

# Module

# 6

## Legislation and Food Safety

After you have completed this module, you will be able to:

- *List three ways that pesticide related legislation impacts your farming operation*
- *Identify requirements under The Pest Control Products Act*
- *Discuss five requirements under Alberta Environmental Protection and Enhancement Act*
- *Reduce pesticide residues in foods you produce.*

### Need for Pesticide Legislation

Pesticide legislation protects you, your crops, your livestock, consumers and the environment from the improper sale and handling, use, transportation and disposal of pesticides.

Both federal and provincial laws in Canada control pesticides. Table 1 Federal and Provincial Jurisdiction on Safe Use of Pesticides outlines the different areas of federal and provincial jurisdiction.

**Table 1. Federal and Provincial Jurisdiction on Safe Use of Pesticides**

Federal Jurisdiction	Provincial Jurisdiction
•Registration	•Sales
•Classification	•Preparation, application, storage and disposal of pesticides and containers
•Labeling	•Protection of workers, bystanders and the environment
•Pesticide residues on food	•Certification of pesticide applicators and vendors
•Fish, migratory birds and species at risk	•Fish, migratory birds and species at risk
•Transportation	•Transportation of pesticides by road

## Impact of Pesticide Related Legislation

Pesticide legislation affects your farming operation in three ways.

### General Use and Disposal of Pesticides

Pesticide regulation regulates how pesticides are used, applied, handled, stored and disposed. Federal legislation deals with pre-harvest intervals, grazing restrictions, buffer zones, residues and many other important considerations. This information is listed on the label. Provincial legislation outlines the requirements for handling, using, storing and disposing of pesticides.

### Use of Pesticides in Sensitive Areas

Pesticide legislation regulates the use of pesticides in sensitive areas. Provincial environment and federal fisheries legislation regulates use of pesticides in:

- Fish habitats, including spawning grounds, nurseries and food supply
- Habitat and migration areas
- Streamside vegetation that protects fish habitats
- Wetlands where waterfowl might land, breed or feed
- Areas within 30 m of water bodies on land that is not cultivated, including creeks, rivers, lakes, ponds or public irrigation ditches on or off your property or that drain from the property.

### Control of Certain Pests

Pesticide regulation requires that you control certain pests. You may have on your property weeds, bacteria, animal or insect pests you are required to control.

Certain pests must be controlled to prevent them from spreading:

- Norway rat
- Grasshopper
- Warble fly
- Bacterial ringrot disease
- Restricted weeds
- Noxious weeds (if ordered by a weed notice).

The law does not require you to control these weeds and pests with pesticides, but pesticides are often a good method. The legislation (for example, *Agricultural Pests Act* and *Weed Control Act*) is usually provincial, but some pests are also named federally or municipally.

#### For More Information

The full text of Canadian Federal legislation can be obtained free of charge at <http://laws.justice.gc.ca/en>

Alberta legislation is available at: <http://qp.gov.ab.ca>

## Federal Pesticide Legislation

This section describes federal laws pertaining to the use and handling of pesticides.

### *Pest Control Products Act*

The most important federal law regulating the use of pesticides in agriculture is the *Pest Control Products (PCP) Act*. This Act ensures the safety and effectiveness of pesticide use in Canada. The Act encourages the development of sustainable pest management strategies by facilitating access to products that:

- Pose lower risks
- Support sustainable development designed to meet the needs of both present and future Canadians
- Encourage public awareness and participation in the decision making process.

### *Pesticide Registration*

The *PCP Act* requires that all pesticides used in Canada be registered and given a PCP registration number by the Pest Management Regulatory Agency (PMRA). The PCP registration number indicates that the product has been scientifically tested and approved for use in Canada. It is illegal to sell, use or import into Canada any pesticide that does not have a Canadian PCP registration number. However, recent amendments to the *PCP Act* allow importation of certain chemically equivalent products for a grower's own use under a federal permit.

You are legally responsible for reading and following directions provided on the label.

Registration involves extensive testing to determine both the effectiveness and safety of a product. The pesticide manufacturers conduct testing, and test results are reviewed by Health Canada through PMRA with input from Agriculture and Agri-Food Canada and Environment Canada.

The *PCP Act* protects farmers by requiring manufacturers to prove their products are effective and can be applied with minimal health risks.

#### **For More Information**

A pest management information service provides information on pesticides: 1-800-267-6315 or online at [www.pmra-arla.gc.ca](http://www.pmra-arla.gc.ca)

### *Pesticide Labels*

Pesticide labels are legal documents that contain instructions for safely handling, storing and disposing of pesticides.

There is not enough room on a label to explain why you should handle and apply a pesticide in certain ways; however, much research and thought go into the information on a label. There is a reason for every statement. If you want more information, contact the manufacturer or the Pest Management Regulatory Agency.

For more information on the pesticide label, see Module 1.

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### *Pesticide Classification*

The *PCP Act* divides pesticides into three classes as shown in Table 2 Pesticide Classification.

**Table 2. Pesticide Classification**

<b>Restricted</b>	<b>Commercial (also called agricultural or industrial)</b>	<b>Domestic</b>
Pesticides that have restrictions on where they can be used, displayed for sale and stored. They are either dangerous to use or the intended use is in sensitive areas, such as in water or forests. Provincial legislation may require additional approvals, for example, pesticide applicator certification, or extra precautions.	Pesticides that have some environmental risk and are sold in large containers of highly concentrated ingredients. These products are used in commercial farming or forestry and are not intended for use in the home or garden.	Pesticides that are for use in and around dwellings. Their toxicity and the risk they pose to people and the environment are lower than restricted and commercial pesticides. Often the active ingredient is the same as in the commercial product, but the concentration is lower, the formulation is different, and the container size is smaller. They can be safely handled with minimal protective clothing

You likely use all three classes of pesticides on your farm. It is your responsibility to comply with all restrictions shown on product labels.



### **Pesticide Classification**

Using some pesticide labels, find the classification.

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### **Food and Drugs Act**

The federal *Food and Drugs Act* regulates pesticide residues in food. The Act states that all food sold in Canada must be free of harmful substances, including excess pesticide residues. The maximum amount of pesticide allowed in a harvested crop, meat and dairy products is known as the maximum residue limit (MRL). To avoid excess pesticide residues, you are responsible for following label rates and other label requirements. Health authorities can inspect, take samples and confiscate harvested crops or other agricultural products that carry pesticide residues in excess of MRLs.

Maximum residue level (MRL):  
maximum amount of pesticide  
allowed in a harvested crop, meat  
or dairy product.

#### **For More Information**

More information on the *Food and Drugs Act* is available online at:  
<http://www.hc-sc.gc.ca/fn-an/legislation/acts-lois/fda-lad/index-eng>.

### ***The Fertilizers Act***

The *Fertilizers Act* is the federal law that regulates all fertilizers used in Canada, including fertilizers containing pesticides. Before a fertilizer containing pesticides can be sold or used in Canada, it must be registered under the *Fertilizers Act* as well as under the *Pest Control Products Act*.

### ***Pesticide Residue Compensation Act***

This Act pays the producer for damages or losses if the sale of his produce is stopped because it contains more pesticide residue than the *Food and Drugs Act* allows. In order to be considered for compensation, as a producer, you must prove that the pesticide was applied according to the label directions.

### ***The Feeds Act***

The *Feeds Act* provides regulations to prevent the contamination of feed.

### ***Transportation of Dangerous Goods (TDG)***

This Act regulates the handling and transportation of dangerous goods including pesticides that fall into the categories of a “poisonous substance,” a “flammable substance” and a “product hazardous to the environment.” To transport regulated goods, you may need vehicle placards, shipping documentation and special training. The majority of pesticides sold can be transported directly from your dealer to your farm without placards, shipping documentation or training.

#### **For More Information**

To obtain more information on the transportation of pesticides or to obtain a fact sheet on Dangerous Goods and the Agricultural Industry, contact Alberta Transportation at **1-800-272-9600** or online.

### ***Canadian Environmental Protection Act***

This Act protects the environment as well as human life and health. The Act covers many different areas including:

- Procedures to review and approve chemicals
- Mandatory reporting of spills
- Export and import controls
- Recalls and cleanups
- New inspection and enforcement powers.

### ***Species at Risk Act***

Environment Canada and the Department of Fisheries and Oceans administer the *Species at Risk Act* (SARA). *SARA* provides protection for birds, plants, fish, mammals, insects, amphibians and reptiles at risk. It is in place to:

- Prevent wildlife species from becoming extinct, endangered, threatened or vulnerable
- Provide for the recovery of these wildlife species

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- Manage species of special concern to prevent them from becoming endangered or threatened.

In Alberta, the *Wildlife Act* and Wildlife Regulation provide the protection of species at risk on provincial and private lands.

The *Pest Control Products Act* also includes consideration of all wildlife, including species at risk, in the assessment and management of risk associated with pesticides. Pesticides registered to be used in an area identified as a critical habitat of species at risk will have precaution statements to protect the species at risk.

Currently in Alberta, the following species (see Table 3 **Species at Risk**) are endangered or threatened.

**Table 3. Species at Risk**

Mammals	Birds	Fish
20 species (e.g., swift fox, woodland caribou, American badger)	26 species (e.g., burrowing owl, mountain plover, trumpeter swan, whooping crane)	26 species (e.g., lake sturgeon, bull trout, arctic grayling)
•	•	•
•	•	•
•	•	•
•	•	•

### For More Information

More information on species at risk, including their habitat and distribution, in Alberta can be obtained at: <http://www.srd.gov.ab.ca/fishwildlife/speciesatrisk/default.aspx>



### Species at Risk

Go to the website on species at risk. Add to the lists given in Table 3.

## Federal Fisheries Act

This Act protects fish-bearing waters from pesticides. Fish habitat includes spawning grounds, nurseries, food supply areas and migration areas. Streamside vegetation, which protects the natural fish environment, is also protected under the Act. It is illegal to introduce pesticides into these waters directly or indirectly through airborne drift or surface runoff. Use special care when applying pesticides with label warnings such as “This product is toxic to fish.”

### For More Information

More information on the *Fisheries Act* is available online at: [http://www.dfo-mpo.gc.ca/oceans-habitat/index\\_e.asp](http://www.dfo-mpo.gc.ca/oceans-habitat/index_e.asp)

### *Migratory Birds Convention Act*

This Act protects waterfowl and migratory birds from pesticides by prohibiting:

- Pesticide contamination of wetlands that are important for migrating birds
- Killing of migratory birds, by any means, without a permit.

#### **For More Information**

More information on the *Migratory Birds Convention Act* is available online at: [http://www.cws-scf.ec.gc.ca/legislations/laws1\\_e.cfm](http://www.cws-scf.ec.gc.ca/legislations/laws1_e.cfm)

## Provincial Pesticide Legislation

This section describes the provincial Act that controls the use and handling of pesticides.

### *Alberta Environmental Protection and Enhancement Act (EPEA)*

The Act:

- Controls the sale, use, application, handling, storage, transport and disposal of pesticides, and the certification of commercial pesticide applicators and their businesses
- Provides for the appointment of provincial inspectors and gives them power to enter onto any land and to take samples of anything for the purposes of investigating suspected violations of the Act
- Provides for penalties of up to \$50,000 for individuals and \$500,000 for corporations found guilty of pesticide violations.

#### *Requirements Under AEPEA*

- Use pesticides only for purposes specified on the label or under authority of an approval issued under the Act.
- Transport pesticides in ways that ensure they will not contact or contaminate the food or drink of humans, animals or plants.
- Store pesticides in their original labeled containers or in other containers that are properly labeled and approved.
- Take responsibility for cleanup and decontamination resulting from your mishandling of pesticide.
- Do not wash any pesticide-contaminated material within 30 m of an open body of water or public waterworks system.
- Do not use, apply or transport any pesticide (or treated seed) or related equipment in a manner, or at a time or place, that causes an “adverse effect.”
- Store as little pesticide as necessary and store the pesticide in a room or building where:
  - The pesticide is kept dry and away from heat and cold extremes
  - The room or building has a sign indicating pesticides are stored and to use extreme caution in case of fire
  - The exterior doors are locked so children, pets, livestock and unauthorized persons do not have access to them
  - Leaks can be contained in secondary containment and spill cleanup materials are available to clean up spills immediately.

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- Read and follow the storage instructions on the label prior to storing a pesticide.
- Return unused pesticides to the vendor.
- Store pesticides at least 30 m away from an open body of water.
- Be present at all times and maintain an air gap when filling your sprayer tank from a municipal waterworks system or open body of water. As well, if you are filling a spray tank from an open body of water, you require a backflow prevention device.
- Obtain a Pesticide Applicator Certificate and a Pesticide Service Registration if you apply pesticides for other farmers, on a park, boulevard, campground or picnic area on public land, on land owned by a local authority, on a right-of-way, for forest management, or in exchange for money or barter. The Pesticide Applicator Certificate (given to individuals) is issued by Lakeland College and recognized by Alberta Environment. The Pesticide Service Registration, equivalent to a business license, is issued by Alberta Environment. The service registration holder must employ at least one certified applicator, carry appropriate insurance and perform an audit of the operation to ensure all the legislative requirements are met.
- Obtain a regulatory procedures document for bin fumigations, greenhouse fumigations and when controlling rodents. These procedures are titled: Vertebrate Toxicants for Richardson's Ground Squirrel Control and Procedures for Grain Bin Fumigation and Procedures for Greenhouse Fumigation. These documents are also available online at: <http://www.environment.alberta.ca/2217.html>
- Obtain a permit (Special Use Approval) for pesticides applied within 30 m of an open body of water on land that is not cultivated. An open body of water includes rivers, lakes, streams and irrigation canals but does not include sloughs or ponds less than 10 acres in area, providing they are completely surrounded by private land with no drainage off the land. Cultivated land means land that has been cleared, improved and prepared to grow agricultural crops or raise livestock and includes cropland, improved pastures, rangelands and lands landscaped to turf or ornamental plantings.
- Dispose of pesticide waste properly. Take empty pesticide containers to a pesticide container collection site. Plant leftover treated seed (up to three times the normal seeding rate) or take to a Class 2 landfill and bury immediately.

### ***Enforcement of AEPEA***

Inspectors have the authority to:

- Enter into and inspect any land, premise (excluding private dwellings), vehicles, equipment, records, documents or other properties
- Collect samples or extracts for laboratory analysis.

If your farm is inspected, you are required to cooperate fully with the inspector and provide whatever information, samples, documents or other materials the inspector requests.

If you are found to be in violation of regulations, the inspector can:

- Shut down your operations
- Issue an emergency environmental protection order that specifies what must be done, within a stated timeline, for operations to be restarted
- Confiscate equipment, supplies and agricultural products
- Initiate legal charges that may result in fines.

**For More Information**

More information on the *Environmental Protection and Enhancement Act* is available online.

## Food Safety

Canadian food standards allow small amounts of pesticide residue in some foods. These levels are considered to be safe. Our standards are some of the most stringent in the world. It is the responsibility of the federal government to ensure that pesticide residues on food do not pose a significant health risk. Acceptable daily intakes for pesticides are 100 to 1000 times lower than what is found to be safe in test animals. This is to take into account differences between human responses and those of the animals used for testing. It is also intended to provide for protection in the response between individuals, and between adults and children.

Dietary risk assessments are also carried out to assess the potential daily intake of pesticides from a variety of possible food sources. Special emphasis is placed on foods, such as fruits and fruit juices, milk and soy products, that are consumed in larger quantities by infants and children. Pesticides that were registered more than 15 years ago must undergo re-evaluation to ensure that no adverse effect will result with the continued use of the pesticide, when used in accordance with the pesticide label.

## Establishing Residue Limits

The process of setting residue limits is complex. Some of the steps are outlined below:

- In initial stages, test animals are given food-containing pesticide and lab personnel note any effects. They watch closely for such things as cancers, birth defects, mutation, behavioral changes and changes in body function. Testing also occurs at the microscopic level to ensure unseen changes are not taking place.
- The no effect level (NOEL) is the highest dose level that produces no measurable effect when fed to test animals over their lifetime. Scientists then determine the acceptable daily intake (ADI) for humans by using the NOEL and a safety factor (at least 100-fold). The ADI is the amount considered safe if a human ingested that amount of residue every day for a lifetime.
- Once the ADI has been established, the maximum residue limit (MRL) is set on a food-by-food basis. The amount of each food normally eaten is taken into consideration and adjusted where necessary. For example, some ethnic or age groups might consume much more of a particular food than average. The MRL for this food would reflect this consumption pattern, with an additional safety factor built in.

## Reduce Residues in Food You Produce



Check the actions that you can take on your farm:

- Follow the label exactly and observe recommended withdrawal periods or preharvest intervals.

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- Use the lowest application rates (within the recommended range).
- Spray only when pest infestations can cause serious damage.
- Use an integrated pest management strategy to reduce and manage pests better which will likely result in reduced pesticide use.
- Clean grain bins to avoid treating for stored grain insects.
- Spray pests in non-crop areas whenever possible as a preventative measure rather than spray them in the crop.

### Review Checklist

Check your understanding of material in Module 4.

- I can list the three ways that pesticide related legislation affects my farming operation.
- I can name at least three federal acts that control pesticide use in Canada.
- I can identify five requirements of the AEPEA.
- I understand that minimizing pesticide residues is in the interest of the consumer as well as the producer.

If you cannot check off the above items, review the appropriate section.

## Exercises

### Exercise 6.1

Check three ways pesticide related legislation affects your work.

- a. By regulating how pesticides are handled, store and disposed of
- b. By telling you when you can apply pesticides
- c. By prohibiting the use of pesticides in sensitive areas
- d. By ensuring that pesticides are safe and effective
- e. By requiring control of certain pests

### Exercise 6.2

Check areas where law prohibits pesticide applications or requires an exemption.

- a. Noxious weeds within 30 m of the shoreline of a creek that crosses your property
- b. Within 30 m of an enclosed dugout that doesn't drain in any other body of surface water
- c. Right-of-way located on your farm
- d. Within 30 m of a pond on your property with an overflow drainage into an adjacent creek
- e. Within 30 m of reed bogs clogging a waterway

### Exercise 6.3

Check which of the following are regulated to prevent illegal levels of pesticide residues in food, livestock feed and grazing land.

- a. The label rates of pesticide application
- b. The maximum number of applications
- c. The number of days on the label between spraying and harvesting or grazing
- d. Washing food
- e. Use of tank mixes

### Exercise 6.4

Mark each statement True (T) or False (F)

- a. Pesticides are checked for their safety and effectiveness before they can be used in Canada
- b. Labels of controlled pesticides contain recommendations for handling, avoiding hazards and first aid treatments
- c. Maximum residue limits apply only to harvested foods or crops grazed by food animals
- d. Crops may be confiscated by health officials for exceeding maximum pesticide residue limits

### Exercise 6.5

Check which of the following federal acts control pesticide used in Canada.

- a. *Federal Fisheries Act*
- b. *Pest Control Products Act*
- c. *Agricultural and Rural Development Act*
- d. *Agricultural Marketing Programs Act*
- e. *Canadian Environmental Protection Act*
- f. *Transportation of Dangerous Goods Act*

### Exercise 6.6

Check the areas governed by the *Alberta Environmental Protection and Enhancement Act*

- |                          |                |                          |                |
|--------------------------|----------------|--------------------------|----------------|
| <input type="checkbox"/> | a. Sale        | <input type="checkbox"/> | e. Storage     |
| <input type="checkbox"/> | b. Use         | <input type="checkbox"/> | f. Transport   |
| <input type="checkbox"/> | c. Application | <input type="checkbox"/> | g. Disposal    |
| <input type="checkbox"/> | d. Handling    | <input type="checkbox"/> | h. Formulation |

### Exercise 6.7

Select the statement below that best describes Canada's food standards for residues.

- a. Canadian food safety standards are very high.
- b. Canadian food meets the Health and Welfare tolerance limits (MRL) over 99 percent of the time
- c. Canadian food standards allow small amounts of pesticide residue in some foods. These levels are considered to be safe. Our standards are some of the most stringent in the world.
- d. There is no such thing as a "safe" level of pesticide in food.

### Exercise 6.8

Which practices below minimize pesticide residues in food?

- a. Use the lowest practical application rate.
- b. Spray only when necessary and use other non-chemical controls where practical.
- c. Observe all pre-harvest withdrawal periods and any grazing restrictions.
- d. Use prevention to keep pests from building up to damaging levels.

# Answers

## Answer 6.1

a, c, d, e

## Answer 6.2

a, d, e

## Answer 6.3

a, b, c, e

## Answer 6.4

- a. True
- b. True
- c. True
- d. True

## Answer 6.5

a, b, e, f

## Answer 6.6

a, b, c, d, e, f, g

## Answer 6.7

c: Canadian food standards allow small amounts of residue in some foods

## Answer 6.8

a, b, c, d