

12. APPENDICES

APPENDIX A. Contributors to Pub 75A Guide to Weed Control, 2021

Members of the Ontario Weed Committee that contributed to the content of this guide

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APPENDIX B. Weed Control Glossary

Acid Equivalent (abbreviation – a.e.)

(**2,4-D, glyphosate**) – the active part of the acid herbicide being used – usually indicated in grams/L on the label.

Active Ingredient – the chemical in a formulated product that is responsible for the herbicide effects.

Adjuvant – an ingredient added to a herbicide formulation or spray mixture to aid or modify the action of the herbicide, or the physical characteristics of the mixture.

Amine – acid or anionic herbicides can be formulated as ammonium salts or amines. 2,4-D amines are relatively non-volatile under most climatic conditions.

Annual Plant – completes its life cycle within a one-year period. Summer annuals complete their life cycle between spring and fall. Winter annuals germinate in fall, overwinter and then flower and complete their life cycle the following spring or summer.

Band Treatment – a herbicide applied as a narrow strip over the crop row, usually followed by inter-row cultivation.

Biennial Plant – completes its life cycle within a two-year period. Germinates in the spring, overwinters, flowers the following spring or summer and dies back the following fall.

Carrier – the diluent or material added to a herbicide product to facilitate its even distribution over the target area. The carrier is often water but it may also be granular products, oil or other solvents.

Compatible – compounds or formulations that can be mixed and applied together without undesirably altering their separate effects or the physical properties of the mixture.

Contact Chemicals – chemicals that kill only the parts of the plant on which they are sprayed. Movement within the plant is minimal.

Cotyledons – the seed leaves. Often visible when large seeds are opened. These are the first leaves visible in the germinated seedling. Broad-leaved crops or weeds have two cotyledons (dicots). Grasses (monocots) have one.

Directed Treatment – a treatment directed onto the weeds or soil in such a manner as to avoid contact with the crop.

Dormant – a resting stage similar to the condition of a plant during the winter.

Emergence – the time at which the seedling first appears above the ground.

Escape – a plant in a treated area that has been missed or survived the treatment.

Ester – some acid herbicides are reacted with alcohols to produce ester formulations. Ester formulations of 2,4-D and related herbicides can vapourize under hot conditions after treatment and cause unwanted damage by moving away from the treated area.

Formulation – means the same as Product – an active ingredient processed with other materials or formulants to make it easier to apply and/or more effective. Herbicides are rarely sold as pure active ingredients (2,4-D acid), they are sold as formulated mixtures (i.e., 2,4-D amine, sodium salt or ester with added emulsifiers, adjuvants, carriers, etc.).

GMO – a genetically modified organism (GMO) is an organism whose genetic material has been altered using genetic engineering techniques as opposed to traditional breeding methods.

GPS – global positioning system (GPS) is a space based global navigation satellite system that provides location and time information. It's primary application in pest management has been for accurate navigation of equipment so as to minimize the overlaps of pesticide applications.

Half-Life – the time required for 50% of a herbicide to be degraded or inactivated in soil or water.

Herbicide – a chemical that is toxic to plants. Herbicide Tolerant Crops (abbreviation – HTC) – New varieties of crops that have been developed by classical breeding or transgenic techniques to be tolerant to specific herbicides.

Hormone-Type Herbicide – includes 2,4-D, 2,4-DB, mecoprop MCPA, MCPB, dichlorprop, dicamba and triclopyr, picloram. At extremely low concentrations, these chemicals can stimulate and/or disrupt the growth of broadleaved plants.

Non-Selective Herbicide – a chemical used in such a manner that all exposed vegetation is damaged.

Perennial Plant – lives for more than 2 years.

Product – the contents of a herbicide container as marketed. In addition to the active ingredient, it may also contain other solvents, surfactants or carriers that are referred to as inert ingredients or formulants.

Program – application of one or more herbicides at two different stages of crop and/or weed growth. The second herbicide application is used to provide control of the weeds either escaping the original herbicide treatment or that are problems at different periods in the growth of the crop.

Resistant Weeds (Herbicide Resistant Weeds) – the inherited ability of some weeds in the population of a particular weed species to survive a herbicide application to which most of the original population was susceptible.

Selective Herbicide – a chemical used in such a manner that it will kill weeds on a growing crop without damaging the crop.

Sodium Salt – some acid or anionic herbicides can be formulated as sodium salts (e.g., 2,4,-D).

Soil Sterilant – a soil active herbicide that is applied at a sufficiently high rate to prevent all plant growth for at least one season.

Surfactant – a chemical added to the herbicide formulation or to the spray solution to improve the dispersing, spreading, sticking or wetting properties of the spray mixture.

Susceptible – a crop that may be damaged or a weed that may be readily controlled by the label rate of herbicide.

Tank-Mix – two chemicals that are packaged separately and mixed in the sprayer tank.

Translocated Herbicide – a chemical herbicide that moves within the plant.

APPENDIX C. Ontario Ministry of Agriculture, Food and Rural Affairs Crop Advisory Staff List

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A complete list of Ontario Ministry of Agriculture, Food and Rural Affairs advisory staff is available at ontario.ca/crops.

Agricultural Information Contact Centre

Provides province-wide, toll-free technical and business information to commercial farms, agri-businesses and rural businesses.

1 Stone Road West, Guelph, ON N1G 4Y2 • Tel: 519-826-4047 • Toll-free: 1-877-424-1300 • Fax: 519-826-7610 • E-mail: ag.info.omafra@ontario.ca

APPENDIX D. Ontario Ministry of Environment, Conservation and Parks (MECP) – Regional Offices Contact Information

Please contact the Ministry's local District or Area office. The local District Office contact information can be found from www.infogo.gov.on.ca

After business hours, please contact the Pollution Hotline at 1-866-MOE-TIPS (1-866-663-8477).

| REGION County | Address | Telephone/Fax |
|--|---|---|
| Central Region Toronto, Halton, Peel, York, Durham, Muskoka, Simcoe | 5775 Yonge Street, 8th Floor Toronto, ON M2M 4J1 | Tel: 416-326-6700 Toll Free: 1-800-810-8048 Fax: 416-325-6345 |
| West-Central Region Haldimand, Norfolk, Niagara, Hamilton-Wentworth, Dufferin, Wellington, Waterloo, Brant | Ontario Government Building 119 King Street West, 12th Floor Hamilton, ON L8P 4Y7 | Tel: 905-521-7640 Toll Free: 1-800-668-4557 Fax: 905-521-7820 |
| Eastern Region Frontenac, Hastings, Lennox & Addington, Prince Edward, Leeds & Grenville, Prescott & Russell, Stormont/Dundas & Glengarry, Haliburton, Peterborough, Kawartha Lakes, Northumberland, Renfrew, Ottawa, Lanark, District of Nipissing (Twp of South Algonquin) | 1259 Gardiners Road, Unit 3 PO Box 22032 Kingston, ON K7M 8S5 | Tel: 613-549-4000 Toll Free: 1-800-267-0974 Fax: 613-548-6908 |
| Southwestern Region Elgin, Middlesex, Oxford, Essex, Kent, Lambton, Bruce, Grey, Huron, Perth | 733 Exeter Road London, ON N6E 1L3 | Tel: 519-873-5000 Toll Free: 1-800-265-7672 Fax: 519-873-5020 |
| Northern Region (East) Manitoulin, Nipissing, Parry Sound, Sudbury, Algoma (East), Timiskaming, Sault Ste. Marie | 199 Larch Street, Suite 1201 Sudbury, ON P3E 5P9 | Tel: 705-564-3237 Toll Free: 1-800-890-8516 Fax: 705-564-4180 |
| Northern Region (West) Manitoulin, Nipissing, Parry Sound, Sudbury, Algoma (East), Timiskaming, Sault Ste. Marie, Algoma (West), Cochrane, Kenora, Rainy River, Timmins, Thunder Bay | 435 James Street South, Suite 331 Thunder Bay, ON P7E 6S7 | Tel: 807-475-1205 Toll Free: 1-800-875-7772 Fax: 807-475-1745 |
| Standards Development Branch | Pesticides Section 40 St. Clair Avenue West, 7th Floor Toronto, ON M4V 1M2 | Tel: 416-327-5519 Fax: 416-327-2936 |
| Approvals Branch | Pesticides Licensing 2 St. Clair Avenue West, 12A Floor Toronto, ON M4V 1L5 | Tel: 416-314-8001 Toll Free: 1-800-461-6290 Fax: 416-314-8452 |

APPENDIX E. Other Contacts

AGRICULTURE & AGRI-FOOD CANADA RESEARCH CENTRES

www.agr.gc.ca/index_e.php

Eastern Cereals and Oilseeds Research Centre

960 Carling Avenue
Ottawa, ON K1A 0C6
Tel: 613-759-1952

Greenhouse and Processing Crops Centre

2585 County Road 20
Harrow, ON N0R 1G0
Tel: 519-738-2251

Guelph Food Research Centre

93 Stone Road West
Guelph, Ontario N1G 5C9
Tel.: 519-829-2400
Fax: 519-829-2602

Southern Crop Protection and Food Research Centre

1391 Sandford Street
London, ON N5V 4T3
Tel: 519-457-1470

CANADIAN FOOD INSPECTION AGENCY REGIONAL OFFICES (PLANT PROTECTION)

www.inspection.gc.ca/english/toce.shtml

Belleville

345 College Street East
Belleville, ON K8N 5S7
Tel: 613-969-3333

Brantford

625 Park Road North, Suite 6
Brantford, N3T 5P9
Tel: 519-753-3478

Guelph

174 Stone Road West
Guelph, ON N1G 4T1
Tel: 519-837-9400

Hamilton

709 Main Street West, Suite 101
Hamilton, ON L8S 1A2
Tel: 905-572-2201

London

19-100 Commissioners Road East
London, ON N5Z 4R3
Tel: 519-691-1300

Ottawa District

38 Auriga Drive, Unit 8
Nepean, ON K2E 8A5
Tel: 613-274-7374 ext. 221

Toronto

1124 Finch Avenue West, Unit 2
Toronto, ON M3J 2E2
Tel: 416-665-5055

UNIVERSITY OF GUELPH

Weed Science Laboratory

Herbicide Resistant Weed Testing

Crop Science Building, 50 Stone Road East
Guelph, ON N1G 2W1
Tel: 519-824-4120 Ext. 58372
Contact: psmith@uoguelph.ca
www.uoguelph.ca

Ridgetown Campus

Ridgetown, ON NOP 2C0
Tel: 519-674-1500
www.ridgetownc.uoguelph.ca

Department of Plant Agriculture

www.plant.uoguelph.ca

Department of Plant Agriculture, Guelph

50 Stone Road West, Guelph, ON N1G 2W1
Tel: 519-824-4120 ext. 56083 or 52693

Department of Plant Agriculture, Simcoe

1283 Blueline Road, Box 587
Simcoe, ON N3Y 4N5
Tel: 519-426-7127

Department of Plant Agriculture, Vineland

Box 7000, 4890 Victoria Avenue North
Vineland Station, ON LOR 2E0
Tel: 905-562-4141

Lab Services Division

95 Stone Road West
Guelph, ON N1H 8J7
www.guelphlabservices.com

Trace Organic and Pesticide Contaminants

Tel: 519-823-1268

Pest Diagnostic Clinic

Tel: 519-767-6256

APPENDIX F. Herbicide Companies and Agents

| Name | Phone | Website |
|--|----------------|--|
| ADAMA AGRICULTURAL SOLUTIONS CANADA LTD. | 1-855-264-6262 | www.adama.com/canada |
| ADJUVANTS PLUS INC. | 1-877-512-4659 | www.adjuvantsplus.com |
| AGRI STAR CANADA ULC | 1-800-247-8013 | www.albaughllc.ca |
| ALBAUGH, LLC | 1-800-247-8013 | www.albaughllc.ca/ |
| BASF CANADA INC. | 1-877-371-2273 | www.agsolutions.ca |
| BAYER CROPSCIENCE INC. | 1-888-283-6847 | www.bayercropscience.ca |
| CORTEVA AGRISCIENCE | 1-800-667-3852 | www.corteva.ca |
| FMC CANADA | 1-833-362-7722 | www.fmccrop.ca |
| GOWAN COMPANY | 1-800-883-1844 | www.gowanco.com |
| INTERPROVINCIAL COOPERATIVE LIMITED | 1-800-328-4678 | www.ipco.ca |
| LOVELAND PRODUCTS INC. | 1-970-685-3300 | www.lovelandproducts.ca |
| NORAC CONCEPTS INC. | 1-519-821-3633 | www.noracconcepts.com |
| NUFARM AGRICULTURE INC. | 1-800-868-5444 | www.nufarm.ca |
| SHARDA CROP CHEM LTD. | 1-844-810-5720 | www.shardacanada.ca/ |
| SYNGENTA CROP PROTECTION CANADA INC. | 1-800-459-2422 | www.syngenta.ca |
| UPL CANADA | 1-800-438-6071 | www.upi-usa.com/canada/ |
| VALENT CANADA INC. | 1-519-767-9262 | www.valent.ca |
| WINFIELD UNITED CANADA, ULC | 1-888-975-4769 | www.winfieldunited.ca |

