Fact Sheet No. 1
Revised November 2015

NOISE-INDUCED HEARING LOSS among farmers

NEED TO KNOW INFORMATION FOR AGRICULTURAL PRODUCERS

INTRODUCTION

Noise Induced Hearing Loss (NIHL) is a common health problem frequently found among people who work in noisy environments or with noisy machinery. Unfortunately, NIHL is irreversible, permanent and can adversely affect one's quality of life. The good news is that NIHL is preventable and if a person has some degree of NIHL further loss can be prevented with appropriate protection.

This fact sheet describes how excessive noise leads to hearing loss and how to protect yourself and your family from Noise Induced Hearing Loss.

WHY BE CONCERNED ABOUT NOISE?

- Farmers are commonly exposed to noise during routine farming activities.
- Exposure to loud noise could lead to permanent hearing loss.
- Exposure to noise increases a person's level of stress, anxiety and fatigue, as well as risk of cardiovascular disease.
- Noise induced hearing loss occurs gradually. It may take years before it is noticed as an irreversible damage.
- Hearing loss decreases social connections and can increase risk of depression.

WHAT ARE THE SOURCES OF NOISE ON THE FARM?

The sources of noise on the farm are as varied as the farms across this province.

One major source of noise is farm machinery, both moveable and fixed.

Hazardous levels of noise are produced by many kinds of farming activities and agricultural equipment, including:

- Grain dryers
- Tractors
- Combines
- Livestock, including swine, cattle, and poultry
- Chainsaws
- Firearms
- Power tools

HOW LOUD IS THE TRACTOR?

120 dB - full load
100 dB - 80% load
90 dB - 50% load
80 dB - Idling

HOW DO I TELL IF IT'S TOO LOUD?

- Any noise that leaves you with ringing in the ears or results in a temporary reduction in your hearing is too loud.
- Loudness of sound is measured in decibels, and unprotected exposure to noise above 85 decibels can cause permanent hearing loss.
- To measure the exact amount of noise being produced by these various sources, an instrument called a Sound Level Meter must be used on site.

If you have to raise your voice to be heard above background noise at three feet from your partner, the noise levels is probably loud enough to damage your hearing.

UNIVERSITY OF SASKATCHEWAN
Canadian Centre for Health and Safety in Agriculture
CCHSA-CCSSMA.USASK.CA

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

CASA•ACSA
Canadian Agricultural Safety Association
Association canadienne de sécurité agricole

HOW DO I KNOW IF I HAVE HEARING LOSS?

- Tinnitus or ringing in the ears during or after noise exposure. This may eventually become constant.
- Difficulty hearing in crowds because of inability to distinguish the difference between sounds. A person may hear but not understand the conversation. A person may hear only parts of what is being said. For example, certain consonant sounds have a high frequency. Since the higher frequencies are affected first, these sounds may not be heard during conversation.
- 'Getting used to the noise'. Actually, hearing loss has already occurred and the noise cannot be heard.

HOW CAN I CONSERVE HEARING ON THE FARM?

- If you feel you are experiencing some of the above symptoms, you should have a hearing test. Your doctor or nurse will determine whether or not that you have hearing loss related to your work.
- Hearing assessment could be done by your health care provider, who will obtain from you, a detailed work and health history, do a complete ear examination, audiological testing and if necessary, do additional specialized testing.
- Hearing tests identify hearing loss that has already occurred, but cannot reverse hearing loss.

HOW CAN I PREVENT HEARING LOSS ON THE FARM?

The following are effective methods for controlling noise and protecting hearing:

- **Use Equipment with Reduced Sound Levels.** When buying or renting equipment to use on the farm, ask about sound levels and pick the quietest option.
- **Give equipment maintenance a priority.** Good maintenance help to reduce the level of noise generated by machineries. You may also replace worn, loose or unstable equipment parts. Keep all equipment well lubricated and in good conditions. For example, fixing mufflers on engines, lubricating bearings, and replacing worn parts will reduce noise levels and improve farming operations.
- **Limit your duration of exposure to noise.** Keep cab doors and windows closed when working with motorized equipment. You are exposed to more noise with open tractors, loaders, and ATV expo operators compared with enclosed cabs. Stay away from noisy environment if you don't need to be around the equipment.
- **Wear personal protective equipment.** The use of hearing protection when working in noisy settings will reduce the risk of hearing loss. The earmuff style offers the best protection and is easy to use. Expandable ear plugs are the next best option but these require proper insertion to be effective. There are different styles of hearing protectors to choose from, and only trust your ears to products designed as hearing protectors. All hearing protection equipment has a "Noise Reduction Rating", or "NRR", usually between 15 and 30 decibels. Chose the hearing protection with the highest NRR value.
- **Demarcate noisy zone areas.** Anywhere on the farm that the noise level is potentially higher than 85dB should be demarcate for use of personal protective devices. Have a set of earmuffs or earplugs in or near such areas on the farm.

Ears come in all shapes and sizes.
Hearing protection that works best is- comfortable, convenient, close at hand and suits the work environment. Having a proper fit is more important than the NRR value as without a proper fit protection is not there.

REFERENCES

Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health 2007. They're your ears. Protect them. Hearing Loss Caused by Farm Noise is Preventable. Retrieved from http://www.cdc.gov/niosh/docs/2007-175/pdfs/2007-175.pdf

The Agricultural Health and Safety Network. Noise-Induced Hearing Loss Fact Sheet. Retrieved from http://aghealth.usask.ca/resources/documents/fact-sheet-1.php

Great Plains Center for Agricultural Health. Hearing Loss Among Farmers and Agricultural Workers. Retrieved from http://www.public-health.uiowa.edu/gpcah/resources/hearing-loss.html

ACKNOWLEDGEMENTS:

Dr. Rotimi Orisatoki,
Public Health and Preventive Medicine,
Medical Resident, University of Saskatchewan

(November 2015)

LAYOUT DESIGN BY:

Sueli B. de Freitas,
CCHSA/Network,University of Saskatchewan