Hearing Safety

**Noise** is unwanted sound. It can have different effects on you.

Noise can startle you, annoy you, and disrupt your concentration.
Noise can interfere with your communications when you are talking to someone.

**Noise can cause hearing loss.**

**Ear protectors**
- Reduce noise levels at the inner ear.
- Ear protectors may be either ear plugs or ear muffs.
- Ear protection is particularly important when noise exposures cannot be controlled adequately by environmental changes.

**Hearing loss is gradual**, even in intense exposures. By the time you realize that you can't hear as well as you used to, the damage has been done and can't be reversed.

**Good protection** depends on a good seal between the surface of the skin and the surface of the ear protector. A very small leak can destroy the effectiveness of the protection. Protectors have a tendency to work loose as a result of talking, chewing, etc., and they must be reseated from time to time during the workday. Most ear protectors, when correctly fitted, provide about the same amount of protection. The best ear protector is the one that you can wear properly.

The use of ear protection will not make it more difficult to understand speech or to hear warning signals when worn in a noisy environment.

**Three factors may be used to determine the level of noise:**

1. If it is necessary for you to speak in a very loud voice or shout directly into the ear of a person in order to be understood, it is likely that the exposure limit for noise is being exceeded.

2. If you have heard noises and ringing noises in your ears at the end of the work day, you are being exposed to too much noise.

3. If speech or music sounds muffled to you after leaving work, but sounds fairly clear in the morning when you return to work, there is no doubt about your being exposed to noise levels that can eventually cause a partial loss of hearing that can be permanent.
Heat Cramps  Heat Exhaustion  Heatstroke

**Heat Cramps** are brief, severe cramps or spasms in the muscles of the legs, arms, or abdomen that may occur during or after vigorous exercise or working in extreme heat. Although painful, heat cramps aren't serious.

Even though you may be drinking water or other fluids, you can still have heat cramps as it is not dehydration, it is the loss of salts and other electrolytes such as calcium from your body.

If you suffer from heat cramps you should:

- Rest briefly and cool down
- Drink clear juice or an electrolyte-containing sports drink such as Gatoraid.
- Do range-of-motion stretching and gentle massaging of the affected muscle group.

**Heat Exhaustion** warning signs include:

- Headaches, dizziness, lightheadedness or fainting.
- Weakness and moist skin.
- Mood changes such as irritability or confusion
- Upset stomach or vomiting.
- Heavy sweating

Treat heat exhaustion by:

- Rest in a cool place. Getting into an air-conditioned building is best, but at the least, find a shady spot. Rest on your back with your legs elevated higher than your heart level.
- Drink cool fluids. Stick to water or sports drinks. Don't drink any beverages that have alcohol or caffeine, either of which can contribute to fluid loss.
- Apply cool water to your skin. Take a cool shower or drench yourself with a water hose if possible.
- Loosen clothing. Remove any unnecessary clothing.

**Heatstroke** is a life-threatening condition. Heatstroke is the escalation of two other heat-related health problems: heat cramps and heat exhaustion. You can prevent heatstroke if you receive medical attention or take self-care steps as soon as you notice problems.

Signs of Heat Stroke are:

- High body temperature.
- Your body stops sweating.
- Hyperventilation. Your breathing may become rapid and shallow.
- Rapid heart rate and pulse.
- Seizures or Convulsions.
Working Outdoors can put you at risk.

**Machines**
1. When working with machines, know how to operate them. If you are not sure, ask for instruction. Know also how to turn off any machine you use.
2. We don't expect to be injured while working but accidents happen. Have your tetanus shots updated when working outdoors or with any type of soil. Tetanus is good for 10 years only. This shot could save your life.

**Footwear**
3. Open sandals or sneakers may be comfortable but will not protect your toes from a hoe, from the blades of a lawn mower, large animals or field stubble. Invest in your own safety. Wear safety boots.

**Sun exposure**
4. Sun exposure can cause sever health problems. Cover up with loose fitting, light colored clothing. Wearing shorts and skimpy tops to get a good tan may result in serious burns. Short term sun effects are burns but long term effects can be melanomas or skin cancer. Wear sun screen with at least a 15 SPF or 25 SPF. Consider a sun block if you have sensitive skin or pale complexion. Apply a thick coat 25 minutes before sun exposure and reapply it every 30 to 45 minutes while exposed. Be sure to put it on the back of your neck, ears, and hands. Clothing only offers 5 to 9 SPF so you can still get sun damage with a shirt on. Avoid doing heavy outdoor work during intense sun times between 10:00 am and 4:00 pm if possible.
5. Wear sun glasses to protect eyes and avoid headaches. Long term sun effects to eyes are cataracts.
6. If you do get a burn, cool the skin with cool wet cloths. Do not put oils creams or even burn lotions on a burn. Oils cause burns to go deeper and blisters to form.

**Insects**
7. Loose fitting clothing in light colors will help protect you from insects. When applying an insect repellant, do not put it on sunburned skin. Apply in well-ventilated areas and not around food or drink. Keep hands away from mouth and eyes. Remove from skin with soap and water as soon as possible. Do not use combination sun screen/insect repellents: you need lots of sun screen and little insect repellent.
8. Insects like bright black fabrics, jewelry that shines, perfume, cologne, hair spray and scented sun tan lotion. Avoid all of these. Deet is more effective than DMP and does not wash off as easily. These products are ineffective against stinging insects.
9. Bees and wasps hide in vines, eaves, and outdoor light fixtures. If you are stung by an insect and find yourself feeling anxious, panic stricken, short of breath, or have a fast heart rate or if you begin to swell, particularly in the face or neck get medical help immediately. You may be having an allergic reaction.
Heat emergencies

10. There are 3 types of heat emergency. Heat cramps - are usually early warning and will improve with rest, drinking water and a cool environment. Heat Exhaustion - this really is a problem of dehydration brought on by sweating. Drink lots of water and keep hydrated. Don't wait to get thirsty. Don't drink lots of high sugar drinks. Avoid alcohol even the night before you work. Sugar and alcohol increases fluid loss. If you develop heat exhaustion, get out of the sun, rest in a cool place, apply cold pack to back of neck and head, lay with a fan blowing on you. If you don't recover in an hour, start to vomit, get confused, become lethargic and weak, see a doctor. Heat Stroke - is really a sign of shock. It is the most severe form of heat illness and can be life threatening. Signs are warm, flushed skin with no sweating. This is a medical hospital emergency. Call an ambulance IMMEDIATELY. Remove clothing from skin and wrap person in a cool wet sheet. Lie down with feet slightly elevated.

11. It is easy to overheat & suffer heat exhaustion without being aware you are at risk. Unaccustomed work in hot sun puts stresses your body. Pace yourself Allow 10 days to adjust to working conditions. Take short frequent mini-breaks to drink fluid.

Plant Sprays and Chemicals

12. Exposure to plant spray organophosphates or carbamates can result in serious health effects. Keep away from areas that have been posted as sprayed.

13. If you have to walk in a sprayed area, wear rubber boots, clothing and gloves. Do not tuck pant legs into boots. After leaving the area, remove pants and boots and then remove and discard gloves. Decontaminate clothing by rinsing and hosing them off. Wash immediately after handling contaminated clothing and shoes.

14. If you have an accidental exposure, notify your supervisor immediately. Avoid touching your face, particularly your eyes. Wash and shower immediately and depending on exposure pay particular attention to finger nails and hair. Change into clean clothing and place contaminated clothing in a plastic bag for cleaning.

15. If you are working with chemicals be sure to read the MSDS. When the new MSDS comes in, or if a product you have been using comes marked "New or Improved", read the MSDS to be sure nothing has changes.

16. If you need to wear a respirator, have a fit test done prior to using it.

17. After working with chemicals wash your hands even if you wore gloves. Be sure to wash your hands before you go to the bathroom as well as after. Genital skin is 10 times more absorbent than hand skin!
Poison Ivy, Poison Oak, Poison Sumac

11. Oils from poisonous plant cause allergic reactions. If you go in the bush, wash with hot soapy water as soon as possible after possible exposure. Cold water only spreads oil. If clothing is not laundered, oils can cause contact exposures for years. People get re-sensitized each year by putting on old gloves or shoes that have been in poison ivy in the past. If you fear you have poison plant oil in clothing that can't be washed, do not wear it again.

12. Pets pick up poisonous plant oil on their fur. Dogs brush up against it in the bush, cows lay down in it. If you touch the animal with poison oils on its fur, you can have an allergic reaction.

13. People with open oozing blisters are not contagious unless they have a secondary infection. You do not get poison ivy from someone if they have washed or bathed properly.

Dust

14. Wear goggles if working in dusty areas. Wheat shaft for example is very painful when it gets in the eyes. Rubbing eyes can cause eye scratches. Tears are nature's eye wash. Gently try to remove what you can see with a piece of clean cloth. If unsuccessful or if eye becomes red and inflamed. See a doctor.

Reports

21 If you do have an accident, be sure to report the incident to your supervisor.
**Working Alone Policy for Rm. Agriculture Building**

Work involving hazardous material(s) or open source radioisotopes shall be done during regular work hours.

Requirements if you are working alone outside of regular work hours:

1) Make sure someone else knows that you are here and the type of work you are performing (Supervisor, friend, relative, spouse).

2) Let your contact know how long you expect to be here and call them when you are leaving. If you are working alone for a long period of time ask your contact to call you if they have not heard from you by a specified time.

3) Make sure your contact knows the phone number for security services (474-9341) plus the phone number in the lab (474- ) or your cell phone number.

The **Safewalk Program** is available at 474-9341. A security services officer will provide a safe walk to your car or other building.

**Emergency Phone Number** on Campus is **911**

Or **555** or cell phone **#555**
WORKING ALONE or in ISOLATION

CONTACT INFORMATION (fridge card)

_Template to be provided to staff and students to leave with their family or roommate with appropriate information on who to contact and the University if they do not arrive home when expected._

If I don’t arrive home when expected – please first try to call me at:

My University of Manitoba phone number:

My cell or pager:

OR

My University of Manitoba Supervisor is: ____________________________

Office phone number:

Office (room and building):

After hours contact information:

Alternate University contacts:

_________________________ ___________________________

_________________________ ___________________________

If you can not get a hold of me, please contact University of Manitoba Security Services at 204 474-9341. It would be helpful if you could provide them with the following information:

My full name is:

I work for (or am a student in) the Department of:

My usual work locations are (room and building):

Office:
Proper lifting posture:

When performing lifting tasks, AVOID the following:

- Lifting with back bent and legs straight.
- Twisting body while lifting.
- Holding your breath while lifting.
- Bending to the side to lift a load.
- Using a back belt.

Improper lifting postures:
Chemical Safety at the University of Manitoba

Chemical Safety Guideline

The intent of the Guideline is to establish and uphold a standard in chemical safety in University of Manitoba labs to protect workers, students, the public and the environment from hazardous incidents, exposures and spills.

Basic Lab Safety expectations where Chemicals or WHMIS Hazardous Products are used:

- No food or drink shall be consumed or stored in the lab
- Individuals shall act in a manner that minimizes the risk of incidents hazardous to people or the environment
- Use equipment only for its designated purpose
- Conduct a hazard assessment prior to experiment start up
- Wear appropriate Personal Protective Equipment (PPE)

Responsibility of individual lab workers:

- Learn how to handle, use and store chemicals in the lab
- Learn how and when to use personal protective equipment
- Know your spill clean up procedures
- Know your emergency response procedures
- Know how to safely dispose chemical waste in the lab
- Know how to handle and transport compressed gas cylinders and cryogens
- Know how to report an accident
- Know the location of your emergency shower and eyewash station
- Know how to access chemical inventory

Do you...

- have a working alone procedure?
- know your safe work procedures?

For more information, please view the Chemical Safety Guideline Document, please visit: umanitoba.ca/chemsafety/chemicalsafetyguideline
Protocol for Managing “Novel” Plants at the Department of Plant Science,
University of Manitoba

Plants with a “Novel” trait (PNT), especially all genetically engineered plants which are produced in this department. Those transgenic plants have not been permitted to be tested in the field, but deregulated commercial transgenic cultivars such as Round-up ready canola do not belong to this category.

The objectives of the protocol for managing “Novel” plants at the Department of Plant Science, University of Manitoba are:

- Achieve complete containment of the “Novel” trait gene(s) to PNT’s grown in the lab or controlled environment facilities by
- Avoiding any inadvertent release into the environment of live PNT tissues or seeds
- Avoiding any inadvertent cross pollination between PNT’s growing in the lab or controlled environment facilities and other non-PNT’s growing in the lab or controlled environment facilities

Maintenance of PNT’s in controlled environment facilities
1. Clear and complete recording of where and when the PNT plants are created, maintained and disposed of.
2. Regeneration and selection of all PNT’s should only be conducted in designated locations.
3. Unless it is necessary, access to controlled environment locations where PNT’s are being grown will not be permitted to unauthorized users.
4. All PNT’s must be clearly labeled as PNT’s
5. Prior to flowering/heading, all flowering portions of PNT’s must be bagged to prevent pollen dispersal.

6. Harvesting and storage of novel plants
7. Seeds from PNT’s should be harvested at physiological maturity to avoid any seed shattering.
8. Threshing and cleaning of PNT’s should only be done using equipment and locations dedicated for this purpose: orange painted greenhouse bench #5.
9. The personnel handling or managing PNT’s should ensure that no seeds are attached to their clothes or shoes.
10. Any seed harvested from novel plants should be kept in sealed bags, labeled clearly and stored in designated locations.
11. All materials derived from PNT’s such as senesced leaves and harvesting residue must be collected and disposed of as described below.
12. All PNT material for disposal should be bagged in a clear autoclaveable bag and labeled clearly. This must be performed right in the location where the PNT’s are grown and threshed.
13. PNT bags should be sealed, never left open on controlled environment benches or floors or in common spaces.
14. Bagged PNT materials should be autoclaved.
15. Trays, sticks and any other reusable materials should be thoroughly cleaned and if necessary bagged and autoclaved prior to reuse.

Protocol for handling foreign fungal and bacterial cultures

This protocol is only valid for pathogens that do not have profuse sporulation, such as powdery mildews, rust, *Penicillium* or *Botrytis* sp.

1. When working with any culture and especially foreign fungal cultures, all containers (Petri plates, tubes, flasks) used for storage or inoculum increase must be labeled and dated.

2. All cultures and leftover inoculum must be autoclaved, when no longer needed. Contaminated media which may contain roots can be dumped into large soil sterilizer and run before disposal.

3. All containers, equipment and surfaces which come in contact with the fungus are autoclaved or sterilized with concentrated bleach solutions (or 95% ethanol).

4. Inoculation of plants, if performed, is preferably done in growth cabinets/rooms. When possible, and especially with foreign pathogens, inoculate in the growing area.

5. Infected seedlings and growing media are systematically autoclaved prior to disposal.

6. Foreign cultures must be stored in safe areas, away from public access. The use of -80°C freezers is recommended if it is compatible with the survival of the organism.