ACUTE PESTICIDE TOXICTY CHART FOR VEGETABLE CROPS

Nova Scotia Vegetable Crop Guide to Pest Management 2010
[TOX1-10]

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IMPORTANT

This publication was compiled by representatives from AgraPoint using information from the Pest Management Regulatory Agency of Health Canada, specific pesticide labels, MSDS, previous Atlantic Provinces Vegetable Pest Guides and EXTOXNET. **This information is designed to be used as a tool to help select specific products based on their toxicity profile. The toxicity ratings listed in the table below are designed to give a general idea of toxicity and the rating scale used is based on USEPA's toxicity scale (see table at the end of the document)**

By printing this publication, AgraPoint does not offer any warranty or guarantee, nor do they assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

WARNINGS

This publication lists all active ingredients registered in vegetable crops for Nova Scotia. Where there are multiple brand names of a specific active ingredient registered in Canada, AgraPoint has only listed a couple for reference purposes and as such does not endorse one brand over another. If you have purchased a generic product not specifically in this guide but has your crop and pest on the label, always follow that product label.

If any information in this or any other publication conflicts with the information on the label and MSDS, always use the label and MSDS recommendations. If you have an old label, your pesticide supplier should be able to give you the newest label. You are legally responsible for the safe use of pesticides you purchase. This means the safe transport and storage of these materials, the label rates used on crops, and the safe disposal of containers.

COMMON NAME	TRADE NAMES	Use	Chemical Class	TOXICITY		
				TO BEES	TO APPLICATOR	
					ORAL	DERMAL
2,4-D	**2,4-D**	H	phenoxy	**low**	**mod**	**mod**
acephate	**Orthene**	I	organophosphate	**high**	**mod**	**mod**
acetamiprid	**Assail**	I	neonicitinoid	**mod**	**mod**	**low**
azoxystrobin	**Quadris**	F	qol	**slight**	**slight**	**low**
Bacillus subtilus	**Serenade Max**	F	biological	**slight**	**slight**	**slight**
Bacillus thuringiensis	**Novodor, Dipel, Thuracide, BioProtec**	I	biological	**slight**	**slight**	**slight**
bentazon	**Basagran**	H	benzothiadiazine	**slight**	**low**	**low**
boscalid	**Lance**	F	anilide	**low**	**low**	**low**
boscalid, pyraclostrobin	**Pristine**	F	Anilde/qol	**low**	**low**	**low**
bromoxynil	**Koril, Pardner**	H	nitrile	**low**	**low**	**low**
captan	**Captan, Maestro**	F	phthalimide	**low**	**low**	**low**
carbaryl	**Sevin XLR Plus**	I	carbamate	**high**	**mod**	**low**
carbofuran	**Furadan**	I	carbamate	**high**	**high**	**mod**
chlorothalonil	**Bravo**	F	chloronitrile	**slight**	**slight**	**slight**
chlorpyrifos	**Lorsban, Pyrifos, Pyrinex**	I	organophosphate	**high**	**mod**	**mod**
chlorsulfuron	**Telar**	H	Sulfonyl urea	**low**	**low**	**slight**
chlorthal dimethyl	**Dacthal**	H	phthalate	**low**	**slight**	**low**
clethodim	**Select**	H	cyclohexanedione	**slight**	**mod**	**slight**
clopyralid	**Lontrel**	H	pyridine	**low**	**slight**	**slight**
clothianidin	**Poncho**	I	neonicitinoid	**mod**	**mod**	**low**
copper hydroxide	**Kocide, Parasol**	F	inorganic	**low**	**mod**	**low**
copper sulfate	**Copper 53W**	F	Inorganic	**mod**	**mod**	**mod**
cyhalothrin-lambda	**Matador**	I	pyrethroid	**high**	**mod**	**mod**
cymoxanil	**Curzate**	F	dithiocarbamate	**-**	**mod**	**low**
cypermethrin	**Ripcord, UP-Cyde**	I	pyrethroid	**high**	**mod**	**low**
cyprodinil, fludioxonil	**Switch**	F	anilinopyrimidine/ phenylpyrrole	**low**	**low**	**low**
deltamethrin	**Decis**	I	pyrethroid	**high**	**mod**	**low**
diazinon	**Diazinon, DZN**	I	organophosphate	**high**	**mod**	**mod**
Dicamba/MCPA	**Dyvel**	H	Benzoic acid	**low**	**low**	**low**
dichloran	**Botran**	F	quinone	**low**	**low**	**low**
dicofol	**Kelthane**	M	organochlorine	**low**	**low**	**low**
dimethenamid	**Frontier**	H	chloroacetamide	**low**	**low**	**low**
dimethoate	**Cygon, System, Lagon**	I	organophosphate	**high**	**mod**	**mod**
diquat	**Reglone**	H	bipyridylium	**low**	**mod**	**mod**
diuron	**Karmex**	H	Substituted urea	**low**	**low**	**low**

endosulfan	**Thiodan, Thionex**	I	chlorinated hydrocarbon	**high**	**high**	**high**
ethofumesate	**Nortron**	H	unclassified	**low**	**low**	**low**
famoxadone/cymoxanil	**Tanos**	F	Qol + acetamide	**low**	**low**	**low**
fenhexamid	**Elevate**	F	anilide	**slight**	**low**	**low**
fenoxaprop-p-ethyl	**Excel Super**	H	Aryloxy-phenoxypropionate	**slight**	**low**	**low**
ferbam	**Ferbam**	F	Dithiocarbamate	**low**	**slight**	**slight**
ferric phosphate	**Sluggo**	i	Inorganic	**low**	**slight**	**slight**
fluazifop-p-butyl	**Venture**	H	Aryloxy-phenoxypropionate	**slight**	**low**	**low**
fluazinam	**Allegro**	F	pyridamine	**low**	**slight**	**low**
flumioxazin	**Chateau**	H	bipyridiliums	**slight**	**slight**	**low**
fomesafen	**Reflex**	H	Diphenyl-ether	**low**	**slight**	**mod**
fosetyl-al	**Aliette**	F	phosphonate	**low**	**low**	**low**
glufosinate ammonium	**Ignite**	H	unique	**low**	**low**	**low**
glyphosate	**Roundup, Touchdown, Glyfos**	H	Amino acid	**slight**	**low**	**slight**
imazethapyr	**Pursuit**	H	imidazole	**slight**	**slight**	**low**
imidacloprid	**Admire, Gaucho**	I	neonicitinoid	**high**	**low**	**low**
iprodione	**Rovral**	F	dicarboximide	**slight**	**low**	**low**
kaolin clay	**Surround**	I	Inert clay	**slight**	**slight**	**slight**
linuron	**Lorox**	H	Substituted urea	**slight**	**low**	**slight**
malathion	**Malathion**	I	organophosphate	**high**	**mod**	**low**
mancozeb	**Dithane, Manzate**	G	ethylene(bis) dithiocarbamate	**slight**	**slight**	**slight**
mandipropamid	**Revus**	F	Carboxylic acid amides	**slight**	**low**	**slight**
mcpa	**MCPA**	H	Phenoxy	**low**	**low**	**low**
mcpa/mcpb	**Tropotox Plus, Clovitox Plus**	H	phenoxy	**low**	**low**	**low**
metalaxyl	**Ridomil**	F	benzenoid	**slight**	**low**	**low**
metalaxyl-M	**Ridomil Gold, Apron XL LS**	F	benzenoid	**slight**	**low**	**low**
methomyl	**Lannate**	I	carbamate	**high**	**high**	**low**
metiram	**Polyram**	F	ethylene(bis) dithiocarbamate	**low**	**slight**	**low**
metribuzin	**Sencor**		triazine	**slight**	**low**	**slight**
mineral oil	**Superior oil**	I	n/a	**low**	**slight**	**low**
myclobutanil	**Nova**	F	triazole	**slight**	**low**	**slight**
naled	**Dibrom**	I	organophosphate	**high**	**mod**	**mod**
napropamide	**Devrinol**	H	amide	**slight**	**slight**	**low**
naptalam	**Alanap**	H	amide	**low**	**low**	**slight**
nicosulfuron	**Accent**	H	sulfonylurea	**low**	**slight**	**slight**
oxyfluorfen	**Goal 2XL**	H	Diphenyl ether	**slight**	**low**	**low**
paraquat	**gramoxone**	H	quaternary nitrogen	**low**	**high**	**mod**

pendimethalin	**Prowl 400**	H	dinitroaniliine	**slight**	**low**	**low**
permethrin	**Pounce**	I	pyrethroid	**high**	**mod**	**low**
phosmet	**Imidan**	I	organophosphate	**high**	**mod**	**low**
primicarb	**Pirimor**	I	Carbamate	**mod**	**mod**	**mod**
prometryne	**Gesagrad**	H	Triazine	**slight**	**low**	**low**
propiconazole	**Topas, Mission**	F	Triazole	**low**	**low**	**low**
propyzamide	**Kerb**	H	Amide	**slight**	**slight**	**low**
pyraclostrobin	**Cabrio**	F	Qol	**low**	**low**	**low**
rimsulfuron	**Prism**	H	sulfonylurea	**low**	**slight**	**slight**
rotenone	**Rotenone**	I	botanical	**low**	**mod**	**mod**
s-metolachlor	**Dual Magnum**	H	acetanilide	**slight**	**low**	**low**
s-metolachlor/benoxacor	**Dual II Magnum**	H	acetanilide	**slight**	**low**	**low**
sethoxydim	**Poast Ultra**	H	cyclohexanedione	**slight**	**low**	**slight**
simazine	**Princep Nine-T, Simadex, Simazine**	H	triazine	**slight**	**low**	**slight**
spinosad	**Success, Entrust**	I	naturalyte	**mod**	**slight**	**slight**
spinetoram	**Delegate**	I	naturalyte	**mod**	**slight**	**slight**
sulfur	**Microscopic Sulfur**	F	Sulfur	**slight**	**low**	**low**
terbacil	**Sinbar**	H	Uracil	**slight**	**low**	**slight**
thifensulfuron-methyl	**Pinnacle**	H	Sulfonylurea	**low**	**slight**	**low**
thifensulfuron-methyl/tribenuron-methyl	**Refine Extra**	H	Sulfonylurea	**low**	**low**	**low**
thiophanate-methyl	**Easout, Senator**	F	benzimidazole	**slight**	**slight**	**slight**
trifluralin	**Treflan, Rival, Bonanza 400**	H	dinitroaniline	**slight**	**low**	**low**
Triflusuluron-methyl	**Upbeet**	H	Sulfonylurea	**low**	**slight**	**slight**
vinclozolin	**Ronilan**	F	dicarboximide	**slight**	**slight**	**low**
zineb	**Zineb**	F	dithiocarbamate	**low**	**low**	**low**

Relative toxicity of pesticides based on acute oral, dermal and bee LD_{50}			
Acute Toxicity	**Oral LD_{50}**	**Dermal LD_{50}**	**Bee LD_{50}**
High	less than 50 mg/kg	less than 200 mg/kg	< 2 ug/bee
Moderate	50 to 500 mg/kg	200 to 2,000 mg/kg	2 – 10.99 ug/bee
Low	500 - 5000 mg/kg	2,000 – 5,000 mg/kg	11 – 100 ug/bee
Slight to Non-toxic	>5000 mg/kg	>5,000 mg/kg	>100

			ug/bee

Reference: EXTOXNET (http://extoxnet.orst.edu/pips/ghindex.html)