)

• **Alternative use of feed** (cattle, more wethers, reduce SR)

• **Alternative management** (Young ewes or older ewes)
Buying ewes: Costs & Cashflow

Need to allow for:

• Ewe is unmated & work on longer term prices
  $236/hd
• Supplement required
  ~30kg $15/ewe
• Mating costs
  Rams @ $1000/hd at 1.5% = $15/ewe
• Husbandry from purchase to lambing
• Deaths at lambing
  5% = $12
• Interest that will be paid on the purchase price
  Approx $15/ewe (7%)
• Potential ewe purchase price $180 (if prices as per analysis, no opportunity value of the feed and retain the ewe for one year)
Multi-year considerations

• Productive life of the ewe
• Price change over the life time.

$$BE \text{ price} = \sum_{i}^{n} \left( \frac{1 - DR}{1 + r} \right)^i \left( Ewe \text{ Value} - cash \text{ costs} - assumed \text{ sale value} \right) + \left( \frac{1 - DR}{1 + r} \right)^n \text{ Actual Sale Value}$$
Alternative landuse or feeduse

• An opportunity value for the area grazed from the brought in sheep reduces the breakeven price of the ewes

$BE\ price = BE\ price\ no\ opp\ cost - \sum_{i}^{n} \left(\frac{1}{1+r}\right)^i \frac{GM\ of\ alternative \times DSE/\text{hd}}{SR \times \%\ of\ DSE\ that\ are\ ewes}$

Buy ewes as hoggets and sell at 5.5yo
Ewes are higher profit than wethers
Conclusions

• The ewe is the power-house of the flock
• Twin bearing merino-merino ewes are worth $280
• Twin bearing merino-terminal ewes are worth $320
• Feed twin bearing ewes to gain condition if less than CS3
• Feed single bearing ewes for maintenance
• The BE purchase price for ewes is dependant on
  • The opportunity cost of the area grazed
  • The expected sale price