

# Careful – they can't hear you

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## BACKGROUND:

Agriculture has long been seen as an industry where workers have high noise exposures with subsequent risks to farmers hearing and general health. **Hearing difficulty has been identified as a significant and often unrecognised problem in farming populations<sup>1</sup>.** A total of 44.5% of previous Sustainable Farm Families™ (SFF) participants<sup>2</sup> self reported a hearing difficulty. Health professionals globally have also noted that hearing loss was associated with higher rates of farm injury and this awareness was a gap in current farmer education<sup>3</sup>.

## METHODOLOGY:

Health professionals were trained to conduct field noise assessments by National Acoustics Laboratories on farms (Figure 1), using an integrated sound level meter and dosimeters as per the requirements of AS/NZS 1269.1:2005. The subject cohort is a convenience sample drawn from the SFF program who had previously identified a hearing difficulty. Participants were involved in mixed production systems from Victoria and Queensland, Australia. Production systems included dairy, beef, wool and cropping enterprises.

## PRELIMINARY RESULTS:

Participants were provided with a detailed farm noise report (Table 1) explaining their exposure risk according to the national exposure standard derived from common farm activities, including the A-weighted, equivalent continuous sound pressure level ( $L_{Aeq}$ ) and exposure ( $E_{A,T}$ ) in Pascal squared hours ( $Pa^2h$ ). Routine activities such as shearing, unloading wood and auger use, were not perceived by participants as noisy.

Specific noise management strategies were provided to the participants who were actively interested and engaged in the process. Preliminary evaluations suggest that farmers were more motivated to protect their hearing after undergoing a farm noise audit (Table 2).

## 3 KEY LEARNINGS:

1. Farm noise audits were appreciated by farmers
2. Farmers were unaware of the extent of their incidental noise exposure
3. Farmers **will** take measures to protect both themselves and others from further noise exposures



Figure 1: NCFH staff conducting farm noise audits

Table 1: Example of farm noise report.

Equipment/Activity	dB ( $L_{Aeq}$ )	Time (h)	Exposure $Pa^2h^*$	Trec (h:m)
Iseki SX65 Tractor	90.3	0.05	0.02	2.21
Massey Ferguson 35x Tractor	95	0.05	0.06	0.48
Husqvarna 570 chainsaw	105.8	0.05	0.76	0.04
Feed Cattle	82.9	4	0.31	12.58
Cutting/unloading wood	96.3	3.85	6.57	0.35
<b>Actual</b>		<b>8.00</b>	<b>7.73</b>	

\*The maximum recommended daily exposure is  $1Pa^2h$

Table 2: Preliminary evaluation (n=36) of farm noise audits conducted by NCFH health professionals.

Measure	Agree	Undecided	Disagree
The farm noise report updated my awareness of influencing my hearing health	100%	0%	0%
I found the language and concepts in the farm noise report easy to grasp	100%	0%	0%
The on farm noise audit and report have motivated me to protect my hearing	100%	0%	0%
The on farm noise audit updated my knowledge about tasks that affect hearing	97%	3%	0%
The farm noise report provided information about noise induced hearing loss	97%	3%	0%
I would recommend a farm noise audit to other farmers	97%	3%	0%

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## References:

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