

GUIDE TO WEED MANAGEMENT IN STRAWBERRY

Nova Scotia Guide to Pest Management in Strawberry 2019
[Straw1-19]

Updated April 23, 2019 by
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IMPORTANT

This publication was compiled by representatives from Perennia using information from the Pest Management Regulatory Agency of Health Canada, and specific pesticide labels. **This information is continuously changing and therefore it can cease to be current and accurate. Pesticide labels are the best source of information and should always be consulted prior to using a product.** The label is the best source of information on: registered crop uses, rates, days to harvest, compatibility with other pesticides, toxicity and other special information on its effective and safe use.

By printing this publication, Perennia 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 is meant to be used as a reference for possible pest control options. Where there are multiple brand names of a specific active ingredient registered in Canada, Perennia has only listed a few 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, always use the label recommendation. 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.

| Pest | Group | Active Ingredient | Pesticide Product Name | Rate | Restricted Entry Interval (REI) | Pre-harvest Interval (days) | Remarks |
|---|-------|------------------------------|------------------------|-----------------|---------------------------------|-----------------------------|--|
| PLANTING YEAR | | | | | | | |
| Soil Applied: <i>Before Planting</i> | 15 | s-metolachlor / r-enantiomer | Dual II Magnum | 1.25-1.75 L/ha | 12 hours | - | Apply only once per year. Apply and incorporate or apply post transplant after weeds emerge. Do not apply to variety Joliette. Do not apply if varieties are being harvested in the planting year. |
| | 3 | trifluralin | Treflan EC | 1.25-2.3 L/ha | 12 hours | - | Apply and incorporate in two directions 1-3 weeks before transplanting. May delay establishment in stressful conditions. |
| | | | Rival EC | 1.2-2.2 L/ha | | | |
| Soil Applied: <i>2-4 Weeks After Planting</i> | 3 | chlorthal dimethyl | Dacthal W-75 | 13.5 kg/ha | 12 hours | - | Apply before weed emergence. Shallow cultivation may improve weed control. |
| | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Inhibition of daughter plant rooting can occur when soil moisture is low. |
| Soil Applied: | 5 | terbacil | Sinbar WDG | 0.28-0.55 kg/ha | 12 hours | - | Apply when mother plants are well established but before weeds have emerged or |

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|---|---|------------------------------|-------------------------------|-----------------------------|----------|-------------|---|
| <i>4-6 weeks after planting</i> | | | | | | | are very small. Apply in a minimum of 300 L of water/ha. Use lower rate on sandy soils and on varieties (Kent, Bounty, Micmac, Annapolis, Glooscap and Cavendish). Do not apply to weak or stressed plants. |
| | 5 | simazine | Princep Nine-T | 0.56 kg/ha | 12 hours | - | Use only on soils with a pH of 5.6 or lower and more than 2% organic matter. Make this application after transplanting, following cultivation. Two applications can be made during the planting year. |
| Post Emergence: <i>Grasses</i> <i>2-4 Weeks After Planting</i> | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. |
| | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | 12 hours | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |
| Post Emergence: <i>Broadleaf weeds</i> | 4 | 2,4-D | 2,4-D (470 g/L) | 1.17 L/ha | 12 hours | - | Use the amine formulation and do not use when runners are rooting or between mid-August and fall dormancy. |
| | 5 | phenmedipham and desmedipham | Betamix β EC | 1.15 to 1.75 L/ha | 24 hours | See remarks | Apply as broadcast spray in 100-200 L of water. Apply when earliest weeds have |

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|--|----|---------------------|---|--|----------|----|---|
| <i>2-4 Weeks After Planting</i> | | | | | | | reached cotyledon stage. Repeat applications at 5-7 day intervals after 1 st application or when next flush of weeds germinates. Max 3 applications per season. Do not spray in excess of 5.25L/ha of Betamix per season. Do not apply to strawberries that bear fruit during the planting year. Do not harvest berries that may develop in the year of planting. |
| Post Emergence: <i>Non-selective</i> | 14 | carfentrazone-ethyl | Aim EC plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Do not apply to strawberry foliage. Shielded inter-row or hooded sprayer applications only. Apply only once per year. |
| <i>2-4 Weeks After Planting</i> | 9 | glyphosate | Roundup Original, Roundup Transorb, Glyfos, Touchdown etc. | Spot: 1-2% solution Wick wiping: 33% solution (1 part product to 2 parts water) | 12 hours | 30 | Avoid contact with strawberry plants. |
| Late Summer/ Early Fall (Labour Day) | 3 | chlorthal dimethyl | Dacthal W-75 | 13.5 kg/ha | 12 hours | - | Apply before weed emergence. Shallow cultivation may improve weed control. |
| Soil Applied: <i>Broadleaf and grass weeds</i> | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once pre season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Inhibition of |

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| | | | | | | | daughter plant rooting can occur when soil moisture is low. |
| | 5 | terbacil | Sinbar WDG | 0.18-0.28 kg/ha | 12 hours | - | Apply before weeds have emerged or when they are very small. Apply in a minimum of 300 L of water/ha Use lower rate on sandy soils and on varieties (Kent, Bounty, Micmac, Annapolis, Glooscap and Cavendish). Do not apply to weak or stressed plants. |
| | 5 | simazine | Princep Nine-T | 0.56 kg/ha | 12 hours | - | Use only on soils with a pH of 5.6 or lower and more than 2% organic matter. Make this application after following cultivation. Two applications can be made during the planting year. |
| Post Emergence: <i>Grasses</i> | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. |
| | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | - | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |

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| Late Fall Soil Applied: <i>Broadleaf and grass weeds</i> | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Inhibition of daughter plant rooting can occur when soil moisture is low. |
| | 14 | oxyflyorfen | Goal 2XL | 1.0 L/ha | 24 hours | 150 | Apply in 500 L of water /ha. Apply to dormant plants before applying mulch in fall. Apply before weeds emerge. |
| | 5 | terbacil | Sinbar WDG | 0.7-0.85 kg/ha | 12 hours | - | Apply before weeds have emerged or when they are very small. Apply in a minimum of 300 L of water /ha. Use lower rate on sandy soils and on varieties (Kent, Bounty, Micmac, Annapolis, Glooscap and Cavendish). Do not apply to weak or stressed plants. |
| Post Emergence: <i>Grasses</i> | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. |
| | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | 12 hours | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |

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|--|----|---------------------|---|--|----------|----|---|
| Post Emergence: <i>Non-selective</i> | 9 | glyphosate | Roundup Original, Roundup Transorb, Glyfos, Touchdown etc. | Spot: 1-2% solution Wick wiping: 33% solution (1 part product to 2 parts water) | 12 hours | 30 | Avoid contact with the strawberry plants. |
| | 14 | carfentrazone-ethyl | Aim plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Must be applied in a minimum of 100 L of water/ha. Crop injury will occur if spray is allowed to come in contact with the any part of the crop. |
| Pre & Post emergence broadleaf weeds | 14 | Fomesafen | Reflex | 1.0 L/ha | 12 hours | 77 | If target weeds have emerged, Reflex must be used with a non-ionic adjuvant or Turbocharge at 0.25 %v/v. For a non-ionic adjuvant use Agral 90 or Citowett at 0.1% v/v of spray solution. Apply in a minimum of 200 L of water per hectare and at a pressure of 245 kPa. Apply during dormancy in the fall or early winter (prior to snowfall). Do not apply to any field more often than once every two years. Do not rotate to another crop in the same season. |

| Pest | Group | Active Ingredient | Pesticide Product Name | Rate | Restricted Entry Interval (REI) | Pre-harvest Interval (days) | Remarks |
|--|-------|--------------------|------------------------|-----------------|---------------------------------|-----------------------------|--|
| FRUITING YEAR | | | | | | | |
| Spring after Mulch Removal | 3 | chlorthal dimethyl | Dacthal W-75 | 13.5 kg/ha | 12 hours | - | Apply before weed emergence. Shallow cultivation may improve weed control. Do not apply from first bloom to harvest. |
| Soil Applied: <i>Broadleaf and grass weeds</i> | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Do not apply from bloom to harvest. |
| | 5 | terbacil | Sinbar WDG | 0.28-0.55 kg/ha | 12 hours | - | Apply when mother plants are well established but before weeds have emerged or when they are very small. Use low rate when Sinbar was used in the fall. Apply in a minimum of 300 L of water/ha. Use lower rate on sandy soils and on varieties (Kent, Bounty, Micmac, Annapolis, Glooscap and Cavendish). Do not apply to weak or stressed plants. |
| | 14 | flumioxazin | Chateau | 210 g/ha | 12 hours | - | Apply to dormant plants only, immediately after mulch removal. If plants are actively growing crop damage may occur. Otherwise use with a shielded sprayer between rows. Apply only once per growing |

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|--|----|---------------------|---|--|----------|----|---|
| | | | | | | | season. (Pigweeds, ragweed, Lamb's quarters, and dandelion). |
| | 15 | s-metolachlor | Dual II Magnum | 1.25-1.75 L/ha | 12 hours | 30 | Apply in 150 L/ha of water Strawberry cultivars may vary in their tolerance to Dual II Magnum. One application per season after mulch removal but before weed emergence. |
| Post Emergence: <i>Grasses</i> | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. |
| | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | - | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |
| Post Emergence: <i>Non-selective</i> | 9 | glyphosate | Roundup Original, Roundup Transorb, Touchdown Glyfos, etc. | Spot: 1-2% solution Wick wiping: 33% solution (1 part product to 2 parts water) | 12 hours | 30 | Avoid contact with the strawberry plants. |
| | 14 | carfentrazone-ethyl | Aim plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Must be applied in a minimum of 100 L of water/ha. Crop injury will occur if spray is allowed to come in contact with the any part of the crop. |
| At Renovation | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 |

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|------------------------|---|------------|---|--|----------|-----|--|
| Post Emergence: | | | | | | | days after application before applying Sinbar. |
| <i>Grasses</i> | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | - | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |
| Post Emergence: | 4 | 2,4-D | 2,4-D (470 g/L) | 2.2 L/ha | 12 hours | - | Use amine formulation. Apply after harvest but before mowing. Delay mowing for a few days after application. Do not use between mid-August and fall dormancy. |
| <i>Broadleaf weeds</i> | 4 | clopyralid | Lontrel 360 | 0.56-0.83 L/ha | 12 hours | 200 | Apply immediately after harvest and wait 7-10 days before mowing. Apply once per year as a single treatment. (Vetch, Canada Thistle, sheep sorrel, groundsel) |
| | 4 | Clopyralid | Pyralid | 0.672 L/ha (vetch) 0.996 L/ha (sheep sorrel & ox-eye daisy) | 12 hours | - | For control of tufted vetch and Canada thistle and suppression of sheep sorrel and ox-eye daisy. Apply as a broadcast application with a boom sprayer calibrated to deliver a total volume of 150 to 200 L/ha. Summer renovation treatment. Wait 7 to 10 days after application before mowing. |
| Post Emergence: | 9 | glyphosate | Roundup Original, Roundup Transorb, Touchdown Glyfos, etc. | Spot: 1-2% solution Wick wiping: 33% solution (1 part product to 2 parts water) | 12 hours | 30 | Avoid contact with the strawberry plants. |
| <i>Non-selective</i> | | | | | | | |

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|--|----|---------------------|--------------------------|-----------------------------|----------|---|---|
| | 22 | paraquat | Gramoxone | 5.5 L/ha | 24 hours | - | To be used in late summer to narrow rows and kills weeds between rows. Only emerged weeds will be controlled. |
| | 14 | carfentrazone-ethyl | Aim plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Must be applied in a minimum of 100 L of water/ha. Crop injury will occur if spray comes in contact with the any part of the crop. |
| Late Summer/ Early Fall (Labour Day) | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Inhibition of daughter plant rooting can occur when soil moisture is low. |
| Soil Applied: <i>Broadleaf and grass weeds</i> | 5 | terbacil | Sinbar WDG | 0.65-0.85 kg/ha | 12 hours | - | Apply following renovation, before weeds have emerged or when they are very small. Apply in a minimum of 300 L of water/ha. Use lower rate on sandy soils and on varieties (Annapolis, Bounty, Kent, Micmac, Glooscap and Cavendish). Do not apply to weak or stressed plants. |
| | 5 | simazine | Princep Nine-T | 0.89-1.78 kg/ha | 12 hours | - | Use only on soils with a pH of 5.6 or lower and more than 2% organic matter. Apply after renovation, following cultivation. Use higher rate on heavy weed problems. |

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|--|----|---------------------|---|---|----------|----|---|
| Post Emergence: <i>Grasses</i> | 1 | fluazifop-p-butyl | Venture L | 0.6-2.0 L/ha | 12 hours | 30 | Use one application per season. Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. |
| | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | - | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before applying Sinbar. Apply in 100-200 L of water /ha. |
| Post Emergence: <i>Non-selective</i> | 9 | glyphosate | Roundup Original, Roundup Transorb, Touchdown Glyfos, etc. | Spot: 1-2% solution | 12 hours | 30 | Avoid contact with the strawberry plants. |
| | | | | Wick wiping: 33% solution (1 part product to 2 parts water) | | | |
| | 22 | paraquat | Gramoxone | 5.5 L/ha | 24 hours | - | To be used in late summer to narrow rows and kill weeds between rows. Only emerged weeds will be controlled. |
| | 14 | carfentrazone-ethyl | Aim plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Must be applied in a minimum of 100 L of water/ha. Crop injury will occur if spray is allowed to come in contact with the any part of the crop. |
| Late Fall Soil Applied: <i>Broadleaf and grass weeds</i> | 15 | napropamide | Devrinol DF | 9 kg/ha | 12 hours | - | Apply once per season before weeds emerge or following cultivation. Incorporation by rainfall, irrigation or cultivation is essential. Inhibition of daughter plant rooting can occur when soil moisture is low. |

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| | 14 | oxyflorfen | Goal 2XL | 1.0 L/ha | 24 hours | 150 | Apply in 500L water /ha. Apply to dormant plants before applying fall mulch. Apply before weeds emerge. |
| | 5 | terbacil | Sinbar WDG | 0.7-0.85 kg/ha kg/ha | 12 hours | - | Apply before weeds have emerged or when they are very small. Apply in a minimum of 300 L of water /ha. Use lower rate on sandy soils and on varieties (Bounty, Micmac, Annapolis, Glooscap, Kent and Cavendish). Do not apply to weak or stressed plants. |
| | 5 | simazine | Princep Nine-T | 0.89-1.78 kg/ha | 12 hours | - | Use only on soils with a pH of 5.6 or lower and more than 2% organic matter. Make this application following cultivation. |
| | 3 | chlorthal dimethyl | Dacthal W-75 | 13.5 kg/ha | 12 hours | - | Apply before weed emergence. Shallow cultivation may improve weed control. Rainfall or irrigation after application is important. |
| | 15 | propyzamide | Kerb 50 WP | 2.25 kg/ha | 24 hours | - | Apply Kerb in 300-500 L of water/ha. Apply in late fall prior to mulching and freeze-up. (buttercup, chickweed, stitchwort and sheep sorrel) |
| | 14 | flumioxazin | Chateau | 210 g/ha | 12 hours | - | Apply to dormant plants only, just prior to mulching. Otherwise use with a shielded sprayer between rows. Make only one application per growing season. (Pigweeds, ragweed, Lamb's quarters, and dandelion). |
| Post Emergence: | 1 | sethoxydim | Poast Ultra plus Merge | 0.32-1.1 L/ha plus 1-2 L/ha | - | 25 | Apply to actively growing grasses before tillering. Wait at least 14 days after application before |

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|--|------------------------|----------------------|---|--|----------|---------|--|
| <i>Grasses</i> | | | | | | | applying Sinbar. Apply in 100-200 L of water /ha. |
| Post Emergence: <i>Non-selective</i> | 9 | glyphosate | Roundup Original, Roundup Transorb, Glyfos, Touchdown etc. | Spot: 1-2% solution Wick wiping: 33% solution (1 part product to 2 parts water) | 12 hours | 30 | Avoid contact with the strawberry plants. |
| | 14 | carfentrazone-ethyl | Aim plus Agral 90 | 37-117 ml/ha plus 0.25% v/v | 12 hours | 1 | Must be applied with a hooded sprayer to control weeds between rows. Apply only once per year. Must be applied in a minimum of 100 L of water/ha. Crop injury will occur if spray is allowed to come in contact with the any part of the crop. |
| Pre & Post emergence broadleaf weeds | 14 | Fomesafen | Reflex | 1.0 L/ha | 12 hours | 77 | If target weeds have emerged, Reflex must be used with a non-ionic adjuvant or Turbocharge at 0.25 %v/v. For a non-ionic adjuvant use Agral 90 or Citowett at 0.1% v/v of spray solution. Apply Reflex in a minimum of 200 L of water per hectare and at a pressure of 245 kPa. Apply during dormancy in the fall or early winter (prior to snowfall). Do not apply to any field more often than once every two years. Do not rotate to another crop in the same season. |
| <u>Runner suppression</u> | Plant Growth Regulator | Prohexadione calcium | Apogee | 135 g/ha | 12 hours | 21 days | Apply prior to the beginning of runner initiation for June-bearing and Day-neutral strawberries. The use of a non-ionic surfactant and |

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| | | | | | | | <p>ammonium sulphate conditioner is recommended. Make subsequent applications at 14–21 day intervals, up to a maximum of 3 applications per season, if required.</p> <p><i>Apogee has been evaluated for phytotoxicity on a wide range of conditions; however, it has not been possible to evaluate all commercially important varieties under every possible condition. Apply Apogee to a small area and evaluate crop safety for 3–5 days before trying a large-scale spray to make certain that no phytotoxicity occurs.</i></p> |
|--|--|--|--|--|--|--|---|

For more detailed information on weed management refer to the “Strawberry IPM Weed Management Guide” from the New Brunswick Department of Agriculture, Fisheries and Aquaculture:

<https://www.gnb.ca/0171/20/StrawberryIPM.pdf>

Use the following web link to search for any pesticide label mentioned in this guide, or any other pesticide registered in Canada:

<http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php>

Product Toxicity

| COMMON NAME | TRADE NAMES | TOXICITY | | |
|---------------------------|----------------------------|----------|---------------|--------|
| | | TO BEES | TO APPLICATOR | |
| | | | ORAL | DERMAL |
| 2,4-D | 2,4-D Amine 500 | low | mod | mod |
| carfentrazone-ethyl | Aim EC | low | low | low |
| clopyralid | Lontrel | low | low | low |
| chlorthal dimethyl | Dacthal W-75 | low | low | low |
| fluazifop-p-butyl | Venture | low | low | low |
| flumioxazin | Chateau | low | low | low |
| fomesafen | Reflex | low | low | low |
| glyphosate | Roundup, Touchdown, Glyfos | low | low | low |
| napropamide | Devrinol DF | low | low | low |
| oxyflorfen | Goal 2XL | low | low | low |
| paraquat | Gramoxone | low | high | mod |
| Phenmedipham, desmedipham | Betamix β EC | low | low | low |
| prohexadione calcium | Apogee | low | low | low |
| propyzamide | Kerb | low | low | low |
| simazine | Simazine, Princep Nine-p | low | low | low |
| sethoxydim | Poast Ultra | low | low | low |
| s-metolachlor / benoxacor | Dual II Magnum | low | low | low |
| terbacil | Sinbar | low | low | low |
| trifluralin | Treflan EC, Rival | low | low | low |

References: EXTOUNET (<http://extounet.orst.edu/pips/ghindex.html>) and Individual Product MSDS sheets

PESTICIDE EMERGENCY CONTACT INFORMATION

| Poison Control Centres | | |
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| Nova Scotia | 800.565.8161 or 902.428.8161 | IWK, Halifax, NS |
| New Brunswick | 911 | Ask for Poison Information |
| Prince Edward Island | 800.565.8161 or 902.428.8161 | IWK, Halifax, NS |
| Newfoundland | 709.722.1110 | Dr. Charles A. Janeway Child Health Care Centre, St. John's, NF |

| Environmental Emergencies (Pesticide Spills) | |
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| Transport Canada Regional Operations Centre (24 hours) | |
| Nova Scotia | 800.565.1633 |
| New Brunswick | 800.565.1633 |
| Prince Edward Island | 800.565.1633 |
| Newfoundland | 800.563.9089 |

ABBREVIATIONS & CONVERSIONS

| Formulation and Measurement Abbreviations | | | |
|--|--------------------------|--------------|---------------------------------|
| FORMULATIONS | | MEASUREMENTS | |
| DF | Dry flowable | mL | millilitre |
| EC,E | Emulsifiable concentrate | kPa | kilopascal |
| F | Flowable | kg | kilogram |
| G | Granular | g | gram |
| L | Liquid | L | litre |
| WDG | Wettable dry granule | BIU | Billions of International Units |
| WP,W | Wettable powder | ppm | parts per million |
| SC | Suspension concentrate | | |
| Sn | Solution | | |
| SP | Soluble powder | | |

| Helpful Conversions* | |
|---|--|
| kPa X 0.14 = pounds per square inch (psi) | millilitres X 0.035 = fluid ounces |
| hectares X 2.47 = acres | litres X 35 = fluid ounces |
| kilograms X 2.2 = pounds | litres X 0.22 = imperial gallons |
| kilograms per hectare X 0.89 = pounds per acre | litres per hectare X 14.17 = fluid ounces per acre |
| kilograms per hectare X 0.40 = kilograms per acre | litres per hectare X 0.40 = litres per acre |
| | degree-days C X 1.8 = degree-days F |

* Pesticide Units of Measurement

It is not recommended to convert label rates to imperial units because there is a high probability of mathematical and rounding errors. Present day pesticides are formulated to have greater toxic effects in smaller amounts. Therefore, even small conversion errors can lead to the use of incorrect dosages (either too high or too low). Use metric – you will be glad you did!