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**1. Additional pesticide uses within 30 horizontal metres of water to be included in the “Environmental Code of Practice for Pesticides.”**

Proposed additions cover active ingredients and uses that have been addressed through “standard” conditions on Special Use Approvals. The change would allow use by a certified pesticide applicator without having to obtain a Special Use Approval. With few exceptions, the Environmental Code of Practice allows only spot treatment (10 percent of land areas) for plants designated Restricted or Noxious weeds under the *Weed Control Act*. A draft of proposed Code provisions is included with this newsletter (blue pages).

The change is being considered to maintain control of pesticide use within 30 horizontal metres of open bodies of water through one regulatory requirement rather than through the issuance of individual approvals with identical conditions. Special Use Approvals would still be required for less conservative pesticide applications that are not covered by the Environmental Code of Practice for Pesticides.

**2. Harmonization of provincial pesticide vendor registration with the Agrichemical Warehouse Standards Association (AWSA) audit program.**

Proposed revisions would require that all Alberta Registered Pesticide Vendors be audited through the Agrichemical Warehousing Standards Association (AWSA) audit system to ensure compliance with provincial regulatory requirements. Currently all Pesticide Vendors certified through the AWSA warehouse certification program (at least 80 percent of provincial vendors) are audited once every two years to be eligible for pesticide shipments from pesticide manufacturers who are members of the Crop Protection Institute (CPI). These audits are paid for by each vendor. Documentation is provided to Alberta Environmental Protection for compliance verification. The regulatory proposal would extend this requirement to remaining vendor outlets who are not currently audited through the AWSA program.

**3. Provision for the recognition of a “pesticide applicator” intermediate between a fully certified pesticide applicator and a non-certified assistant.**

The new “applicator” designation would identify applicators that have successfully demonstrated knowledge by writing an examination recognized by the Director. These applicators would be limited to working under the direction of a fully certified applicator but would be allowed more independence than a non-certified assistant.

Qualifications would be established in consultation with industry associations for each class of pesticide applicator identified in current regulations (e.g. Aerial, Agricultural, Industrial, Landscape, etc.). Should an industry association decide not to support the recognition of an intermediate applicator designation for its sector, the designation would not be available for that sector.

#### **4. Require mandatory calibration at a recognized calibration clinic for all aircraft performing aerial pesticide application within Alberta.**

This change was requested by the Alberta Aerial Applicators Association.

#### **Collection of 1998 Pesticide Sales Data**

Information requests for pesticide sales data have once again been sent to the major retail vendors (line companies and independent dealers) in Alberta to obtain more recent information on pesticide sales. Pesticide sales data was last collected in 1993 from major Alberta line companies for the 1988 to 1993. The 1993 information examined relative pesticide use by active ingredient and by region primarily to develop environmental monitoring priorities for the former Canada-Alberta Environmentally Sustainable Agriculture Initiative (CAESA).

With increasing trade globalization, Alberta's agriculture industry is having to meet international standards and comply with international trade agreements. Countries exporting agricultural products need to ensure reliable data is available to verify pesticide use practices. A number of initiatives that have occurred recently indicate that pesticide sales data must be collected at a more accurate and precise level than in 1993. The U.S. *Food Quality Protection Act* requires the documentation of pesticide use practices on food crops exported into the U.S. A number of pesticides are also the subject of international programs such as priority organic pollutants and toxic substances management. Because of programs like these, we must be able to verify pesticide use patterns to ensure that any impacts on our agricultural sector are accurately identified and that we are able to document compliance with any international agreements. Sales data collected for 1998 will be used to re-assess environmental monitoring priorities recognizing that, since 1993, new pesticides have come onto the market, while the use of some older pesticides has diminished. Pesticide regulatory programs are also re-assessed as pesticide use patterns change.

#### **Dispenser Re-certification**

Dispensers certified to dispense Schedule 1 and 2 pesticides (federal restricted and commercial categories) must have undergone re-certification to the new national standard by January 1, 1999. This re-certification involves completing the training course that has been upgraded to meet the new requirements. To date, records indicate that only 260 people have upgraded to the new standards. Another 360 people have certificates with expiry dates beyond January, and they will also require re-certification. Home study courses are available from Lakeland College for \$95 (includes the Pesticide Quick Reference). Contact Lakeland at 1-800-661-6490 to register for the course.

## **Crop Protection Industry Sales Reach \$1.4 Billion**

Industry sales of crop protection products climbed 19% to \$1.43 billion in 1997. Of total sales at the manufacturers' level across Canada, herbicides accounted for 81%, insecticides and fungicides 7% each, and specialty products 5%. By province, Saskatchewan accounted for 34% of total sales, Alberta-B.C. 24% of sales, and Manitoba 15%. Ontario had 20% of the total, Quebec 5%, and the Atlantic provinces 2% of total sales.

## **Pesticide Container Collection Survey**

A survey of Alberta municipalities regarding the pesticide container collection program was recently completed as an update to the last survey completed in 1993. The response rate was 92% (65 of 71 municipalities). Highlights from the survey include:

- Eighty-eight percent of municipalities report overall satisfaction with current program.
- The majority of municipalities (71%) reported site maintenance costs of less than \$5,000 per year. Seventy-four percent of municipalities reported site maintenance of less than 25 person days per year.
- Eighty-nine percent of municipalities reported non-pesticide waste left at sites. Most common wastes were paint, cardboard, engine oil and grease containers, used oil, and solvents. The average cost for managing these wastes in most municipalities ranged from \$500 to \$2,000 per year.
- Only 12% of municipalities reported that dealers were collecting pesticide containers from farmers in their municipality. Most municipalities were supportive of dealers collecting rinsed containers from farmers, particularly where delivery to temporary sites can be diverted.

Municipalities were questioned about this issue in response to a pilot dealer collection program that was conducted by the Crop Protection Institute in Saskatchewan.

Alberta Environmental Protection is supportive of voluntary dealer participation in municipal container collection programs, provided that dealer participation is supported by the municipality and contributes towards the enhancement of container collection within the municipality (i.e. higher percentage of containers recovered and/or lower collection/transportation costs).

**Visit the Pesticide Management Program website**

**<http://www.gov.ab.ca/env/protenf/pesticide/> for a complete listing of provincial container collection sites and information regarding the program (including residue monitoring).**

**REMEMBER:**

- 1. Containers are to be triple rinsed and dry prior to disposal at container collection sites to minimize site residues.**
- 2. Cardboard packaging is to be removed from plastic containers prior to disposal at container collection sites. Clean cardboard can be disposed of through recycling programs. Other cardboard can be disposed of at municipal landfill sites.**
- 3. Wastes other than pesticide containers are not to be left at container collection sites.**

### **Federal/Provincial/Territorial (F/P/T) Committee on Pest Management**

The F/P/T Committee consists of regulatory officials from the federal and provincial/territorial governments. The F/P/T provides a mechanism for information exchange among provinces and the federal Pest Management Regulatory Agency (PMRA), but its major impact is through working groups established to accomplish specific tasks. Working groups are comprised of F/P/T members, industry representatives, and other stakeholders as required to meet objectives. The four working groups operating currently through the F/P/T are:

- 1. The National Database Working Group (to develop a national pesticide sales data collection system primarily through pesticide registrations).**
- 2. The National Classification Working Group (to develop criteria for a federal pesticide classification system that could be adopted by provinces to replace provincial classification systems).**
- 3. The Post-Registration Monitoring Working Group (to provide an exchange mechanism for pesticide incident and monitoring data).**
- 4. The National Training and Certification Working Group (to establish national minimum standards for pesticide applicator certification programs across Canada).**

The F/P/T, in conjunction with the federal Pest Management Regulatory Agency (PMRA) introduced a new website to inform pesticide users of national pesticide initiatives.

**<http://www.hc-sc.gc.ca/pmra-arla/fpthome1.html>**

## **Pesticide Enforcement Responses**

The following are pesticide-related incidents that culminated in prosecution or administrative penalties in 1998.

### ***Prosecutions***

The illegal use and application of pesticides resulted in a fine of \$7500 and a 45 day jail sentence for an ultralight operator subsequent to a conviction under the *Alberta Environmental Protection and Enhancement Act*. The operator was found guilty of applying pesticides without a pesticide applicator certificate, of using a pesticide improperly, and of violating an Alberta Environmental Protection Enforcement Order. The charges stemmed from incidents in 1995 and 1996. The 1995 incident involved the violation of a department Enforcement Order by applying a pesticide by an ultralight aircraft without a pesticide applicator certificate or a service registration. The 1996 incident also involved the aerial application of pesticides without appropriate qualifications and the use of a pesticide not registered for aerial application. The operator is appealing his sentence.

A registered aerial application service was sentenced to a total penalty of \$30,000 after pleading guilty to charges of unlawful use or application of a pesticide under the *Environmental Protection and Enhancement Act*. The service pled guilty to five charges of applying the pesticide ROUNDUP Liquid Herbicide contrary to the regulations and label specifications for that pesticide. The charges stemmed from complaints of crop damage to neighbouring farms, and a resulting investigation found that the service had conducted aerial applications of ROUNDUP in contravention of the *Act* on five occasions in May and June of 1997. ROUNDUP had a temporary aerial registration for pre-harvest applications. It is not registered for spring application.

### ***Administrative Penalties***

- An employee of a registered service applied TORDON 101 HERBICIDE within 30 metres of five separate open bodies of water. The penalty for violation of Section 5 of the Pesticide Sales, Handling, Use and Application Regulation was \$6,000.
- A registered service was responsible for ROUNDUP LIQUID HERBICIDE drift which resulted in an adverse effect to an adjacent field. The penalty for violation of Section 5 of the Pesticide Sales, Handling, Use and Application Regulation was \$750.
- A non-certified applicator employed by a registered service applied TORDON 22K HERBICIDE without supervision and in a manner contrary to the label which resulted in an adverse effect. The penalty for violation of Sections 5 and 16(a) of the Pesticide Sales, Handling, Use and Application Regulation was \$3,750.

- A registered service mixed and applied the pesticides LIBERTY and FUSION contrary to label directions prohibiting this mix. The violation was discovered subsequent to an adverse effect on neighbouring shelterbelts. The penalty for violation of Section 156 of *the Environmental Protection and Enhancement Act* and Section 5 of the Pesticide Sales, Handling, Use and Application Regulation was \$3,500.
- A registered service applied the insecticide LORSBAN 4E INSECTICIDE in a manner that exposed bystanders to drift. The penalty for violation of Section 156 of *the Environmental Protection and Enhancement Act* was \$4,000.

### **Signal-Sending Plants Identify Their Attackers**

Some corn, cotton and tobacco plants, when under attack by caterpillars, will release chemical SOS signals to recruit help from friendly parasitic wasps. However, the wasps may not answer unless the caterpillar in question is a species they prefer. To avoid "no-shows," scientists recently found plants customize their signals, advertising their attackers' identity and ensuring that the right wasp comes calling. This work, conducted by a University of Georgia graduate student, and members of the Agricultural Research Service of the USDA, refutes an earlier belief that wasp-calling plants emit an all-purpose signal, regardless of the caterpillar species. Their work aims to curb insecticide use through integrated pest management and breeding crops with stronger signalling traits. In Georgia field trials, they saw *Cardiochiles nigriceps* wasps flying to plants signalling an attack by tobacco budworms (a host these wasps prefer) more often than to plants chewed by corn earworms, a related caterpillar species. Budworm-infested plants accounted for 164 of 198 total wasp visits. The team also monitored plants after removing any leaves that caterpillars had chewed on. This ensured the wasps weren't homing in on chemical cues in their caterpillars host's saliva or in faeces, rather than the plant's own signals. Indeed, the *Cardiochiles* wasps visited budworm-damaged plants 32 of 48 times. Gas chromatography revealed consistent differences in concentrations of about 12 chemical volatile compounds rising from the plants. The differences depended on which caterpillar species was attacking. An article about the research, in the *Agricultural Research* magazine, is also on the World Wide Web at:

<http://www.ars.usda.gov/is/AR/archive/oct98/sos1098.htm>

### **Corn Gluten Meal Has Promise As A Natural Herbicide**

A researcher at Iowa State University has discovered that a by-product of the corn wet-milling process (corn gluten meal) has potential as a natural pre-emergence herbicide. A United States patent on the use of corn gluten meal as a natural herbicide was issued in 1991. For more information on the herbicidal properties of corn gluten meal, check out their website at: <http://www.hort.iastate.edu/gluten/cframe.html>

### **Information/Awareness Program: Anticipated Lygus Outbreak in 1999**

The unusually hot, dry summer of 1998 resulted in unexpectedly high canola pest outbreaks. Widespread spraying of insecticides created many concerns in the agricultural community. Most of these passed on to Alberta Environmental Protection could be addressed by providing information that has been collected internally and from a number of external publications over the past several years.

The Alberta Standing Committee on Pesticides (ASCP) comprised of representatives from Alberta Environmental Protection; Agriculture, Food and Rural Development; and Health have met to review public concerns and identify information requirements prior to the 1999 spray season. Representatives from the ASCP are working with the Crop Protection Institute to gather information into fact sheets or information summaries to be distributed to government offices, pesticide manufacturers, pesticide dealers, custom applicators, and producer organizations prior to insecticide spraying in 1999. In addition, news releases for the general public will be drafted to ensure awareness beyond the agricultural community. If you are an agricultural service (ground or air) or pesticide distributor, you may expect information delivered to your operation sometime in June or early July (depending on the timing of 1999 applications).

### **Environmental Service Restructures With Regional Community Service in Mind**

Alberta Environmental Protection's Environmental Service (ES) has undergone a restructuring to bring the service in-line with the department's Natural Resources Service (NRS) and Lands and Forest Service (LFS). The aim is to provide more regional based services including decision making and issuing registrations and approvals. Investigation and enforcement activities will also become a regional responsibility. Pesticide services and vendors should direct any inquiries to the appropriate regional office according to the attached map of regional boundaries.

- Northwest Boreal: Grande Prairie (780-538-5460)
- Northeast Boreal: Edmonton (780-427-7617)
- Northern East Slopes: Edson (780-723-8395)
- Parkland: Red Deer (403-340-7052)
- Bow: Calgary (403-297-7602)
- Prairie: Lethbridge (403-381-5511)

All complaints should be directed to: **1-800-222-6514**.



**ATTACHMENT**  
**CODE OF PRACTICE REVIEW DOCUMENT**  
**May 11, 1999**

**Regulation:**

- 9(1) No person shall, unless the person holds a special use approval issued by the Director,
- (a) use or apply a pesticide in or on an open body of water,
  - (b) use or apply a pesticide listed in Schedule 1,2 or 3 within a horizontal distance of 30 metres from an open body of water,
  - (c) store a pesticide within a horizontal distance of 30 metres from an open body of water, or
  - (b) wash equipment or vehicles used to apply pesticides within a horizontal distance of 30 metres from an open body of water.
- (2) Subsection 1(a) does not apply to a person using or applying a fish toxicant in accordance with a written authorization issued by the Director of Fisheries Management of the Department.
- (3) Subsection 1(a) and 1(b) do not apply to a person using or applying a vertebrate toxicant bait in, on or within 30 horizontal metres of a frozen open body of water pursuant to a Government pest control program.
- (4) Subsection 1(b) does not apply to:
- (a) an applicator using or applying pesticides in accordance with the latest edition of the Environmental Code of Practice for Pesticides published by the Department, or
  - (b) a person using or applying pesticides on cultivated land.

**Definition of an Open Body Water**

“open body of water” means the bed and shore of an irrigation canal, drainage canal, reservoir, river, stream, creek, lake, marsh or other body of water, but does not include the following:

- (i) waterworks systems;
- (ii) reservoirs, lakes, marshes or other bodies of water that are completely surrounded by private land, that have an area of less than 4 hectares and have no outflow of water beyond the private land;
- (iii) reservoirs, lakes, marshes or other bodies of water that are located on public land, that have an area of less than 0.4 hectares, and have no outflow of water;

- (iv) irrigation and drainage canals that are completely surrounded by private land and have no outflow beyond the private land;
- (v) roadside ditches;
- (vi) wastewater systems;
- (vii) storm drainage systems;
- (viii) dry streams having a bed and shore averaging 0.5 metres or less in width within the boundaries of the treatment area

#### **New Exemptions:**

- Man-made water bodies on private land that are completely surrounded by private land under the control of one owner that have no outflow of water beyond the property boundaries.
- Man-made golf course water hazards located on public or private golf courses that have no outflow of water beyond the golf course boundaries.

#### **Record Keeping Provisions**

Section 11 (1) (i) of the Pesticide (Ministerial) Regulation requires that pesticide applicator records identify:

“The location and distance of any pesticide used or applied within 30 horizontal metres of an open body of water.”

### **CODE PROVISIONS**

#### **Pesticide Application Within 30 Horizontal Metres of an Open Body of Water**

- 16 Pesticides shall be applied within 30 horizontal metres of an open body of water subject to the following unless otherwise authorized by an approval under the *Environmental Protection and Enhancement Act*.
- A. An applicator shall not apply herbicides within 30 horizontal metres of an open body of water unless the application is in accordance with a vegetation management plan that includes:
1. program objectives
  2. action levels
  3. herbicides to be used
  4. non-chemical controls to be used
  5. target vegetation types

6. methods of application including surveillance and timing
7. application equipment
8. public notification
9. program evaluation

Note: If an inspector/investigator observes questionable application practices, the plan can be requested. Discrepancies can be reviewed in the context of IVMAA standards.

- B. Applicators may apply the herbicides listed in Table 1 up to 1 horizontal metre from an open body of water provided that the following requirements are met except where the exemptions noted under Section 16 D apply.
1. The federal pesticide label does not stipulate a greater distance. Where a federal pesticide label indicates that the herbicide shall not be applied within a distance from water that is greater than 1 metre, the distance specified on the product label shall take precedence.
  2. Applications are conducted for:
    - (a) the control of herbaceous plants classified as "restricted" or "noxious" weeds under the *Weed Control Act*,
    - (b) the control of broadleaf weeds in turf areas
    - (c) the control of woody plants to areas where the woody plants interfere with forest regeneration or the safe operation, functioning, or maintenance of man-made structures such as dams, canals, drainage ditches, roads, industrial facilities, or utility or pipeline rights-of-way.
  3. Applications are made selectively:
    - (a) using a backpack sprayer, a pump-sprayer, a hand-gun sprayer, a quad/ATV-mounted boom or boomless sprayer or an application method that treats individual woody plants, and
    - (b) treating no more than 10 percent of the land area within any one hectare area per calendar year.
  4. Applications do not result in the deposit of herbicides into or onto any surface water.
  5. Applications are not made where there is slumping or washout.
  6. Applications are not made within 250 metres upstream of any surface water intake of a waterworks system.

Table 1

2,4-D amitrole-T chlorsulfuron clopyralid dichlorprop glyphosate MCPA mecoprop metsulfuron methyl paraquat triclopyr
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C. Herbicides not listed in Table 1 may be used as follows:

1. Dicamba may be deposited by ground application equipment up to 5 horizontal metres from an open body of water provided that all requirements under Section 16 B or exemptions under 16 D are met.
2. Imazapyr may be deposited by ground equipment up to 15 horizontal metres from an open body of water provided that all requirements under Section 16 B or exemptions under 16 D are met.

D. Herbicide Exemptions are as follows. Unless specifically exempted below, the provisions of 16 B apply.

1. Purple Loosestrife Control:
  - (a) Triclopyr and Glyphosate may be applied by backpack or hand-pump sprayer to Purple loosestrife (*Lythrum salicaria*) growing on dry land within the bed and shore of an open body of water.
2. Irrigation and Drainage Canals:
  - (a) 2,4-D, dicamba, triclopyr or glyphosate may be deposited by ground application equipment up to the bed and shore of irrigation or drainage canals provided that no herbicide is deposited in irrigation or drainage canal water.
  - (b) Applications may be made to control any undesirable vegetation along irrigation canals regardless of whether the vegetation has been classified as “restricted” or “noxious” weeds under the *Weed Control Act*.

3. Forest Regeneration Sites
  - (a) Glyphosate applications may be made non-selectively by aircraft or ground equipment where glyphosate is not deposited within 5 horizontal metres from an open body of water.
  - (b) Applications may be made to control any undesirable vegetation regardless of whether the vegetation has been classified as “restricted” or “noxious” weeds under the *Weed Control Act*.
4. Non-vegetated developed areas such as maintained trails, roads, vehicle parking lots, shoreline rip-rap, railway ballasts, and industrial sites such as flare stacks, pump sites, equipment yards, and electrical substations.
  - (a) Applications may be made non-selectively by ground application equipment provided that no herbicide is deposited within 5 horizontal metres from an open body of water.
5. Vegetated developed areas such as roadside and railway rights of way, utility and pipeline rights of way, turf areas, and dam side-slopes.
  - (a) Applications may be made non-selectively by ground application equipment up to 5 horizontal metres from an open body of water except for applications of amitrole-T, glyphosate, or paraquat.

E. Fungicides:

1. Fungicides, except for those fungicides containing mercury, may be deposited on golf course greens and tee boxes up to 5 horizontal metres of an open body of water.
2. Fungicides containing mercury shall not be deposited within 30 horizontal metres of an open body of water.
3. Fungicides shall not be deposited into or onto any open body of water.

F. Insecticides:

1. Insecticides listed in Table 2 may be deposited up to the bed and shore of an open body of water provided:
  - (a) the federal pesticide label does not stipulate a greater distance. Where the federal pesticide label indicates that the insecticide shall not be applied within a distance from water, the distance specified on the product label shall take precedence.

- (b) the insecticide does not enter into or onto an open body of water.

*Table 2*

*Bacillus thuringiensis*,  
insecticidal soap  
insecticides applied by direct injection, banding, or basal spray to trees, or  
insecticides applied to or within buildings.

#### G. Rodenticides

1. Rodenticides may be applied up to the bed and shore of an open body of water provided:
  - (a) the federal pesticide label does not stipulate a greater distance. Where the federal pesticide label indicates that the rodenticide shall not be applied within a distance from water, the distance specified on the product label shall take precedence.
  - (b) the rodenticide does not enter into or onto an open body of water.

#### H. Aerial Application

1. Aerial applications of pesticides to land shall not be conducted while flying directly over an open body of water.