



Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older

## #57 HEARING PROTECTION



According to information from the National Institute on Deafness and Other Communication Disorders, about ten percent of Americans between the ages of 20 and 69 (22 million people) may have suffered permanent damage to their hearing from excessive noise exposure. Exposure to sounds that are too loud (like an explosion) or loud for long periods of time (like machinery or engine noises) can cause noise-induced hearing loss. Sound is measured in units called decibels (dBA). The hum of a refrigerator is about 40 dBA, normal conversation is at about 60 dBA, and traffic noise on a busy street can be about 85 dBA.

### Noise Hazards

- Noise can damage hearing when it is continuously at about 85 dBA or greater.
- Noisy areas can elevate anxiety, hypertension, and fatigue in people.
- Noise-induced hearing loss is permanent and occurs progressively over time.
- The following table lists recommended exposure times without hearing protection for noise hazards and levels that may be encountered:

| <u>Noise Hazard</u>          | <u>Level of Noise</u> | <u>Recommended Exposure Time</u>      |
|------------------------------|-----------------------|---------------------------------------|
| Firecracker, gunshot         | 110 - 150 dBA         | None                                  |
| Rock concert, chainsaw       | 110 dBA               | 15 minutes or less                    |
| Home stereo at maximum level | 105 dBA               | 30 minutes                            |
| Table saw, grinder, tractor  | 100 dBA               | 2 hours                               |
| Shop vacuum, motorcycle      | 98 dBA                | 3 hours                               |
| Lawn mower                   | 90 dBA                | 8 hours                               |
| Idling tractor               | 85 dBA                | Damage can occur if exposure >8 hours |

### Preventing Hearing Damage

- Always use hearing protection (i.e., acoustic ear muffs or ear plugs) when in an environment where noise levels are continuously at about 85 dBA or higher.
- Warning signs for overexposure to noise include ringing in the ears (called tinnitus) and temporary loss of hearing sensitivity (called temporary threshold shift).
- Select and use hearing protection with an appropriate noise reduction rating (NRR) to reduce ambient noise to below 85 dBA.
- Be aware that the manufacturer's NRR was derived under ideal conditions and therefore, a more realistic rating for use in noisy places is about one-half the manufacturer's NRR.
- Hearing protection worn incorrectly may not adequately reduce noise exposure.
- Cotton balls do not effectively provide hearing protection.
- Noise levels follow the inverse square law and can be reduced by 25% if you double your distance from the noise source (i.e., moving from 5 to 10 feet from a 100 dBA source will reduce the noise level to 75 dBA).



Protect Your Ears