

## Section 7: Further information

### 7.1 The Darling Downs–Moreton Rabbit Board Fence

Of the fences that were constructed when rabbits first reached Queensland, the Darling Downs Rabbit Board and Moreton Rabbit Board fences were the only ones that were successful in excluding rabbits.

These fences were combined in 1964 and now form the Darling Downs–Moreton Rabbit Board (DDMRB) fence. The fence is 555 km long, stretching from Lamington National Park (in the Gold Coast hinterland) in the east, to Goombi (approximately 20 km west of Chinchilla) in the south-west.

The fence protects some of Queensland’s most productive agricultural areas (a total of 28 000 km<sup>2</sup> in southern Queensland) from rabbit incursions and has successfully prevented rabbit populations being established within its boundaries for more than 100 years. If any rabbits are found inside the fenced area, a coordinated effort is made to ensure they are eradicated.

Each week, the entire length of the fence is checked, maintained and repaired where required. In the 2004–05 financial year, this maintenance cost more than \$900 000. While this is a significant yearly cost, the value to land managers is far greater—it has been estimated that these protective measures save land managers (in the 19 shires and cities protected by the fence) approximately \$30 million per year. These savings are achieved through better stocking rates, better wool production per head of sheep, a more productive small crops industry, reduced land degradation, and fewer accidents (due to the absence of rabbit burrows).

Rabbits have sometimes found their way through breaches in the fence, have arrived in stock feed or have been deliberately introduced—to date these rabbits have been prevented from properly establishing extensive warren systems in the DDMRB area. The risk is always present, however, and all land managers (whether private, local/state government or the DDMRB) within the area need to act responsibly and remain vigilant so that the fence’s effectiveness is maintained.



Map 2: Darling Downs–Moreton rabbit district.

## 7.2 Troublesome neighbours

Rabbits are a declared pest throughout Queensland and it is the responsibility of all land managers (whether living on the property or not) to remove rabbits from their property.

If neighbours have rabbits on their property and fail to control them, this can also affect your property. In these situations, it is best to discuss the matter with the pest management officer for your local government area.

## 7.3 Legislation

Rabbits have such a negative impact economically, environmentally and socially in Queensland, that they are a declared pest animal under state legislation. This legislation gives state and local government officers, and Darling Downs–Moreton Rabbit Board officers powers to ensure rabbits are controlled by landowners.

### 7.3.1 Land Protection (Pest and Stock Route Management) Act 2002

The European rabbit (domestic and wild breeds) is a declared Class 2 pest under the *Land Protection (Pest and Stock Route Management) Act 2002*.

Under the Act all land owners are required to maintain ongoing and effective control of rabbits on their property. It is an offence to introduce, keep or release rabbits, or to supply or use rabbits for commercial purposes. Fines of up to \$30 000 may apply for breaches of the Act.

All land managers (including owners who manage their own property, people employed to manage a property, and state/local governments that own land) must take reasonable steps to keep their land free of Class 2 pests, unless a declared-pest permit is held.

### 7.3.2 Aboriginal Cultural Heritage Act 2003, Torres Strait Islander Cultural Heritage Act 2003

Under the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal or Torres Strait Islander cultural heritage (the ‘cultural heritage duty of care’). This obligation applies regardless of land tenure. Fines of up to \$750 000 for a corporation and \$75 000 for an individual may apply if the duty of care under the Act is breached.

Under the Acts, Aboriginal or Torres Strait Islander cultural heritage is defined as:

- a significant Aboriginal or Torres Strait Islander area in Queensland
- a significant Aboriginal or Torres Strait Islander object
- evidence, of archaeological or historical significance, of Aboriginal or Torres Strait Islander occupation of an area of Queensland.

It may be difficult to determine if cultural heritage values are attached to an area. The heritage value of an area may be secret or sacred, incorporated into the landscape, or concealed under the soil surface. Disruption of the soil, as will occur if ripping or warren destruction work is done, runs the risk of damaging our valuable cultural heritage.

To meet your obligation under the Acts, it is vital you act in accordance with the gazetted cultural heritage duty of care guidelines. An assessment of your proposed activity against the duty of care guidelines will help determine whether, or to what extent, Aboriginal or Torres Strait Islander cultural heritage may be harmed by that activity. It will also help establish if you need to undertake a search of the cultural heritage database and register, which is maintained by the Cultural Heritage Coordination Unit (Department of Natural Resources and Water).

Detailed information on cultural heritage, together with a copy of the duty of care guidelines and cultural heritage search forms are available at [www.nrw.qld.gov.au/cultural\\_heritage](http://www.nrw.qld.gov.au/cultural_heritage) or by contacting the Cultural Heritage Coordination Unit (phone: 07 3238 3838 or email [cultural.heritage@nrw.qld.gov.au](mailto:cultural.heritage@nrw.qld.gov.au)).

If your assessment of the duty of care guidelines suggests that cultural heritage may be harmed by your proposed activity, you should contact the Cultural Heritage Coordination Unit for further advice. The unit can assist the land user and endorsed traditional owner to jointly develop a cultural heritage management plan that determines how land use activities can be managed to avoid or minimise harm to cultural heritage values.

## 7.4 Contacts

Further information regarding rabbits and their control can be obtained from your local government pest management officer, the Darling Downs–Moreton Rabbit Board or your local DPI&F land protection officer.

Organisation	Contact details (phone and website)
Department of Primary Industries and Fisheries (DPI&F)	13 25 23 <a href="http://www.dpi.qld.gov.au">www.dpi.qld.gov.au</a>
Darling Downs–Moreton Rabbit Board	(07) 4661 4076 <a href="http://www.ddmrb.org.au">www.ddmrb.org.au</a>



## Appendix: Calculating the cost of rabbits

The following worked examples provide a guide to calculating the cost of rabbits for your particular enterprise (as outlined in section 3.7). Worksheets are also provided for your own calculations.

Once you have established the annual cost per rabbit for your property, multiply this figure by the number of rabbits your monitoring data indicates are on your property (section 3.5). This will give you a good estimate of the total economic cost of rabbits to your farming enterprise.

**Note:** In all the worksheets the symbol ‘/’ means ‘per’.

Table 13: Example for calculating the damage caused by rabbits on a wool (wethers) enterprise.

Wool class	Yield (kg/head)	\$/kg greasy wool price
21 micron	6.1	4.93
<b>Income/head (\$)</b> (yield kg/head × \$/kg greasy wool price)	na	30.08
<b>Variable costs/year</b>	na	<b>\$/head</b>
vaccine, drenches, marking, husbandry	na	3.00
shearing, crutching	na	6.08
selling, freight and marketing costs (including commissions and levies)	na	1.80
supplements	na	2.00
pasture expenses	na	2.15
<b>Total variable costs/head (\$)</b>	na	15.03
<b>Gross margin/head (\$)</b> (income/head – total variable costs)	na	15.03
<b>Annual cost/rabbit (\$)</b> [gross margin ÷ wether rabbit equivalent (See Table 4.)]	na	1.67

Table 14: Example for calculating the damage caused by rabbits on a beef cattle enterprise (store cattle sold at 24 months of age).

<b>Stock class sales</b>	<b>Weight (kg)</b>	<b>\$/kg</b>
store cattle	460	1.90
<b>Total income (price)/head (\$)</b>	na	874
<b>Variable costs/year*</b>	<b>Calculation</b>	<b>\$/head</b>
cattle purchase (weighing 250 kg per head @ \$2.05/kg)	250 × 2.05	512.50
vaccine, drenches, husbandry	na	9.50
mustering, branding	na	10.00
selling costs (including commission @ 3.5%)	na	52.00
freight	na	10.00
supplements, forage	na	14.00
pasture maintenance		30.00
<b>Total variable costs/head (\$)</b>	na	638.00
<b>Total number years to grow stock out</b>		<b>1</b>
<b>Total costs/head (\$)</b> (total variable costs × number years)	na	638.00
<b>Total income/head (\$)</b> (price – total costs)	na	236.00
<b>Annual cost/rabbit (\$)</b> [total income ÷ steer rabbit equivalent (See Table 4.)]		2.41

\*Does not take into account interest payments, drought feed costs and costs of other variables.



Table 15: Example for calculating the damage caused by rabbits on a lettuce crop enterprise.\*

yield (cartons/ha)	2800
price (\$/carton)	8.00
<b>Total income (\$/ha)</b>	<b>22 400.00</b>
<b>Variable costs/year</b>	<b>\$/ha</b>
establishment and planting	2 120.00
fertiliser	400.00
weed control	50.00
insecticide and disease control	615.00
irrigation	180.00
harvest and packing	9 150.00
freight and selling costs	1 280.00
<b>Total variable costs (\$)</b>	<b>13 795.00</b>
<b>Gross margin/ha (\$)</b> (total income – total variable costs)	<b>8 605.00</b>
<b>Gross margin/carton (\$)</b> (gross margin/yield)	<b>3.07</b>
<b>Weight of carton</b>	<b>20 kg</b>
<b>Number of days crop in ground</b>	<b>70 days</b>
<b>Amount of crop one rabbit could eat in one year</b> (number of days crop in ground × 0.2 kg)	<b>14 kg</b>
<b>Equivalent cost/rabbit/hectare (\$)</b> (amount of crop a rabbit could eat in a year ÷ weight of carton × gross margin/carton)	<b>2.15</b>

\*These are minimum figures based on rabbits eating already established crops. They do not take into consideration the costs of damage caused by rabbits making the product unsaleable, or the costs of rabbits digging up seedlings (so that crops need to be re-sown).

## Worksheets—to calculate the cost of rabbit damage on your property

Table 16: Worksheet for calculating the damage caused by rabbits on a wool (wethers) enterprise.

Wool class	Yield (kg/head)	\$/kg greasy wool price
(??) micron	(??)	
<b>Income/head (\$)</b> (yield kg/head × \$/kg greasy wool price)	na	
<b>Variable costs/year</b>	na	<b>\$/head</b>
vaccine, drenches, marking, husbandry	na	
shearing, crutching	na	
selling, freight and marketing costs (including commissions and levies)	na	
supplements	na	
pasture expenses	na	
<b>Total variable costs/head (\$)</b>	na	
<b>Gross margin/head (\$)</b> (total income – total variable costs)	na	
<b>Annual cost/rabbit (\$)</b> [gross margin ÷ wether rabbit equivalent (See Table 4.)]	na	



Table 17: Worksheet for calculating the damage caused by rabbits on a beef cattle enterprise (store cattle sold at 24 months of age).

<b>Stock class sales</b>	<b>Weight (kg)</b>	<b>\$/kg</b>
store cattle	460	1.90
<b>Total income (price)/head (\$)</b>	na	874
<b>Variable costs/year*</b>	<b>Calculation</b>	<b>\$/head</b>
cattle purchase (weighing ? kg per head @ \$?/kg)		
vaccine, drenches, husbandry	na	
mustering, branding	na	
selling costs (including commission @ 3.5%)	na	
freight	na	
supplements, forage	na	
pasture maintenance	na	
<b>Total variable costs/head (\$)</b>	na	
<b>Total number years to grow stock out</b>		
<b>Total costs/head (\$)</b> (total variable costs × number years)	na	
<b>Total income/head (\$)</b> (price - total costs)	na	
<b>Annual cost/rabbit/head (\$)</b> [total income ÷ steer rabbit equivalent (See Table 4.)]		

\*Does not take into account interest payments, drought feed costs and costs of other variables.

Table 18: Worksheet for calculating the damage caused by rabbits on a crop enterprise.\*

<b>Crop: (???????)</b>	
yield (cartons/ha)	
price (\$/carton)	
<b>Total income (\$/ha)</b>	
<b>Variable costs/year</b>	<b>\$/ha</b>
establishment and planting	
fertiliser	
weed control	
insecticide and disease control	
irrigation	
harvest and packing	
freight and selling costs	
<b>Total variable costs (\$)</b>	
<b>Gross margin/ha (\$)</b> (total income – total variable costs)	
<b>Gross margin/carton (\$)</b> (gross margin/yield)	
Weight of carton	? kg
Number of days crop in ground	? days
<b>Amount of crop one rabbit could eat in one year</b> (number of days crop in ground × 0.2 kg)	? kg
<b>Equivalent cost/rabbit/hectare (\$)</b> (amount of crop a rabbit could eat in a year ÷ weight of carton × gross margin/carton)	

\*This worksheet will enable the calculation of costs for rabbits eating already established crops. It does not take into consideration the costs of damage caused by rabbits making the product unsaleable, or the costs of rabbits digging up seedlings (so that crops need to be re-sown).



## Glossary

**buck:** a male rabbit

**doe:** a female rabbit

**green pick:** short green grass that rabbits seek out as a preferred feed; high in protein, which helps stimulate the female breeding cycle

**harbour:** an area of shelter that rabbits use during the day to hide from predators and also use sometimes to breed

**kitten:** an immature rabbit

**RCV:** rabbit calicivirus disease (now known as rabbit haemorrhagic disease virus—see ‘RHDV’)

**RHDV:** rabbit haemorrhagic disease virus—a virus released in Australia by CSIRO in 1995

**scrape (or squat):** a shallow scratched-out depression in the ground, usually under vegetation, rocks, logs, or man-made equipment; rabbits may use several in an area, running from one to another to find cover from predators

**source area:** a place where rabbits breed and survive during tough times before dispersing to repopulate surrounding areas

**squat:** (see ‘scrape’)

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