

Workplace Health and Safety Queensland

*Information guide – Rural industry***3. Hearing protection**

Part 12- Noise of the Workplace Health and Safety Regulation 2008 requires all employers or self-employed people in the rural industry to protect themselves and their workers from the risk of exposure to excessive noise. To do this, you must assess whether or not noisy activities on your farm present a potential risk to yourself or your workers.

How do I manage risk?

Managing risk involves the following:

- Step 1: Identify the noise hazards on your farm.
- Step 2: Assess the risks that may result because of such hazards.
- Step 3: Decide on control measures to prevent or minimise the risk.
- Step 4: Implement control measures.
- Step 5: Monitor and review the effectiveness of the measures.

What is excessive noise?

Noise creates sound pressure that is measured in decibels (dB). The 'A' weighting scale closely represents how the human ear perceives different frequencies of sound. The 'C' weighting scale represents the sensitivity of the ear at very high noise levels.

Under the regulation, noise is excessive where it exceeds the exposure standard of 85 dB(A), over an average of an eight hour period or where a peak noise level of 140 dB (C) occurs.

Maximum noise limits are reached by either a period of extended noise, such as operating machinery, or by a sudden extreme noise, such as firing a firearm or bashing on metal with a sledgehammer.

Every time the noise level increases by 3 dB, the exposure time must be halved. For example, 85 dB(A) over eight hours has the same exposure effect as 88 dB(A) over four hours.

Likely upper noise levels from different farming machinery and operations and the respective allowable exposure times without hearing protection are shown in the table.

What are the warning signs of hearing loss?

The warning signs of hearing loss include:

- raising your voice when talking to somebody about one metre away
- your hearing sounds dull after stopping work
- ringing in the ears lasting up to several hours after stopping work
- regularly asking people to repeat what they say
- difficulty hearing in group discussions or on the telephone, or
- frequently turning up the volume on the radio or television.

Levels dB(A)	Farming machinery or operation	Maximum time
80	Tractor idling	No limit
85	Working in a tractor with an enclosed cab	8 hours
90	Shearing shed	2 hrs 30 min
90	Chainsaw idling	2 hrs 30 min
95	Angle grinder	48 min
95	Grain auger	48 min
95	Header	48 min
100	Tractor operating under load without a cab	15 min
100	Orchard sprayer	15 min
105	Pig shed at feeding time	4 ½ min
120	Chainsaw cutting	8 seconds
140	Aircraft at 15m	No safe exposure
140dB (C)	Shotguns/rifles and other firearms far exceed the 140dB limit	No safe limit: <i>Instantaneous damage</i>

How do I reduce noise exposure?

- Buy quieter machinery and equipment.
- Limit the amount of time spent in a noisy environment.
- Alternate noisy jobs with quieter ones.
- Keep machinery well maintained to reduce rattles and vibrations.
- Keep mufflers in good condition in accordance with the manufacturer's specification or install high efficiency mufflers.
- Apply vibration-reducing mats under stationary machinery and stiffening plates to vibrating surfaces.
- Fit sound absorbent materials to walls and ceilings of noisy workshops.
- Rearrange workshops so noisy tools are located towards the front or opening of the shed to disperse the noise outside.
- Wear suitable hearing protection where permanent or administrative controls are not effective options.

When should I use hearing protection?

Using hearing protection is one way of reducing noise exposure if other means do not adequately reduce noise levels.

Hearing protection only works if worn correctly and used for the full period of exposure.

Hearing protection should be used when:

- firearms are used - the hearing protection should have a suitable class or SLC₈₀ rating (as described below), or
- noisy equipment - ensure earplugs or muffs are kept near noisy equipment, to remind those operating the machinery to wear the hearing protection. For example, place them in a tractor cab, near a chainsaw or rifle and display signs near equipment. If accessing hearing protection near machinery that is in operation, take into consideration the noise levels.

How do I choose hearing protection?

- Ensure hearing protection is comfortable, effective and suitable for the job.
- Always try earmuffs before buying to ensure they are comfortable and that the seal around the ear is adequate.
- Hearing protection must meet *AS/NZS 1270 (2002, Acoustics-hearing protectors)* and be suitable for the work being done. The effect of a hearing protector should be similar to cupping your hands tightly over your ears.
- General purpose earmuffs for the farm will have a Class 3 or 4 rating, or an SLC₈₀ rating between 18 and 25 dB. The 'SLC₈₀' figure stands for Sound Level Conversion valid for 80 per cent of wearers, and indicates the noise level reduction in decibels expected when the protectors are worn correctly.
- For some farm equipment and firing firearms, hearing protectors with a Class 5 rating or SLC₈₀ of 30 or greater are required to provide protection.
- Suppliers and manufacturers should be able to provide information on the most suitable hearing protection for the equipment used and tasks undertaken.

How do I maintain hearing protection?

- Earmuffs and reusable earplugs should be cleaned with lukewarm soapy water, dried and stored in an airtight container when not in use, for personal hygiene reasons.
- Damaged or defective protectors will not give full protection.
- Read instructions carefully on how to insert earplugs and wear all hearing protection in accordance with the manufacturer's advice. Disposable earplugs should not be reused.

How serious is hearing loss?

Hearing loss is permanent—there is no cure.

Noise-induced hearing loss usually develops slowly over several years so you do not realise there is a problem until it is too late.

When using firearms, if proper protection is not used, hearing loss can happen after a few shots.

Repeated exposure to excessive noise will eventually lead to permanent hearing loss

and may also create health problems such as increased blood pressure and heart rate, heart disease and stress.

More information

Further information is available from www.worksafe.qld.gov.au or by calling the WHS Infoline on 1300 369 915.