Successful reproduction is key
Breeding herd profitability hinges on getting as many R2+ hinds as possible producing a healthy well-grown fawn at weaning. A dry hind is a cost to the farm. It returns $0 for the breeding season.

To maximise breeding herd success, it is important to set and meet feeding, animal health and management targets throughout the year.

For adult hinds, an ambitious weaning target is 100% – one fawn weaned per hind mated, conceived during a 18-21 day oestrus cycle. A more realistic target for most farms is 93%. A herd efficiency target for good performers is 0.51 kg of fawn weight on 1 March per kg of hind wintered.

It starts with hind body condition
Hind condition during late summer has the most influence on conception date and fertility. Target hind body condition scores (BCS) of 3+. In January, identify hinds with a BCS less than 3 and start preferentially feeding them. To ensure good conception rates in a mid-lactation drought (January to March), good feed management and strategic supplementation are critical.

If condition scores are allowed to drop from 4 to 2.5 in this period most conceptions will be delayed by up to 10 days and 5-10% of hinds will be dry. A drop from BCS 4 to 3 will cause a slight delay in conception and a few failures in old hinds.

Yearling hinds must be a minimum of 70% of their expected mature liveweight to conceive but higher weights are needed to achieve a good conception rate across a mob. Target growth rate curves for the most common genotypes can be found at www.deernz.org/deer-growth-curves. The P2P programme has produced a guide to help farmers monitor hind weights and calculate pregnancy rates based on mob average liveweights at time of stag joining.

A high fawning rate is the first step in the journey to breeding herd profitability

Herd efficiency
kg fawn weaned/kg hind wintered
Target: 0.51

Weaning percentage
Fawns weaned/hinds mated
Target: >93%

Fawn weaning weight
kg fawn weaned 1st March
Target: 57 kg (from MA red), minimum 41 kg from R2 hind
Target: 70 kg (from MA wapiti crossbred), minimum 53 kg from R2 hind

Factors that affect performance
Hind condition score
Hind mating weight
Stag to hind ratio
Stag fertility
Conception date
Hind health (trace elements and disease prevention including vaccination)
Fawn health (misadventure, parasite management, disease prevention, trace element status)
Hind and fawn nutrition over lactation.

Herd management targets
Hinds before mating
Wean hinds at least two weeks before mating and put them into mating groups at least 10 days before mating. This helps reduce stress.

Stags
Target a stag:hind ratio of 1:8 for yearling stags joined with yearling hinds. For older stags and hinds the ratio can be increased to between 1:30 and 1:50.

Target a joining date no later than 10 March to avoid late born fawns (i.e. 18 days or one cycle late). Join first fawners/R2 hinds earlier (before 1 February) to allow socialisation. Remove stags by 1 May at the latest to prevent extended fawning beyond Christmas day.

Target weights for replacement hinds as weaners and at first mating

<table>
<thead>
<tr>
<th></th>
<th>MA hinds = 130 kg</th>
<th>MA hinds = 110 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target fawn weight</td>
<td>53 kg</td>
<td>41 kg</td>
</tr>
<tr>
<td>at 1 March</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum individual</td>
<td>91 kg</td>
<td>77 kg</td>
</tr>
<tr>
<td>R2 weight at joining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2 hind weight (mob</td>
<td>114 kg</td>
<td>85 kg</td>
</tr>
<tr>
<td>average for top</td>
<td></td>
<td></td>
</tr>
<tr>
<td>performance (90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>average conception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rate)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Hinds during pregnancy**

Feed to keep hind BCS at 3 (range 2.5 - 4.5). Calculate winter feed requirements, test feed quality and ensure you feed enough. Pregnancy scan to identify dry hinds (and feed less or sell). Foetal aging is useful to identify late conceiving hinds.

**Targets during fawning**

Set-stock hinds into sheltered paddocks 2 to 3 weeks before fawning. Check fences are secure as misadventure is a significant cause of fawn loss. Target a stocking rate of 5 to 7 hinds/ha to allow hinds the best opportunity to find some seclusion from others while fawning (100 m of space). Aim for pasture covers of 10 cm if there is limited natural cover for fawns.

Hind disturbances during fawning – including competition for birth sites, especially when stocking rates are too high or conception patterns are tight following artificial breeding programmes – are another major cause of fawn deaths.

Animal health issues to consider include clostridial disease vaccination for hinds and fawns, yersiniosis protection in young fawns and leptospirosis vaccinations across the whole herd. Also important to breeding success are: parasite management in young fawns pre- and post-weaning; targeted parasite management where necessary in yearling hinds; and facial eczema management.

**Aim for tight weight range**

It is better to have a tight mob distribution around the target weight than a big spread of weights, or heavier and light sub-groups.

### Hind body condition score and feed intake targets during pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Hind BCS (out of 5)</th>
<th>Voluntary intake (kg DM/head/day)</th>
<th>Quality of feed (Metabolisable energy)</th>
<th>Total megajoules of ME/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early to mid pregnancy (April – July)</td>
<td>3.5+</td>
<td>1.8 – 2.2</td>
<td>9+ and 12% crude protein</td>
<td>24.7</td>
</tr>
<tr>
<td>Mid to late pregnancy (August – October)</td>
<td>3.5+ but no more than 4.5 or dystocia risk</td>
<td>2.6 – 2.8</td>
<td>10.5</td>
<td>25.9 building to 27</td>
</tr>
</tbody>
</table>

See Deer Fact: Best practice management of pregnant hinds, for more information

### NZ deer industry reproductive performance data (low, medium and high) for rising-two (R2) and mixed age (MA) hinds

<table>
<thead>
<tr>
<th></th>
<th>Early pregnancy rate (% of all MA hinds joined with stag and proven pregnant by rectal ultrasound scan in first trimester)</th>
<th>Fawn loss during pregnancy &amp; birth % (foetal wastage rate)</th>
<th>Fawn mortality rate (Birth to weaning) *</th>
<th>Total fawns weaned (% of all hinds joined vs fawns weaned pre-rut)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA Low</td>
<td>&lt;90%</td>
<td>16%</td>
<td>4%</td>
<td>&lt;70%</td>
</tr>
<tr>
<td>R2 Low</td>
<td>&lt;60%</td>
<td>25%</td>
<td>4%</td>
<td>&lt;40%</td>
</tr>
<tr>
<td>MA Medium</td>
<td>95%</td>
<td>8%</td>
<td>1-3%</td>
<td>84-86%</td>
</tr>
<tr>
<td>R2 Medium</td>
<td>85%</td>
<td>15%</td>
<td>1-3%</td>
<td>67-69%</td>
</tr>
<tr>
<td>MA High</td>
<td>97%</td>
<td>2%</td>
<td>0-2%</td>
<td>93-95%</td>
</tr>
<tr>
<td>R2 High</td>
<td>95%</td>
<td>5%</td>
<td>0.2%</td>
<td>88-91%</td>
</tr>
</tbody>
</table>

*No evidence of difference in 1st fawners

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**More >>**

Deer performance reproduction template: www.deernz.org/benchmarks

Target growth rate curves: www.deernz.org/deer-growth-curves

Deer Fact: Best practice management of pregnant hinds

Deer Fact: Best practice mating management

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This Deer Fact was produced by Deer Industry New Zealand (DINZ) as part of the Passion2Profit (P2P) strategy. P2P is a Primary Growth Partnership joint venture between DINZ and the Ministry for Primary Industries.

Each Deer Fact sheet has been checked for technical accuracy, but DINZ cannot take responsibility for decisions based on their content. If in doubt, seek professional advice.