



# The Green Book Best Management Practice Guide

## 5. Noise



Photo - Wine Grapes Marketing Board

Best Management Practice (BMP) strives to minimise and prevent the impacts of noise from operations on horticultural farms on the community and endangered fauna; as well as prevent hearing loss due to on-farm activities.

This section of *The Green Book* provides the key objectives of BMP for noise management and presents a list of management actions to help achieve those objectives. At the end of this section is a checklist of BMPs recommended for responsible management of horticulture farms in the Murrumbidgee Irrigation Area (MIA).

The actions for BMP presented in this document are a summary of the key issues for environmentally sustainable horticulture in the MIA. Full details and references can be found in *The Green Book* companion chapter – NOISE.

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## BMP objectives

### Objective 1 – Minimise the impacts of noise from farming operations on the community

Impacts on the community from noise pollution include a range of health and physical symptoms. Headache, changes in blood pressure, insomnia, increased susceptibility to colds and other minor illness, and impaired mental health are examples. Where complaints arise, local council can enforce noise control orders that restrict, prohibit or limit the timing of noisy activities.

Responsible management to minimise noise from farming operations can be demonstrated through the following actions:

- Follow local council guidelines for the operation of frost control fans in the MIA, eg:
  - thermostats are set to a temperature appropriate for the crop being protected
  - noise emissions from driving engine are limited through use of attenuating housing and a muffler system.
- Only use auditory bird scarers in response to an identified economic risk to the crop and discontinue use when monitoring indicates they are no longer effective (see PESTS & WEEDS section).
- Locate auditory bird scarers away from houses and operate only at times of peak bird activity (usually dawn and dusk).
- Identify sensitive areas adjoining property boundaries (eg neighbours, schools, public amenities).
- Minimise impacts on sensitive areas by:
  - timing machinery use to minimise disruption (eg during work hours for residential neighbours)
  - establishing buffer zones
  - agreement with neighbours regarding timing of use for bird scarers and frost fans
  - advance notice to neighbours of anticipated peak noisy periods (eg frost risk, harvest).

### **In focus - Living with noise**

According to the World Health Organisation (WHO) the key impacts on health and wellbeing of noise are annoyance and frustration, sleep disturbance, interference with communication, reduced performance, effects on social behaviour and hearing loss.

Research shows that people exposed to ongoing noise levels have an increased number of headaches, greater susceptibility to minor accidents, increased reliance on sedatives and sleeping pills, as well as increased mental hospital admission rates.

Exposure to noise has also been associated with changes in blood pressure and other cardiovascular symptoms, colds, increased visits to the GP, problems with the digestive system and general fatigue (NSW EPA, SOE 1997).

In short, people exposed to excessive noise get annoyed, sleep less and are more likely to be unwell - including having problems with blood pressure and digestion.

Consultation with neighbours about noise levels and times can reduce some of these health effects and the potential for conflict. Noise barriers and hearing protection will alleviate immediate health concerns (hearing loss and sleep/activity interruption) of neighbours and workers.

**Objective 2 – Protect endangered species from displacement due to noise**

Most native animals including birds are protected species. Some are in danger of extinction. In the MIA several bird species are listed as threatened including the superb parrot, painted honeyeater, diamond firetail and hooded robin. Impacts from farming activities (eg bird scarers) can disrupt nesting and breeding of endangered species.

Responsible management to protect endangered species from displacement due to noise from farming operations can be demonstrated through the actions listed below:

- Identify native threatened species nesting or breeding on or around the farm.
- Monitor the impacts of farm activities (especially use of bird scarers) on identified species.
- Where impacts are observed, seek advice from the NSW National Parks & Wildlife Service on actions to minimise disruption to protected species, eg:
  - restricting farm activities near the breeding area
  - timing noisy activities to minimise impact on nesting
  - establishing buffer zones around likely breeding sites.

Where a proposed new agricultural development is likely to impact a threatened species, conduct



### Objective 3 – Prevent hearing loss related to horticultural activities

Over one third of rural workers **under 24 years** old suffer hearing loss due to excessive noise. Hearing problems in older farmers increase with the length of time spent working on the farm (WorkCover NSW 2003). Farm owners and managers are responsible for the health and safety of their employees. This includes the protection of their hearing.

Responsible management to prevent hearing loss from farming operations can be demonstrated through the actions listed below:

- Identify risks to hearing from farm noise and talk with employees about how to manage these. Note that:
  - if you have to shout to be heard the noise is too high – damage to hearing is likely
  - both very loud noise and ongoing exposure to moderate noise will damage hearing.
- Wear appropriate hearing protection when operating farm machinery – ear muffs, ear plugs or both depending on the noise level.
- Vary farm activities to minimise the length of exposure to noise greater than 80 dB(A) (eg tractor is 86 dB(A)).
- Replace old equipment and machinery with quieter models.
- Change or modify farm equipment to reduce noise emissions.
- Do not operate noisy equipment in a confined space without hearing protection.

#### In focus - Shouting to be heard

Prolonged exposure to noise levels above 80 decibels (dB(A)) can cause deafness. Farming activities that produce noise above 80 dB(A) include:

- gun shot 140 dB(A)
- post knocking 99 dB(A)
- chainsaw 96 dB(A)
- tractor 86 dB(A)

Damage to hearing is caused by short periods of very loud noise (eg listening to noise of 109 dB(A) for longer than 2 minutes); **and** prolonged exposure to moderate noise (above 80–85 dB(A)). The frequency (how often) and duration (how long for) of exposure to noise as well as the loudness determine the level of hearing loss.

Hearing loss due to moderate noise exposure over a long period of time can be gradual and painless. If you have to shout to be heard over the noise it is likely that your hearing is being damaged.

High frequency sounds are usually the first to be affected. Some people with hearing damage have a constant ringing in their ears (tinnitus). For most cases of noise-induced hearing loss there is no cure. Hearing aids amplify sounds but do not replace normal hearing.

#### Warning signs

The noise was too loud and probably harmful if:

- you had to raise your voice to be heard
- your ears ring after exposure to noise
- sound seems muffled after exposure to noise.



Source: Better Health, Victoria (2002)

## Key legislation and codes of practice

- *Occupational Health and Safety Act 2000* (NSW)
- *Protection of the Environment Operations Act 1997* (NSW)
- Protection of the Environment Operations (Noise Control) Regulation 2008
- Occupational Health and Safety Regulation 2001: Chapter 4, Part 4.3, Division 4: Noise Management
- Noise Guide for Local Government (2004). Department of Environment and Conservation (NSW). [www.environment.nsw.gov.au/noise/nglg.htm](http://www.environment.nsw.gov.au/noise/nglg.htm)
- Noise Management and Protection of Hearing at Work. Code of practice 2004. WorkCover NSW Publication Number - 150. [www.workcover.nsw.gov.au/Publications/LawAndPolicy/CodesofPractice/](http://www.workcover.nsw.gov.au/Publications/LawAndPolicy/CodesofPractice/)

Acts, and amendments and regulations relating to acts, of the NSW Government can be found at [www.legislation.nsw.gov.au/](http://www.legislation.nsw.gov.au/) and then easily found using the 'Browse' or 'Search' facilities at the site.

## More information

### Key contacts

|   |              |
|---|--------------|
| NSW Department of Environment & Climate Change (Griffith) ..... | 02 6969 0700 |
| NSW Department of Environment & Climate Change (general) .....  | 131 555      |
| NSW Workcover (Griffith) .....                                  | 02 6962 8900 |
| Griffith City Council.....                                      | 02 6962 8100 |
| Leeton Shire Council .....                                      | 02 6953 2611 |
| Griffith Community Health Centre .....                          | 02 6966 9900 |
| NSW National Parks and Wildlife Service.....                    | 02 6966 8100 |

### Industry

|  |              |
|--|--------------|
| Murrumbidgee Horticulture Council.....     | 02 6964 2420 |
| Wine Grapes Marketing Board.....           | 02 6962 3944 |
| Australian Prune Industry Association..... | 03 5023 5174 |
| Riverina Citrus .....                      | 02 6964 4333 |

### Web sites

|   |  |
|---|--|
| Better Health Channel .....                           | <a href="http://www.betterhealth.vic.gov.au">www.betterhealth.vic.gov.au</a>   |
| Farmsafe Australia Incorporated.....                  | <a href="http://www.farmsafe.org.au">www.farmsafe.org.au</a>                   |
| NSW Department of Environment and Climate Change..... | <a href="http://www.environment.nsw.gov.au">www.environment.nsw.gov.au</a>     |
| Nature Conservation Council of NSW .....              | <a href="http://www.nccnsw.org.au">www.nccnsw.org.au</a>                       |
| Natural Heritage Trust.....                           | <a href="http://www.nht.gov.au">www.nht.gov.au</a>                             |
| NSW National Parks and Wildlife Service.....          | <a href="http://www.nationalparks.nsw.gov.au">www.nationalparks.nsw.gov.au</a> |
| NSW Workcover .....                                   | <a href="http://www.workcover.nsw.gov.au">www.workcover.nsw.gov.au</a>         |

## Best Management Practice checklist for noise management in the MIA

Use this checklist to assess how you are managing noise on your farm.  
Depending on your answers, this list can form the basis of a plan  
for improving your farm management practices.

|    | <b>Best Management Practice</b>  | <b>Yes</b>               | <b>Partly<br/>achieved</b> | <b>To<br/>do</b>         | <b>N/A</b>               |
|----|--|--------------------------|----------------------------|--------------------------|--------------------------|
| 1  | Frost control devices are installed and operated in accordance with local council regulations.   | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2  | Auditory bird scarers are used only in response to an identified need (based on an economic crop risk threshold) and their effectiveness is monitored – see PESTS & WEEDS section.       | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 3  | Auditory bird scarers are used with consideration to neighbours (eg located 200 m or more from houses, operated only at peak bird activity and at blast intervals of 3 minutes or more). | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4  | Where possible the use of farm machinery is timed to minimise noise impact on neighbours.  | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 5  | Neighbours are notified in advance of expected periods of noisy farm activity - particularly operation of machinery at night (eg frost control, harvest, spray application).             | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 6  | Buffer zones are established to protect neighbours from ongoing or excessive noise.  | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 7  | Impacts of noise on non-targeted species (eg endangered birds) are monitored and managed with advice from NPWS.  | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 8  | Hearing protection is worn when operating farm machinery.  | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 9  | Risks to farm workers from noise are identified and managed in consultation with them.   | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Farm activities are varied to minimise the length of exposure to noise greater than 80 dB(A).  | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |