THE LAW ON NOISE

Each state has Occupational Health & Safety Regulations requiring employers to maintain a safe workplace for workers & visitors. Action must be taken to reduce noise and protect workers/others if there is continuous exposure to average noise levels of 85dB(A) or more in an 8 hr period, or its equivalent time for each 3dB increase over 85dB (eg, 88dB-4 hrs; 91dB-2 hrs; 94dB-1 hr etc.) Peak noise levels must not exceed 140dB(C).

HEARING SCREENING

It is best practice & in your interest to have hearing screened to detect early signs of noise injury. This can alert you to prevent further damage as well as help to manage any existing hearing loss. Some states require employers to provide regular &/or baseline hearing screening to employees by OHS law (VIC,TAS,WA). Contact your local Community Health Centre or State Work Health Authority for more details.

THE RISK & RISK MANAGEMENT

All farmers, farm workers and farm families exposed to excessive farm noise are at risk of hearing loss through noise injury. To reduce the risk of damage to hearing, think S.A.F.E about noise hazards.

S **See it**
Identify noisy farm activities.

A **Assess it**
Identify who is at risk, how often, how loud & for how long.

F **Fix it**
Reduce noise levels or exposure to noise. Use a variety of controls.

E **Evaluate it**
Continue to monitor on-farm noise.

• For all references contact ACAHS

NOISE CONTROL MEASURES

1. **Eliminate the hazard**
   - Can the job be done without the hazard? (eg. automatic feeders for pig sheds).
2. **Substitution for a lesser hazard**
   - Use a quieter alternative – if possible, use a cabined tractor instead of one without a cabin.
   - Buy a quieter alternative when the time comes to replace machinery (check the dB labels).
3. **Engineering/design options**
   - Install mufflers on equipment.
   - Cabins on tractors & other equipment.
   - Rearrange the workshop layout.
   - Noise barriers and insulated walls.
   - Plastic / metal chutes, electric / diesel motors.
4. **Safer work practices and procedures**
   - Regularly maintain equipment – engines, seals, brackets and mufflers.
   - Avoid noise - stand further away to supervise.
   - Limit time exposed in one day – rotate tasks.
   - Provide hearing protection & information on noise to workers. Safety sign noisy areas.
5. **Personal protective equipment-(PPE or PHP)**
   - Ear plugs or ear muffs – either are effective.
   - Comfortable – try first & learn to fit correctly.
   - Compatible with other PPE – hats, goggles.
   - Australian Standards approved (AS/NZ 1270)
   - Adequate protection – an SLC(80) rating of around 20dB or more for most jobs, higher for shooting. Check the product packaging guide.

Table 2: Hearing Protector Classification *AS / NZ 1269.3*

Class	*Av. noise level of hazard*	*SLC^{80} rating for PHP*
1	Less than 90dB	10-13
2	90 to 95dB	14-17
3	95 to 100dB	18-21
4	100 to 105dB	22-25
5	105 to 110dB	26 +

FURTHER INFORMATION

• Local Farmsafe Group • Local Community Health Centre
• State OHS or Work Health Authority
• Australian Centre for Agricultural Health & Safety (ACAHS)
(02) 67 52 8210

AUSTRALIAN CENTRE FOR AGRICULTURAL HEALTH AND SAFETY

FARM NOISE AND HEARING LOSS

Hearing loss through noise injury is a major problem in the farming community, affecting up to two-thirds of farmers to some degree. Effects include difficulty hearing the telephone or TV; hearing conversation at work, in class, at meetings or wherever there is background noise. Tinnitus, (ringing /noises in the ears or head), can also be a sign of exposure to excessive noise. Hearing loss through noise injury is painless, permanent, progressive & preventable.

FARM NOISE HAZARDS

All machinery or activities where you need to raise the voice to communicate 1 metre away, is a noise hazard. Common farm noise hazards include *tractors, chainsaws & firearms.* The louder the noise, the less time can be spent exposed to it before damage starts to occur. Noise levels above 85dB over an 8 hr working day *[$L_{Aeq,8h}$dB(A)=85dB,]*, can damage hearing. Each 3dB increase above this means the exposure time must be halved to stay within safe levels (ie. 88dB-4 hrs; 91dB-2 hrs; 94 dB-1 hr; 100dB -15 mins etc.) Firearms have noise levels of over 140dB & should never be used without hearing protection. Exposure to several noisy activities in the day is also cumulative toward the recommended daily noise limit. For other noise hazards and recommended exposure limits see Table.1.

Table: Average noise levels and recommended exposure limits for common farm machinery / activities (on 48 Australian farms)

Typical operating conditions / position of worker	Noise Level at the ear *Average (& Range)* L_{Aeq} dB(A)		Recommended limit of exposure without the use of hearing protection. *NB: Noise exposure risk for each activity in the day is cumulative toward the overall noise exposure risk.* **	
Air compressors	86dB	(77dB – 95dB)	7 hrs	(15 mins - 8 hrs+)
All terrain vehicles	86dB	(84dB – 87dB)	7 hrs	(4 - 8 hrs)
Angle grinders	98dB	(96dB – 100dB)	20 mins	(15 - 30 mins)
Others in workshop	90dB	(87dB – 93dB)	2 hrs	(1 - 5 hrs)
Augers	93dB	(89dB – 96dB)	1 hr	(30 mins - 3 hrs)
Bench grinders	99dB	(94dB – 104dB)	18 mins	(5 mins - 1 hr)
Others in workshop	89dB	(82dB -96dB)	3 hrs	(40 mins - 8 hrs)
Bulldozers	99dB	(97dB – 100dB)	18 mins	(15 - 30 mins)
Chainsaws	106dB	(104dB – 107dB)	**3 mins**	**(2 - 5 mins)**
Others stacking wood	96dB	(93dB – 99dB)	**40 mins**	**(15 - 50 mins)**
Circular saws	99dB	(98dB – 101dB)	18 mins	(10 - 20 mins)
Others in workshop	89dB	(84dB – 94dB)	3 hrs	(1- 8 hrs)
Cotton module presses	86dB	(85dB – 88dB)	6 hrs	(4 - 8 hrs)
Others in field (rakers)	84dB	(82dB – 86dB)	8 hrs	(6 - 8 hrs)
Cotton pickers	81dB	(78dB – 8dB)	8 hrs	(8 - 8 hrs+)
Avg. increase with radio on *	1 - 3 dB		4 hrs - 8 hrs+	
Others in field (machines idle) *	83dB	(77dB – 89dB)	8 hrs	(4 - 8 hrs+)
Others in field (picker turning) *	94dB		1 hr	
Dairies - herringbone (24 bay) pit	73dB	(71dB – 75dB)	No Limit	
Farm trucks	85dB	(83dB – 88dB)	8 hrs	(4 - 8 hrs)
Firearms	Lpk 140 + dB		**No Safe Exposure**	
Forklifts *	84dB	(81dB – 88dB)	8 hrs	(4 - 8 hrs)
Harvesters	83dB	(75dB – 91dB)	8 hrs	(2 - 8 hrs+)
Avg. increase with radio on *	2 - 5 dB		40 mins - 8 hrs+	
Others in field *	90dB		2 hrs	
Irrigation pumps	100dB	(96dB – 104dB)	15 mins	(5 -30 mins)
Motorbikes - 2 wheel *	81dB	(70dB – 92dB)	8 hrs	(1.5 - 8 hrs+)
Packing shed workers	80dB	(78dB – 82dB)	8 hrs+	(8 - 8 hrs+)
Pig handling - suckers *	109dB		1 - 2 mins	
Pig sheds - manual feeding *	87dB	(74dB – 99dB)	5 hrs	(15 mins - 8 hrs+)
Shearers	86dB	(84dB – 87dB)	7 hrs	(4 - 8 hrs)
Others in shed	80dB	(77dB – 83dB)	8 hrs+	(8 - 8 hrs+)
Sugarcane harvester *	86dB		7 hrs	
Increase with radio on *	2dB		4 hrs	
Tractors with cabins (all ages)	76dB	(75dB – 78dB)	No Limit	
Tractors with cabins 10 yrs +	81dB	(77dB – 84dB)	8 hrs	(8 - 8 hrs+)
Avg. increase with radio on	3 - 5 dB		**4 hrs - 8 hrs+**	
Others in field	85dB	(80dB – 90dB)	8 hrs	(2 - 8 hrs+)
Tractors without cabins	92dB	(90dB – 93dB)	**1.5 hrs**	**(1 - 2 hrs)**
Others in field	82dB	(78dB – 86dB)	8 hrs	(6 - 8 hrs+)

* Sample sizes less than 5

** For example: If exposed to a noisy activity for half the recommended daily limit (e.g. Angle grinder for 10 minutes of a 20 minute daily limit), any remaining noise exposure in the day should not exceed half the recommended daily limit for another activity (e.g. A limit of 4 hours instead of 8 hours on a tractor with a radio).

NB: Range given is the 95% Confidence Interval of the sample for each type of machinery or activity.