

# 5. Nursery and ornamental crops

TABLE 5-1

# Nursery and ornamental herbicide weed control ratings

NOTES: Ratings are subjective values based on best available information and give general comparisons based on use as described in this guide. Under unfavourable conditions (e.g., too dry, too wet, too cold, or poor application) the herbicides may not be as effective as indicated. Ratings may vary with weed and crop stage and with the timing and rates of the product(s) being used. Please refer to product label for more information on registered weed species, product uses and precautions.

**LEGEND:** N = No Control P = Poor Control F = Fair Control G = Good Control E = Excellent Control  
- = insufficient information available to make a rating

TRADE NAME	Grasses					Annual Broadleaves							
	barnyard grass	crabgrass	fall panicum	foxtail	witchgrass	chickweed, common	fleabane, Canada	groundsel	lady's-thumb	lamb's-quarters	mustards	pigweeds	ragweed
<b>SOIL-APPLIED BROADLEAF HERBICIDES</b>													
BROADSTAR	P	P	P	P	P	G	-	G	F	E	-	E	F
GALLERY	-	-	-	-	-	-	-	-	-	G	-	-	-
SUREGUARD	P	P	P	P	P	G	E	G	F	E	-	E	F
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>													
CASORON G-4	F	F	F	F	F	G	-	G	G	G	G	G	G
DACTHAL W-75	G	G	G	G	G	G	-	N	N	G	P	F	P
DEVRIKOL 2-XT	G	E	G	G	G	F	-	F	F	G	P	G	F
DUAL II MAGNUM or KOMODO HERBICIDE	E	E	E	E	E	-	-	-	P	F	P	G <sup>1</sup>	P
ECOCLEAR	-	E	-	E	-	E	-	-	-	E	E	-	G
FRONTIER MAX	E	E	G	E	E	-	-	-	P	F	P	G <sup>1</sup>	-
KATANA 25WG	-	F	-	E	F	E	F	E	-	E	E	E	E
KERB SC	G	F	G	G	G	F	-	-	F	G	G	F	F
RONSTAR 2G	F	G	-	G	-	P	-	G	-	G	G	F	-
SIMADEX or SIMAZINE 480 or PRINCEP NINE-T	G	F	F	G	G	G	-	G	E	E	E	E	G
SPECTICLE FLO or SPECTICLE G	E	E	E	E	E	-	-	E	E	E	E	F	-
TREFLAN or BONANZA or RIVAL	E	E	G	G	G	F	-	P	P	G	P	G	P

<sup>1</sup> Use the high rate of herbicide for optimum control.

<sup>2</sup> Not all formulations registered on all crops. See label for specific uses and rates.

<sup>3</sup> Use higher rates for weeds larger than 15 cm (6 in.) tall or across.

*continued*

**TABLE 5-1**

**Nursery and ornamental herbicide weed control ratings** *continued*

TRADE NAME	Perennials																		
	bindweeds	brome grass	chickweed, mouse-eared	dandelion	grape, wild	ground-ivy (creeping charlie)	horsetail	mallow	milkweed	nutsedge	plantains	poison-ivy	quackgrass	sow-thistle	stinging nettle	thistle, Canada	toadflax, yellow	vetches	virginia creeper
<b>SOIL-APPLIED BROADLEAF HERBICIDES</b>																			
BROADSTAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GALLERY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUREGUARD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>																			
CASORON G-4	F	P	F	F	P	F	G	-	-	F	F	-	F	F	-	F	-	F	-
DACTHAL W-75	-	-	G	F	-	-	-	-	-	N	N	-	N	-	-	-	-	-	-
DEVRIKOL 2-XT	P	G	-	P	-	-	P	-	P	F	-	-	P	P	-	P	-	P	-
DUAL II MAGNUM or KOMODO HERBICIDE	-	N	-	-	-	-	-	-	-	G <sup>1</sup>	-	-	N	-	-	-	-	-	-
ECOCLEAR	-	-	E	F	-	-	-	-	-	-	F	-	F	-	-	-	F	F	-
FRONTIER MAX	N	N	-	-	-	-	-	-	-	G <sup>1</sup>	-	-	N	-	-	-	-	-	-
KATANA 25WG	-	-	E	E	-	-	-	E	-	G	-	-	-	F	-	-	-	-	-
KERB SC	-	G	-	-	-	-	P	-	F	F	-	-	F	-	-	F	-	-	-
RONSTAR 2G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SIMADEX or SIMAZINE 480 or PRINCEP NINE-T	P	G	-	P	-	-	P	-	N	F	-	-	F	P	-	P	-	N	-
SPECTICLE FLO or SPECTICLE G	E	-	E	F	-	-	-	-	-	-	-	-	-	-	-	-	-	G	-
TREFLAN or BONANZA or RIVAL	P	-	F	-	-	-	P	-	P	P	-	-	P	P	-	P	-	P	-

*continued*

**TABLE 5-1****Nursery and ornamental herbicide weed control ratings**

**LEGEND:** **N** = No Control    **P** = Poor Control    **F** = Fair Control    **G** = Good Control    **E** = Excellent Control  
 - = insufficient information available to make a rating

TRADE NAME	Grasses					Annual Broadleaves							
	barnyard grass	crabgrass	fall panicum	foxtail	witchgrass	chickweed, common	fleabane, Canada	groundsel	lady's-thumb	lamb's-quarters	mustards	pigweeds	ragweed
<b>POST-EMERGENCE GRASS HERBICIDES</b>													
VENTURE L	G	G	G	G	E	N	N	N	N	N	N	N	N
<b>POST-EMERGENCE BROADLEAF HERBICIDES</b>													
GOAL 2XL or BASKET 2XL	P	P	P	P	-	F	-	-	G	G	E	E	G
LONTREL XC or PYRALID HERBICIDE	-	-	-	-	-	P	-	-	P	P	P	P	G
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>													
GLYPHOSATE <sup>2</sup>	E	E	E	E	E	E	E <sup>2</sup>	E	E	E	E	E	E
KATANA 25WG	-	F	-	E	F	E	E	E	-	E	E	E	E

<sup>1</sup> Use the high rate of herbicide for optimum control.

<sup>2</sup> Not all formulations registered on all crops. See label for specific uses and rates.

<sup>3</sup> Use higher rates for weeds larger than 15 cm (6 in.) tall or across.

**TABLE 5-1**  
**Nursery and ornamental herbicide weed control ratings**

TRADE NAME	Perennials																		
	bindweeds	brome grass	chickweed, mouse-eared	dandelion	grape, wild	ground-ivy (creeping charlie)	horsetail	mallow	milkweed	nutsedge	plantains	poison-ivy	quackgrass	sow-thistle	stinging nettle	thistle, Canada	toadflax, yellow	vetches	virginia creeper
<b>POST-EMERGENCE GRASS HERBICIDES</b>																			
VENTURE L	-	G	P	P	P	P	-	P	-	-	P	P	G	-	P	-	P	P	P
<b>POST-EMERGENCE BROADLEAF HERBICIDES</b>																			
GOAL 2XL or BASKET 2XL	P	-	G	-	-	-	-	P	G	P	-	-	P	P	-	P		N	-
LONTREL XC or PYRALID HERBICIDE	-	-	-	P	-	-	-	-	-	-	-	-	-	G	-	G		E	-
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>																			
GLYPHOSATE <sup>2</sup>	G	G	E	G <sup>3</sup>	G	P	P	P	E	G <sup>3</sup>	E	E	E	E	P	E	-	P <sup>3</sup>	G
KATANA 25WG	-	-	E	E	-	-	-	E	-	G	-	-	-	F	-	-	-	-	-

To convert kg/ha or L/ha to g/100 m<sup>2</sup> or mL/100 m<sup>2</sup> – Multiply by 10 and change units.

To convert kg/acre or L/acre to kg/ha or L/ha – Multiply by 2.5 and change units.

For example:

- 11 kg/ha becomes 110 g/100 m<sup>2</sup>
- 28.4 L/ha becomes 284 mL/100 m<sup>2</sup>

# Cultural weed control in nursery and ornamental crops

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## PRE-PLANT INCORPORATED (PPI)

Two incorporations at right angles operating at a depth of 10 cm (4 in.) using a double disk (7-10 km/h) or vibrating shank S-tine cultivator (10-13 km/h) are required unless otherwise stated. Cultivation-type equipment used for herbicide incorporation is known to spread perennial weeds to previously uninfested areas. Special attention should be directed toward machinery cleanliness, and/or treating fields with perennial weeds last.

## PRE-EMERGENCE (PRE)

Rainfall of 1.5-2 cm (0.6-0.8 in.) within 7-10 days after application is necessary to activate pre-emergence treatments. Shallow cultivation, rotary hoeing or harrowing will control weed escapes and improve herbicide activity in the absence of rainfall.

## POST-EMERGENCE

Leaf stage of the weeds is critical for good weed control. Smaller weeds are generally easier to kill but there needs to be enough leaf surface to intercept the herbicide. Apply according to leaf stages specified on pesticide label. Crop stage is important to optimize crop safety. Adjuvants will frequently improve the weed control when used as directed. Weather or other conditions may influence the optimum rate of adjuvant, see the product label for more details. Always use appropriate drift management technology.

## WATER VOLUMES

All herbicide treatments should be applied in a minimum of 150-300 L water/ha (60-120 L water/acre) unless otherwise specified on the label.

**Warning** – Refer to manufacturer's instructions for waiting period required after planting.

**Warning** – Certain species may be injured by the herbicides mentioned in this Chapter. Check manufacturer's directions for labeled species before use.

The ONnurserycrops blog provides the latest information on nursery and ornamental crops. Visit ONnurserycrops at [www.onnurserycrops.wordpress.com](http://www.onnurserycrops.wordpress.com).



TABLE 5-2

# Herbicide treatment rates for nursery and ornamental crops

TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)	GROUP/PCP #	REI/RAINFEST/MAX. APPLICATIONS
<b>DRIVEWAYS, PATIOS AND PATHS</b>		
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> ECOCLEAR (25%) <b>Product Rate/ha:</b> 1 L/2.25-3 L <b>Product Rate/acre:</b> 1 L/2.25-3 L <b>Active Ingredient(s):</b> acetic acid (33-40% solution)	<b>Group #:</b> N/A <b>PCP #:</b> 25528	<b>REI:</b> 12 hours <b>Rainfast:</b> 1 hour <b>Max. Applications:</b> 2 or more
<b>Trade Name:</b> GLYPHOSATE (360 g/L), GLYPHOSATE (450 g/L), GLYPHOSATE (480 g/L), GLYPHOSATE (500 g/L), GLYPHOSATE (540 g/L) <b>Product Rate/ha:</b> 0.75-12 L/ha, 0.6-9.6 L/ha, 0.56-9 L/ha, 0.54-8.64 L/ha, 0.67-8 L/ha <b>Product Rate/acre:</b> 0.3-4.8 L/acre, 0.24-3.84 L/acre, 0.22-3.6 L/acre, 0.22-3.5 L/acre, 0.27-3.2 L/acre <b>Active Ingredient(s):</b> glyphosate (0.27-4.32 kg/ha)	<b>Group #:</b> 9 <b>PCP #:</b> see label	<b>REI:</b> 12 hours <b>Rainfast:</b> 1 hour <b>Max Applications:</b> not stated
<b>Trade Name:</b> KONA + surfactant (XA OIL CONCENTRATE or KORIL CONCENTRATE or ASSIST OIL) <b>Product Rate/ha:</b> Broadcast: 25% KONA, 3% surfactant, 72% water or 25 L: 3 L: 72 L <b>Product Rate/acre:</b> Broadcast: 25% KONA, 3% surfactant, 72% water or 25 L: 3 L: 72 L <b>Active Ingredient(s):</b> citric acid (19.71 g/L) or lactic acid (17.69 g/L) + surfactant	<b>Group #:</b> N/A <b>PCP #:</b> 29603	<b>REI:</b> 12 hours <b>Rainfast:</b> not stated <b>Max Applications:</b> 5 or more
<b>Trade Name:</b> KONA + surfactant (XA OIL CONCENTRATE or KORIL CONCENTRATE or ASSIST OIL) <b>Product Rate/ha:</b> Spot: 50% KONA, 3% surfactant, 47% water or 50 L: 3 L: 47 L <b>Product Rate/acre:</b> Spot: 50% KONA, 3% surfactant, 47% water or 50 L: 3 L: 47 L <b>Active Ingredient(s):</b> citric acid (19.71 g/L) or lactic acid (17.69 g/L) + surfactant	<b>Group #:</b> N/A <b>PCP #:</b> 29603	<b>REI:</b> 12 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 5 or more

*continued*



TABLE 5-2

Herbicide treatment rates for nursery and ornamental crops *continued*

**PRECAUTIONS** - For more information, see the label.

## DRIVEWAYS, PATIOS AND PATHS

### POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES

- Apply to young, actively growing weeds when temperature is above 15°C.
  - Complete coverage is necessary to achieve control.
  - Use the low rate for annual weeds that are small (3-5-leaf).
  - Use the high rate for larger annual weeds and perennial weeds.
  - Weeds that are near maturity, flowering, dormant or hardened due to drought or temperature stress are more tolerant to ECOCLEAR treatments and may not be adequately controlled with a single application.
  - A repeat application is effective for extended control of perennial weeds following initial burn down.
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- **Do NOT** spray to the point of run-off.
  - **Do NOT** allow spray drift to contact desirable vegetation as severe injury or destruction may occur.
  - **ONLY** weeds emerged and actively growing at application will be controlled. Additional weed control programs will be necessary to control weeds germinating later.
  - Repeat application to regrowth may be necessary for complete control.
  - Not all formulations are registered. See label for specific uses and rates.
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- **Do NOT** apply to newly seeded grasses as severe injury may result.
  - Application can start in May or later. To provide consistent partial suppression of weeds repeat application every 14 days for at least 5 applications in a season.
  - Chlorosis to turf may be observed following application, but turf normally recovers in 3 weeks.
  - Avoid spraying over desirable plants, fruits and vegetables.
- 
- **Do NOT** apply to newly seeded grasses as severe injury may result.
  - Application can start in May or later. To provide consistent partial suppression of weeds repeat application every 14 days for at least 5 applications in a season.
  - Chlorosis to turf may be observed following application, but turf normally recovers in 3 weeks.
  - Avoid spraying over desirable plants, fruits and vegetables.

*continued*

TABLE 5-2

**Herbicide treatment rates for nursery and ornamental crops** *continued*

TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)	GROUP/PCP #	REI/RAINFAST/MAX. APPLICATIONS
<b>Trade Name:</b> MUNGER HORTICULTURAL VINEGAR PLUS <b>Product Rate/ha:</b> 1 L of product in 3 L of water <b>Product Rate/acre:</b> 1 L of product in 3 L of water <b>Active Ingredient(s):</b> citric acid (20%)	<b>Group #:</b> N/A <b>PCP #:</b> 29405	<b>REI:</b> 12 hours <b>Rainfast:</b> 1 hour <b>Max. Applications:</b> 2 or more
<b>HERBACEOUS ORNAMENTALS</b>		
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> DACTHAL W-75 (75 WP) <b>Product Rate/ha:</b> 17 kg/ha <b>Product Rate/acre:</b> 6.8 kg/acre <b>Active Ingredient(s):</b> chlorthal dimethyl (12.75 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 8963	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> DUAL II MAGNUM (915 g/L) or KOMODO HERBICIDE (915 g/L) <b>Product Rate/ha:</b> 1.25-1.75 L/ha <b>Product Rate/acre:</b> 0.5-0.7 L/acre <b>Active Ingredient(s):</b> s-metolachlor (1.14-1.60 kg/ha)	<b>Group #:</b> 15 <b>PCP #:</b> 25729 or 33599	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> FRONTIER MAX (720 g/L) <b>Product Rate/ha:</b> 756-963 mL/ha <b>Product Rate/acre:</b> 305-390 mL/acre <b>Active Ingredient(s):</b> dimethenamid-p (544-693 g/ha)	<b>Group #:</b> 15 <b>PCP #:</b> 29194	<b>REI:</b> 24 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> PROWL H2O (455 g/L) <b>Product Rate/ha:</b> 3.7 L/ha <b>Product Rate/acre:</b> 1.5 L/acre <b>Active Ingredient(s):</b> pendimethalin (1.68 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 29542	<b>REI:</b> 24 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> not stated

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.**

- Best results are achieved from spring and early summer applications to actively growing weeds.
- Degree of control depends on several factors, including size and stage of weeds.
- Apply on a mostly sunny day with temperatures at or above 21°C.
- Small annual weeds may be completely controlled with a single application. Use 1 L of product in 3 L of water when weeds are small (3-5-leaf) and actively growing. Control of larger, more established weeds, not completely desiccated with 1 application may be short-term and require re-treatment. Use 1 L of product in 2.25 L of water for larger annual weeds and suppression of perennials.
- Complete coverage of undesirable vegetation is necessary to achieve control. **ONLY** contacted vegetation will be affected.
- Rainfall within 1 hour of application will reduce degree of control.
- Avoid spraying over desirable plants, fruits and vegetables.

**HERBACEOUS ORNAMENTALS****SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES**

- Apply at lining out, late fall or early spring.
  - Applications should be made to soil recently cultivated to a uniform texture.
  - Rain or irrigation (1 cm or 0.4 in.) is needed to activate this herbicide.
  - **Do NOT** use on germander, telanthera, *Ajuga*, *Mesembryanthemum*, *Dianthus*, *Viola*, *Phlox* and *Vinca minor*.
- Apply PRE or early POST.
  - To avoid plant injury, **Do NOT** apply DUAL II MAGNUM/KOMODO HERBICIDE to seedbeds, cutting beds, or uprooted cuttings before transplanting or to plants until the soil is settled around their roots.
  - After applying onto foliage, irrigate plant to wash off DUAL II MAGNUM/KOMODO HERBICIDE and reduce plant injury.
  - **Do NOT** apply to crop that will bear harvestable fruit within 1 year to avoid residues.
  - **Do NOT** apply in residential areas.
- **Do NOT** apply during spring growth of conifers or injury to terminals may occur.
  - **Do NOT** treat plants grown for food or feed.
  - **Do NOT** make over the top applications.
  - **Do NOT** apply during bud swell, bud break or at time of first flush of new growth. If newly budded or grafted rootstock, make an application using a shielded sprayer. Care must be taken to ensure there are no cracks in the soil where FRONTIER MAX could come in contact with the roots.
- **Do NOT** apply to newly-transplanted ornamentals and conifers until plants have been watered and soil has been thoroughly packed and settled around roots.
  - **Do NOT** make over-the-top applications.
  - **Do NOT** treat plants grown for food or feed.
  - Rainfall or irrigation required within 7 days of application.
  - Unusually cold, excessively wet, or hot and dry conditions that delay weed germination or extend weed germination over a long period of time can reduce weed control.
  - Avoid unintentional contact of spray solution with stone, wood, or other porous surfaces as staining may occur. Rinse surfaces immediately using a heavy spray of water to avoid staining.
  - See label for tolerant species.

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFEST/MAX. APPLICATIONS</b>
<b>Trade Name:</b> TREFLAN EC (480 g/L) or RIVAL EC (500 g/L) or BONANZA 480 (480 g/L) <b>Product Rate/ha:</b> 1.2-2.4 L/ha <b>Product Rate/acre:</b> 0.48-0.96 L/acre <b>Active Ingredient(s):</b> trifluralin (0.6-1.155 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 23933 or 18612 or 28289	<b>REI:</b> 12 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>POST-EMERGENCE GRASS HERBICIDES</b>		
<b>Trade Name:</b> VENTURE L (125 g/L) <b>Product Rate/ha:</b> 0.6-2 L/ha <b>Product Rate/acre:</b> 0.24-0.80 L/acre <b>Active Ingredient(s):</b> fluazifop-p-butyl (0.075-0.25 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 21209	<b>REI:</b> 12 hours <b>Rainfast:</b> 2 hours <b>Max. Applications:</b> not stated
<b>SEEDBEDS AND POTTING SOIL</b>		
<b>SOIL-APPLIED FUMIGANTS</b>		
<b>Trade Name:</b> BASAMID (97% Granular) <b>Product Rate/ha:</b> 325-510 kg/ha <b>Product Rate/acre:</b> 130-204 kg/acre <b>Active Ingredient(s):</b> dazomet (319-500 kg/ha)	<b>Group #:</b> 27 <b>PCP #:</b> 15032	<b>REI:</b> see label <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>Trade Name:</b> VAPAM (380 g/L) <b>Product Rate/ha:</b> 10 L/100 m <sup>2</sup> in 800 L water <b>Product Rate/acre:</b> 10 L/100 m <sup>2</sup> in 800 L water <b>Active Ingredient(s):</b> metam sodium (3.8 kg/100 m <sup>2</sup> )	<b>Group #:</b> 27 <b>PCP #:</b> 29128	<b>REI:</b> see label <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>SHELTERBELTS (WINDBREAKS) ESTABLISHED</b>		
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> CASORON G-4 (4%) <b>Product Rate/ha:</b> 110-175 kg/ha <b>Product Rate/acre:</b> 44-70 kg/acre <b>Active Ingredient(s):</b> dichlobenil (4.4-7.0 kg/ha)	<b>Group #:</b> 20 <b>PCP #:</b> 12533	<b>REI:</b> 24 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.**

- PPI - Must be incorporated before transplanting.
- **Do NOT** use for seeded annuals.
- Check the label for list of tolerant species.
- Check the label for application rate as it varies with soil type.
- Incorporate immediately after application and before planting.
- Application and incorporation can be made 3 weeks prior to and up until planting.

**POST-EMERGENCE GRASS HERBICIDES**

- For *Campanula* and *Sedum*- direct spray **ONLY** to avoid contact with crop.
- Apply at 0.8 L/ha (0.32 L/acre) at 2-5-leaf stage of volunteer wheat and barley.
- Apply at 1 L/ha (0.4 L/acre) at 2-5-leaf stage of annual grasses (2-4-leaf for foxtails).
- Apply at 2 L/ha (0.8 L/acre) at 3-5-leaf stage of quackgrass and wirestem muhly.
- Many species are tolerant in field production only. Consult the label for list of tolerant species.

**SEEDBEDS AND POTTING SOIL****SOIL-APPLIED FUMIGANTS**

- **Do NOT** use below 6°C.
- Incorporate to a depth of 15-20 cm (6-8 in.).
- Refer to manufacturer's directions for specific details as well as direction on sealing soil, evacuating gases and performing the safety germination test.
- Apply as a drench to soil that should be wet to a depth of at least 7.5 cm (3 in.).
- **Do NOT** plant for 10-14 days or longer if the weather is cool.
- Cultivate soil 1 week before application.
- After cultivating, keep soil moist until application and for 24 hours after application.

**SHELTERBELTS (WINDBREAKS) ESTABLISHED****SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES**

- PRE - Apply in early spring or late fall.
- Use the lower rate for spring application.
- Use the high rate of 175 kg/ha (70 kg/acre) **ONLY** every other year.
- Tolerant species include cedar, linden, maple, willow, *Caragana* and ash. Reduce rates on lighter soils.

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFEST/MAX. APPLICATIONS</b>
Trade Name: DACTHAL W-75 (75 WP) Product Rate/ha: 17 kg/ha Product Rate/acre: 6.8 kg/acre Active Ingredient(s): chlorthal dimethyl (12.75 kg/ha)	Group #: 3 PCP #: 8963	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: PRINCEP NINE-T (90 WG) Product Rate/ha: 4.48 kg/ha Product Rate/acre: 1.79 kg/acre Active Ingredient(s): simazine (4.0-6.72 kg/ha)	Group #: 5 PCP #: 16370	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: SIMAZINE 480 (480 g/L) Product Rate/ha: 9.4-14 L/ha Product Rate/acre: 3.76-5.6 L/acre Active Ingredient(s): simazine (4.0-6.72 kg/ha)	Group #: 5 PCP #: 23181	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: TREFLAN EC (480 g/L) or BONANZA 480 (480 g/L) Product Rate/ha: 1.2-2.4 L/ha Product Rate/acre: 0.5-0.96 L/acre Active Ingredient(s): trifluralin (0.6-1.155 kg/ha)	Group #: 3 PCP #: 23933 or 28289	REI: 12 hours Rainfast: not stated Max. Applications: 1
<b>POST-EMERGENCE GRASS HERBICIDES</b>		
Trade Name: VENTURE L (125 g/L) Product Rate/ha: 0.6-2 L/ha Product Rate/acre: 0.24-0.80 L/acre Active Ingredient(s): fluazifop-p-butyl (0.075-0.25 kg/ha)	Group #: 1 PCP #: 21209	REI: 12 hours Rainfast: 2 hours Max. Applications: not stated
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>		
Trade Name: GLYPHOSATE (360 g/L), GLYPHOSATE (450 g/L), GLYPHOSATE (480 g/L), GLYPHOSATE (500 g/L), GLYPHOSATE (540 g/L) Product Rate/ha: 0.75-12 L/ha, 0.6-9.6 L/ha, 0.56-9 L/ha, 0.54-8.64 L/ha, 0.67-8 L/ha Product Rate/acre: 0.3-4.8 L/acre, 0.24-3.84 L/acre, 0.22-3.6 L/acre, 0.22-3.5 L/acre, 0.27-3.2 L/acre Active Ingredient(s): glyphosate (0.27-4.32 kg/ha)	Group #: 9 PCP #: see label	REI: 12 hours Rainfast: 1 hour Max. Applications: not stated

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.**

- Apply at lining out, late fall or early spring.
  - Applications should be made to soil recently cultivated to a uniform texture.
  - Rain or irrigation (1 cm or 0.4 in.) is needed to activate this herbicide.
- 
- PRE - Apply in the fall or spring prior to weed emergence or after emerged weeds have been removed.
  - Windbreak species must be established for at least 1 year. Tolerant species include cedar, spruce, black walnut, white ash, green ash, elm, boxelder, maple and *Caragana*.
  - Check label for species which will tolerate higher rates of simazine. Apply before bud break in spring.
  - Use the low rate for sandy soils or low organic matter soils.
  - Injury may occur with trees grown in saline soils.
- 
- PPI - Apply as a directed spray to the soil surface around the trees or shrubs.
  - Incorporate as closely as possible to the trees and shrubs without causing damage to their roots.
  - Apply highest rate 14 L/ha (5.6 L/acre) to clay soils.
- 
- PPI - Apply as a directed spray to the soil surface around the trees or shrubs.
  - Incorporate as closely as possible to the trees and shrubs without causing damage to their roots.
  - Apply highest rate 2.4 L/ha (0.96 L/acre) to clay soils.

**POST-EMERGENCE GRASS HERBICIDES**

- Apply POST to actively growing grasses before tillering.
- Apply at 0.8 L/ha (0.32 L/acre) at 2-5-leaf stage of volunteer wheat and barley.
- Apply at 1 L/ha (0.4 L/acre) at 2-5-leaf stage of annual grasses (2-4-leaf for foxtails).
- Apply at 2 L/ha (0.8 L/acre) at 3-5-leaf stage of quackgrass and wirestem muhly.

**POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES**

- For actively growing weeds in the fall, or spring prior to emergence of any crop.
- Allow 5-7 days translocation time after application before doing any tillage when conditions are good. If cool temperatures follow application, allow additional time for translocation to be completed before disturbing treated weeds.
- **ONLY** weeds emerged at application time will be controlled. Additional weed control programs will be necessary to control weeds germinating later.
- Repeat application to regrowth may be necessary for complete control.
- Not all formulations are registered on all crops. See label for specific uses and rates.

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)	GROUP/PCP #	REI/RAINFEST/MAX. APPLICATIONS
<b>SHELTERBELTS (WINDBREAKS) TRANSPLANTED</b>		
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> TREFLAN EC (480 g/L) or RIVAL EC (500 g/L) or BONANZA 480 (480 g/L) <b>Product Rate/ha:</b> 1.2-2.4 L/ha <b>Product Rate/acre:</b> 0.48-0.96 L/acre <b>Active Ingredient(s):</b> trifluralin (0.6-1.155 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 23933 or 18612 or 28289	<b>REI:</b> 12 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>POST-EMERGENCE GRASS HERBICIDES</b>		
<b>Trade Name:</b> VENTURE L (125 g/L) <b>Product Rate/ha:</b> 0.6-2 L/ha <b>Product Rate/acre:</b> 0.24-0.80 L/acre <b>Active Ingredient(s):</b> fluazifop-p-butyl (0.075-0.25 kg/ha)	<b>Group #:</b> 1 <b>PCP #:</b> 21209	<b>REI:</b> 12 hours <b>Rainfast:</b> 2 hours <b>Max. Applications:</b> not stated
<b>WOODY NURSERY STOCK - FIELD GROWN</b>		
Mechanical weed control such as cultivation and hand hoeing will provide weed control in sensitive species as well as provide control of weed escapes. Cultivators are available which will work in between trees and in the row.		
<b>SOIL-APPLIED BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> SUREGUARD (51.1%) <b>Product Rate/ha:</b> 280-420 g/ha <b>Product Rate/acre:</b> 112-168 g/acre <b>Active Ingredient(s):</b> flumioxazin (143-214 g/ha)	<b>Group #:</b> 14 <b>PCP #:</b> 29236	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 2
<b>Trade Name:</b> GALLERY (75 DF) <b>Product Rate/ha:</b> 1 kg/ha <b>Product Rate/acre:</b> 0.4 kg/acre <b>Active Ingredient(s):</b> isoxaben (0.75 kg/ha)	<b>Group #:</b> 21 <b>PCP #:</b> 24110	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1



TABLE 5-2

Herbicide treatment rates for nursery and ornamental crops *continued*

**PRECAUTIONS - For more information, see the label.**

## SHELTERBELTS (WINDBREAKS) TRANSPLANTED

### SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES

- PPI – Apply after cultivation, and incorporate after application.
- Transplant the trees or shrubs so that most of their root system is placed below the treated layer of soil.
- Apply highest rate 2.4 L/ha (0.96 L/acre) to clay soils.
- Apply and incorporate from 3 weeks prior to planting up until planting.

### POST-EMERGENCE GRASS HERBICIDES

- Apply to actively growing grasses prior to tillering.
- Apply at 0.8 L/ha (0.32 L/acre) at 2-5-leaf stage of volunteer wheat and barley.
- Apply at 1 L/ha (0.4 L/acre) at 2-5-leaf stage of annual grasses (2-4-leaf for foxtails).
- Apply at 2 L/ha (0.8 L/acre) at 3-5-leaf stage of quackgrass and wirestem muhly.

## WOODY NURSERY STOCK – FIELD GROWN

### SOIL-APPLIED BROADLEAF HERBICIDES

- For control in field-grown ornamental deciduous and coniferous trees, including Christmas trees and trees produced for reforestation.
  - Tolerant species include: *Abies balsamea*, *Abies fraseri*, *Acer ginnala*, *Fraxinus pennsylvanica*, *Picea pungens*, *Pseudotsuga menziesii*, *Syringa reticulata* and *Thuja occidentalis*.
  - For post-emergence, apply the higher rate. Consult the product label.
  - **Do NOT** apply to fine-textured soils.
  - Application should be made to tilled, weed-free deciduous tree plantings.
  - **ONLY** apply to healthy established trees.
  - **Do NOT** incorporate into soil after application.
  - **Do NOT** apply to moist or wet plant foliage.
  - May be used to maintain bare-ground non-crop areas in and around ornamental nurseries and field-grown ornamentals.
  - Wait a minimum of 8 weeks before reapplying.
- PRE – For use in bareroot and container conifer seedlings.
  - Apply prior to weed emergence in conifers, four or more weeks after crop germination and emergence.
  - Rainfall or irrigation is needed to activate the herbicide.

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFEST/MAX. APPLICATIONS</b>
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> CASORON G-4 (4%) <b>Product Rate/ha:</b> 110-175 kg/ha <b>Product Rate/acre:</b> 44-70 kg/acre <b>Active Ingredient(s):</b> dichlobenil (4.4-7.0 kg/ha)	<b>Group #:</b> 20 <b>PCP #:</b> 12533	<b>REI:</b> 24 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>Trade Name:</b> DACTHAL W-75 (75 WP) <b>Product Rate/ha:</b> 17 kg/ha <b>Product Rate/acre:</b> 6.8 kg/acre <b>Active Ingredient(s):</b> chlorthal dimethyl (12.75 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 8963	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> DEVRINOL 2-XT (240 g/L) <b>Product Rate/ha:</b> 18.75 L/ha <b>Product Rate/acre:</b> 7.5 L/acre <b>Active Ingredient(s):</b> napropamide (4.5 kg/ha)	<b>Group #:</b> 15 <b>PCP #:</b> 31688	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> DUAL II MAGNUM (915 g/L) or KOMODO HERBICIDE (915 g/L) <b>Product Rate/ha:</b> 1.25-1.75 L/ha <b>Product Rate/acre:</b> 0.5-0.7 L/acre <b>Active Ingredient(s):</b> s-metolachlor (1.14-1.60 kg/ha)	<b>Group #:</b> 15 <b>PCP #:</b> 25729 or 33599	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max Applications:</b> 1
<b>Trade Name:</b> FRONTIER MAX (720 g/L) <b>Product Rate/ha:</b> 756-963 mL/ha <b>Product Rate/acre:</b> 305-390 mL/acre <b>Active Ingredient(s):</b> dimethenamid-p (544-693 g/ha)	<b>Group #:</b> 15 <b>PCP #:</b> 29194	<b>REI:</b> 24 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>Trade Name:</b> KATANA (25 WG) <b>Product Rate/ha:</b> 150-200 g/ha <b>Product Rate/acre:</b> 60-80 g/acre <b>Active Ingredient(s):</b> flazasulfuron (37.5-50 g/ha)	<b>Group #:</b> 2 <b>PCP #:</b> 33129	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max Applications:</b> 1

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>PRECAUTIONS - For more information, see the label.</b>
<b>SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>
<ul style="list-style-type: none"><li>• PRE – Apply in late fall or early spring.</li><li>• Use lower rate for spring application.</li><li>• <b>Do NOT</b> apply until 4 weeks after transplanting second year stock.</li><li>• Reduce rate on lighter soil.</li></ul>
<ul style="list-style-type: none"><li>• Apply at lining out, late fall or early spring.</li><li>• Applications should be made to soil recently cultivated to a uniform texture.</li><li>• Rain or Irrigation (1 cm or 0.4 in.) is needed to activate this herbicide.</li></ul>
<ul style="list-style-type: none"><li>• PPI – Apply any time of the year to a clean cultivated soil surface or before weeds germinate.</li><li>• This herbicide must reach the zone of weed germination, either by mechanical incorporation or by adequate irrigation or precipitation.</li><li>• Shallow incorporation to a chemical depth of 2.5-5 cm (1-2 in.) or an irrigation with sufficient water to wet the soil to depth of 5-10 cm (2-4 in.) should occur within 7 days of a spring or fall application and within 2 days of a summer application.</li><li>• Fall applications will control weeds the following spring and summer.</li><li>• Caution - Residues high enough to harm many crops may persist after repeated applications in perennial crops.</li></ul>
<ul style="list-style-type: none"><li>• PRE – Apply to soil prior to bud break of nursery stock.</li><li>• <b>Do NOT</b> apply within 4 weeks of bud burst or until the needles have hardened.</li><li>• For use on poplar stoolbeds, white spruce, Norway spruce, black spruce, white pine, jack pine and red pine seedlings in their second year or older.</li><li>• May have postemergent properties if applied to weeds before they reach the 2-leaf stage.</li></ul>
<ul style="list-style-type: none"><li>• <b>Do NOT</b> apply during spring growth of conifers or injury to terminals may occur.</li><li>• <b>Do NOT</b> treat plants grown for food or feed.</li><li>• <b>Do NOT</b> make over the top applications.</li><li>• <b>Do NOT</b> apply during bud swell, bud break or at time of first flush of new growth. If newly budded or grafted rootstock, make an application using a shielded sprayer. Care must be taken to ensure there are no cracks in the soil where FRONTIER MAX could come in contact with the roots.</li></ul>
<ul style="list-style-type: none"><li>• <b>Do NOT</b> apply to conifer trees within 1 year of seeding.</li><li>• Make a uniform application to the soil surface in 150-450 L water/ha (60-180 L water/acre).</li><li>• Soil surfaces should be clean from crop residue and weed-free at the time of application. If weeds, weed residue or crop residue is present, these should be removed by light mechanical incorporation or other means.</li><li>• <b>Do NOT</b> disturb the soil after application.</li><li>• If rainfall does not occur within 2 weeks after the preemergence application, then 0.5-1.25 cm (0.2-0.5 in.) of irrigation water should be applied. <b>Do NOT</b> apply more than 2.5 cm (1 in.) of irrigation water.</li></ul>

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFAST/MAX. APPLICATIONS</b>
Trade Name: KERB SC (400 g/L) Product Rate/ha: 3.7 L/ha Product Rate/acre: 1.48 L/acre Active Ingredient(s): propyzamide (1.48 kg/ha)	Group #: 15 PCP #: 30264	REI: 24 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: PRINCEP NINE-T (90 WG) Product Rate/ha: 2.5-3.75 kg/ha Product Rate/acre: 1-1.5 kg/acre Active Ingredient(s): simazine (2.25-6.75 kg/ha)	Group #: 5 PCP #: 16370	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: SIMADEX (500 g/L) Product Rate/ha: 3.6-13.5 L/ha Product Rate/acre: 1.44-5.4 L/acre Active Ingredient(s): simazine (2.25-6.75 kg/ha)	Group #: 5 PCP #: 15902	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: PROWL H20 (455 g/L) Product Rate/ha: 3.7 L/ha Product Rate/acre: 1.5 L/acre Active Ingredient(s): pendimethalin (1.68 kg/ha)	Group #: 3 PCP #: 29542	REI: 24 hours Rainfast: moisture required for activation Max. Applications: not stated
Trade Name: SPECTICLE FLO (75 g/L) Product Rate/ha: 1 L/ha Product Rate/acre: 0.4 L/acre Active Ingredient(s): indaziflam (0.075 kg/ha)	Group #: 29 PCP #: 32803	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.**

- PRE – Apply in the late fall when the soil temperature is low but above freezing.
  - Soil moisture should be high.
  - This herbicide is absorbed through the roots.
  - Apply KERB SC at a rate of 37 mL/100 m<sup>2</sup>.
  - **Do NOT** allow treated areas to drain onto turf grass (except for removal).
- PRE – Apply before weeds emerge in established plantings only.
  - **Do NOT** replant nursery stock into treated soil after stock is removed.
  - **Do NOT** use around ornamental shrubs if ground cover or bedding plants will be planted.
  - Caution – Residues high enough to harm many crops may persist after repeated applications.
  - Use the low application rate of simazine on sandy or low organic matter soils.
- PRE – Apply before weeds emerge in established plantings only.
  - **Do NOT** replant nursery stock into treated soil after stock is removed.
  - **Do NOT** use around ornamental shrubs if ground cover or bedding plants will be planted.
  - Caution – Residues high enough to harm many crops may persist after repeated applications.
  - Use the low application rate of simazine on sandy or low organic matter soils.
- **Do NOT** apply to newly-transplanted ornamentals and conifers until plants have been watered and soil has been thoroughly packed and settled around roots.
  - **Do NOT** make over-the-top applications.
  - **Do NOT** treat plants grown for food or feed.
  - Rainfall or irrigation is required within 7 days of application.
  - Unusually cold, excessively wet, or hot and dry conditions that delay weed germination or extend weed germination over a long period of time can reduce weed control.
  - Avoid unintentional contact of spray solution with stone, wood, or other porous surfaces as staining may occur. Rinse surfaces immediately using a heavy spray of water to avoid staining.
  - See label for tolerant species.
- PRE – Apply as a directed spray only to established (rooted) plants and not to newly rooted cuttings or seedlings.
  - Make applications prior to mulching for best weed control. Herbicide efficacy may be reduced if soil is disturbed after application.
  - Herbaceous annuals and perennials are sensitive to SPECTICLE FLO. **ONLY** apply to ornamentals listed on the label.
  - **Do NOT** exceed a single application rate of 1 L/ha (0.4 L/acre) in a 12-month period.
  - **Do NOT** allow spray to contact foliage. SPECTICLE FLO may cause localized injury to the foliage, especially young leaf tissue. Remove affected foliage or wash off immediately.
  - **Do NOT** use around bearing fruit and nut trees.
  - **Do NOT** use on soils exceeding 80% sand or 20% gravel which may allow for downward movement of SPECTICLE FLO into the root zone and cause significant root damage and phytotoxicity.
  - See label for further use restrictions.

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFEST/MAX. APPLICATIONS</b>
<b>Trade Name:</b> TREFLAN EC (480 g/L) or RIVAL EC (500 g/L) <b>Product Rate/ha:</b> 1.2-2.4 L/ha <b>Product Rate/acre:</b> 0.48-0.96 L/acre <b>Active Ingredient(s):</b> trifluralin (0.60-1.155 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 23933 or 18612	<b>REI:</b> 12 hours <b>Rainfast:</b> not stated <b>Max. Applications:</b> 1
<b>POST-EMERGENCE GRASS HERBICIDES</b>		
<b>Trade Name:</b> VENTURE L (125 g/L) <b>Product Rate/ha:</b> 0.6-2 L/ha <b>Product Rate/acre:</b> 0.24-0.80 L/acre <b>Active Ingredient(s):</b> fluzazifop-p-butyl (0.075-0.25 kg/ha)	<b>Group #:</b> 1 <b>PCP #:</b> 21209	<b>REI:</b> 12 hours <b>Rainfast:</b> 2 hours <b>Max. Applications:</b> not stated
<b>POST-EMERGENCE BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> GOAL 2XL or BASKET 2XL (240 g/L) <b>Product Rate/ha:</b> 0.5-1.0 L/ha <b>Product Rate/acre:</b> 0.2-0.4 L/acre <b>Active Ingredient(s):</b> oxyfluorfen (0.12-0.24 kg/ha)	<b>Group #:</b> 14 <b>PCP #:</b> 24913 or 33560	<b>REI:</b> 48 hours <b>Rainfast:</b> 3 hours <b>Max. Applications:</b> 2 at the high rate
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> 2,4-D AMINE (470 g/L) + GLYFOS (360 g/L) <b>Product Rate/ha:</b> 1 L/ha + 1 L/ha <b>Product Rate/acre:</b> 0.4 L/acre + 0.4 L/acre <b>Active Ingredient(s):</b> 2,4-D (0.470 kg/ha) + glyphosate (0.360 kg/ha)	<b>Group #:</b> 4, 9 <b>PCP #:</b> 28271 + 24359	<b>REI:</b> 12 hours <b>Rainfast:</b> 24 hours <b>Max. Applications:</b> 1

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>PRECAUTIONS - For more information, see the label.</b>
<ul style="list-style-type: none"><li>• PPI – Apply after cultivation, and incorporate after application.</li><li>• Transplant the trees or shrubs so that most of their root system is placed below the treated layer of soil.</li><li>• Apply highest rate 2.4 L/ha (0.96 L/acre) to clay soils.</li><li>• Apply and incorporate from 3 weeks prior to planting up until planting.</li></ul>
<b>POST-EMERGENCE GRASS HERBICIDES</b>
<ul style="list-style-type: none"><li>• Apply POST to actively growing grasses before tillering.</li><li>• Apply at 0.8 L/ha (0.32 L/acre) at 2-5-leaf stage of volunteer wheat and barley.</li><li>• Apply at 1 L/ha (0.4 L/acre) at 2-5-leaf stage of annual grasses (2-4-leaf for foxtails).</li><li>• Apply at 2 L/ha (0.8 L/acre) at 3-5-leaf stage of quackgrass and wirestem muhly.</li><li>• Thorough preplant tillage, fragmenting quackgrass rhizomes improves control.</li><li>• <b>Do NOT</b> cultivate between rows until 5 days after application.</li><li>• Consult the label for list of tolerant and sensitive species. Use as a directed application in sensitive species to avoid contact with leaves and green tissue. Some blue junipers (e.g., Bar Harbour, Blue Acres and Blue Rug) can be injured by over-the-top applications.</li><li>• Caution – There are differences between cultivars in sensitivity to VENTURE L (e.g., <i>Juniperus horizontalis</i> Blue Acres is sensitive while <i>Juniperus horizontalis</i> Plumosa Compacta is tolerant).</li><li>• Test on samples of each cultivar not specifically listed on the label before using the herbicide or use as a directed application.</li></ul>
<b>POST-EMERGENCE BROADLEAF HERBICIDES</b>
<ul style="list-style-type: none"><li>• GOAL 2XL and BASKET 2XL have been tested on balsam fir, Fraser fir, white pine and white spruce. GOAL 2XL and BASKET 2XL may be applied to other non-listed conifer species, however, non-listed conifer species may vary in tolerance. First use of GOAL 2XL and BASKET 2XL to any non-listed conifer species should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice.</li><li>• Repeat applications if necessary.</li><li>• <b>Do NOT</b> apply to trees under stress.</li><li>• Some temporary needle burn may occur.</li><li>• <b>Do NOT</b> apply more than 2 L/ha (0.8 L/acre) a year.</li></ul>
<b>POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>
<ul style="list-style-type: none"><li>• Ground directed spray to balsam fir and Fraser fir <b>ONLY</b>.</li><li>• Trees must be at least 1.2 m (48 in.) high and spray should not touch the branches.</li><li>• Not all formulations are registered on all crops. See label for specific uses and rates.</li></ul>

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFAST/MAX. APPLICATIONS</b>
<b>Trade Name:</b> AMITROL 240 (231 g/L) <b>Product Rate/ha:</b> 1.7-3 L/ha <b>Product Rate/acre:</b> 0.68-1.2 L/acre <b>Active Ingredient(s):</b> amitrole (0.39-0.69 kg/ha)	<b>Group #:</b> 11 <b>PCP #:</b> 25684	<b>REI:</b> 12 hours field entry, 4 days post application activities <b>Rainfast:</b> not stated <b>Max. Applications:</b> 2
<b>Trade Name:</b> GLYPHOSATE (360 g/L), GLYPHOSATE (450 g/L), GLYPHOSATE (480 g/L), GLYPHOSATE (500 g/L), GLYPHOSATE (540 g/L) <b>Product Rate/ha:</b> 0.75-12 L/ha, 0.6-9.6 L/ha, 0.56-9 L/ha, 0.54-8.64 L/ha, 0.67-8 L/ha <b>Product Rate/acre:</b> 0.30-4.80 L/acre, 0.24-3.84 L/acre, 0.22-3.60 L/acre, 0.22-3.50 L/acre, 0.27-3.20 L/acre <b>Active Ingredient(s):</b> glyphosate (0.27-4.32 kg/ha)	<b>Group #:</b> 9 <b>PCP #:</b> see label	<b>REI:</b> 12 hours <b>Rainfast:</b> 1 hour <b>Max. Applications:</b> not stated
<b>Trade Name:</b> KATANA (25 WG) + non-ionic surfactant <b>Product Rate/ha:</b> 150-200 g/ha + 2.5 L/1,000 L <b>Product Rate/acre:</b> 60-80 g/acre + 2.5 L/1,000 L <b>Active Ingredient(s):</b> flazasulfuron (37.5-50 g/ha) + non-ionic surfactant (0.25% v/v)	<b>Group #:</b> 2 <b>PCP #:</b> 33129	<b>REI:</b> 12 hours <b>Rainfast:</b> not specified <b>Max Applications:</b> 1
<b>Trade Name:</b> LONTREL XC (600 g/L) or PYRALID HERBICIDE (360 g/L) <b>Product Rate/ha:</b> 0.25-0.35 L/ha or 0.504-0.672 L/ha <b>Product Rate/acre:</b> 0.1-0.14 L/acre or 0.2-0.27 L/acre <b>Active Ingredient(s):</b> clopyralid (0.15-0.2 or 0.18-0.24 kg/ha)	<b>Group #:</b> 4 <b>PCP #:</b> 32795 or 32265	<b>REI:</b> 12 hours <b>Rainfast:</b> 4 hours <b>Max. Applications:</b> 1

*continued*



TABLE 5-2

Herbicide treatment rates for nursery and ornamental crops *continued***PRECAUTIONS - For more information, see the label.**

- To be applied **ONLY** on spruce (*Picea spp.*).
  - Apply postemergence to actively growing plants, good coverage is essential.
  - If weeds are mature, it is advisable to cut them and then spray the re-growth.
  - **Do NOT** disturb treated plants for 2 weeks after application.
  - **Do NOT** make postharvest applications after October 1.
  - To control quackgrass and Canada thistle, apply in the spring or fall to actively growing plants that are 15-20 cm (6-8 in.) tall. Wait 10-14 days and then plough or disk.
  - Avoid application to the crop during periods of rapid shoot elongation in the spring.
  - Applications can be made in the first year 1.7 L/ha (0.68 L/acre) in either seedbed or transplants, but only after the seedlings have set bud.
  - The rate may be increased to 3 L/ha (1.2 L/acre) for actively growing seedlings or transplant bareroot spruce beyond the first year.
- 
- For actively growing weeds in the fall, or spring prior to emergence of any crop.
  - Allow 5-7 days translocation time after application before doing any tillage when conditions are good. If cool temperatures follow application, allow additional time for translocation to be completed before disturbing treated weeds.
  - **ONLY** weeds emerged at application will be controlled. Additional weed control programs will be necessary to control weeds germinating later.
  - Repeat application to regrowth may be necessary for complete control.
  - Not all formulations are registered on all crops. See label for specific uses and rates.
- 
- **Do NOT** apply to conifer trees within 1 year of seeding.
  - KATANA may be applied over-the-top to conifers prior to spring bud break or when conifers are sufficiently hardened off. Some needle burn may be seen on a new flush if plants are actively growing at the time of application but typically there is no effect on subsequent growth. Directed applications are preferred and recommended to reduce phytotoxicity potential.
  - **Do NOT** disturb the soil after application.
  - Rates listed are for broadcast application. If making a banded application, see the banded application section of the label for calculating appropriate use rate.
  - Higher rate is for larger weeds and heavier infestations.
  - This product can be tank-mixed with glyphosate, as well as, residual herbicides that are labelled for use in conifer trees.
- 
- For control of vetch. For best results, apply when vetch stems are 10-15 cm (4-6 in.) long and before vetch climbs into the tree crown.
  - Apply as a direct foliar application.
  - Apply the lower rate for balsam fir Christmas trees.
  - Avoid contacting the upper two thirds of the tree crown.
  - **Do NOT** use on seedbeds or transplants.

*continued*

TABLE 5-2

**Herbicide treatment rates for nursery and ornamental crops** *continued*

TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)	GROUP/PCP #	REI/RAINFAST/MAX. APPLICATIONS
<b>WOODY NURSERY STOCK - CONTAINER BEDS</b>		
<p><b>CULTURAL WEED CONTROL</b> - A successful weed control program must integrate cultural and chemical weed control practices.</p> <p>Prepare the container bed area with a gravel layer and/or ground covers such as black plastic or opaque woven material. It is important that these surface covers exclude light in order to be effective in preventing weed seed germination. These ground covers can be used for a number of years before being replaced. Keep the container beds and roadways free of weeds by physical removal or chemical mowing. Prevent weeds from setting seed in adjacent uncropped areas by using cultural or chemical weed control measures. Mowing at regular intervals will prevent many weeds from flowering. Try to control weed escapes before they set seed by cultural removal or chemical mowing. In some situations, such as along fences, tools such as a weed whip may be useful. Look for the source of weeds that disseminate into container areas such as poplars, willows, willowherb and Canada fleabane. Control weeds around irrigation ponds so that small seeded weeds are not being sown into container stock with each watering. A vigorous grassed bank will help reduce weed infestations as well as providing bank stabilization. A filtering system in the irrigation line will remove weed seeds.</p>		
<b>WOODY NURSERY STOCK (CONTAINER BEDS) - SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<p><b>Trade Name:</b> CASORON G-4 (4%)  <b>Product Rate/ha:</b> 110-175 kg/ha  <b>Product Rate/acre:</b> 44-70 kg/acre  <b>Active Ingredient(s):</b> dichlobenil (4.4-7.0 kg/ha)</p>	<p><b>Group #:</b> 20  <b>PCP #:</b> 12533</p>	<p><b>REI:</b> 24 hours  <b>Rainfast:</b> not stated  <b>Max. Applications:</b> 1</p>
<p><b>Trade Name:</b> DACTHAL W-75 (75 WP)  <b>Product Rate/ha:</b> 17 kg/ha  <b>Product Rate/acre:</b> 6.8 kg/acre  <b>Active Ingredient(s):</b> chlorthal dimethyl (12.75 kg/ha)</p>	<p><b>Group #:</b> 3  <b>PCP #:</b> 8963</p>	<p><b>REI:</b> 12 hours  <b>Rainfast:</b> moisture required for activation  <b>Max. Applications:</b> 1</p>
<p><b>Trade Name:</b> KATANA (25 WG)  <b>Product Rate/ha:</b> 150-200 g/ha  <b>Product Rate/acre:</b> 60-80 g/acre  <b>Active Ingredient(s):</b> flazasulfuron (37.5-50 g/ha)</p>	<p><b>Group #:</b> 2  <b>PCP #:</b> 33129</p>	<p><b>REI:</b> 12 hours  <b>Rainfast:</b> moisture required for activation  <b>Max Applications:</b> 1</p>

*continued*

TABLE 5-2

Herbicide treatment rates for nursery and ornamental crops *continued***PRECAUTIONS - For more information, see the label.****WOODY NURSERY STOCK - CONTAINER BEDS**

Removal of existing weeds from container stock before they flower must be a priority job. Once a weed flowers it can disseminate hundreds of seeds by wind or by catapulting seeds. Many container weed species have several generations per year because their seeds do not need to overwinter before germinating. Remove and discard all pulled weeds well away from the growing area so that seeds are not disseminated into nearby containers. Since many species of container weeds overwinter in the protected environment of a polyhouse, it is important to thoroughly weed container stock in the fall. Be sure to remove the rosettes of winter annuals such as shepherd's-purse and Canada fleabane and established plants and seedlings of common and mouse-eared chickweed. If not removed, these plants will be flowering by May or earlier.

**WARNING:** Refer to manufacturer's instructions for waiting period required after planting.

**WARNING:** Certain types of woody nursery stock may be injured by the following herbicides. Check manufacturer's directions for labeled species/cultivars before use.

**WOODY NURSERY STOCK (CONTAINER BEDS) - SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES**

- PRE – Apply to bare soil before putting container pots on beds.
  - Apply in spring when temperatures are cool and incorporate immediately with irrigation or mechanical incorporation.
  - For the best results, apply to soil with more than 2% organic matter content.
  - Use on gravel or sandy soils may result in inconsistent weed control.
  - **Do NOT** cover polyhouses with plastic within 1 month after application.
  - **Do NOT** apply within plastic covered polyhouses or within greenhouse structures.
  - Refer to label for tolerant species.
  - **Do NOT** transplant into treated soil for 1 year.
- 
- Apply at lining out, late fall or early spring.
  - Applications should be made to soil recently cultivated to a uniform texture.
  - Rain or irrigation (1 cm or 0.4 in.) is needed to activate this herbicide.
- 
- **Do NOT** apply to conifer trees within 1 year of seeding.
  - Make a uniform application to the soil surface in 150-450 L water/ha (60-180 L water/acre).
  - Soil surfaces should be clean from crop residue and weed-free at the time of application. If weeds, weed residue or crop residue is present, these should be removed by light mechanical incorporation or other means.
  - **Do NOT** disturb the soil after application.
  - If rainfall does not occur within 2 weeks after the preemergence application, then 0.5-1.25 cm (0.2-0.5 in.) of irrigation water should be applied. **Do NOT** apply more than 2.5 cm (1 in.) of irrigation water.

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFAST/MAX. APPLICATIONS</b>
<b>Trade Name:</b> PROWL H20 (455 g/L) <b>Product Rate/ha:</b> 3.7 L/ha <b>Product Rate/acre:</b> 1.5 L/acre <b>Active Ingredient(s):</b> pendimethalin (1.68 kg/ha)	<b>Group #:</b> 3 <b>PCP #:</b> 29542	<b>REI:</b> 24 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> not stated
<b>WOODY NURSERY STOCK (CONTAINER BEDS) - POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> GLYPHOSATE (360 g/L), GLYPHOSATE (450 g/L), GLYPHOSATE (480 g/L), GLYPHOSATE (500 g/L), GLYPHOSATE (540 g/L) <b>Product Rate/ha:</b> 0.75-12 L/ha, 0.6-9.6 L/ha, 0.56-9 L/ha, 0.54-8.64 L/ha, 0.5-8 L/ha <b>Product Rate/acre:</b> 0.30-4.80 L/acre, 0.24-3.84 L/acre, 0.22-3.60 L/acre, 0.22-3.50 L/acre, 0.27-3.20 L/acre <b>Active Ingredient(s):</b> glyphosate (0.27-4.32 kg/ha)	<b>Group #:</b> 9 <b>PCP #:</b> see label	<b>REI:</b> 12 hours <b>Rainfast:</b> 1 hour <b>Max. Applications:</b> not stated
<b>WOODY NURSERY STOCK (CONTAINER GROWN) - SOIL-APPLIED BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> BROADSTAR (0.25%) <b>Product Rate/ha:</b> 84-168 kg/ha <b>Product Rate/acre:</b> 33.6-67.2 kg/acre <b>Active Ingredient(s):</b> flumioxazin (21-42 kg/ha)	<b>Group #:</b> 14 <b>PCP #:</b> 29229	<b>REI:</b> 48 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 2
<b>Trade Name:</b> GALLERY (75 DF) <b>Product Rate/ha:</b> 1 kg/ha <b>Product Rate/acre:</b> 0.4 kg/acre <b>Active Ingredient(s):</b> isoxaben (0.75 kg/ha)	<b>Group #:</b> 21 <b>PCP #:</b> 24110	<b>REI:</b> 12 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1
<b>WOODY NURSERY STOCK (CONTAINER GROWN) - SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> CASORON G-4 (4%) <b>Product Rate/ha:</b> 100 kg/ha <b>Product Rate/acre:</b> 40 kg/acre <b>Active Ingredient(s):</b> dichlobenil (4 kg/ha)	<b>Group #:</b> 20 <b>PCP #:</b> 12533	<b>REI:</b> 48 hours <b>Rainfast:</b> moisture required for activation <b>Max. Applications:</b> 1

**TABLE 5-2**

**Herbicide treatment rates for nursery and ornamental crops *continued***

<p><b>PRECAUTIONS - For more information, see the label.</b></p>
<ul style="list-style-type: none"> <li>• <b>Do NOT</b> apply to newly-transplanted ornamentals and conifers until plants have been watered and soil has been thoroughly packed and settled around roots.</li> <li>• <b>Do NOT</b> make over-the-top applications.</li> <li>• <b>Do NOT</b> treat plants grown for food or feed.</li> <li>• Rainfall or irrigation is required within 7 days of application.</li> <li>• Unusually cold, excessively wet, or hot and dry conditions that delay weed germination or extend weed germination over a long period of time can reduce weed control.</li> <li>• Avoid unintentional contact of spray solution with stone, wood, or other porous surfaces as staining may occur. Rinse surfaces immediately using a heavy spray of water to avoid staining.</li> <li>• See label for tolerant species.</li> </ul>
<p><b>WOODY NURSERY STOCK (CONTAINER BEDS) - POST-EMERGENCE GRASS AND BROADLEAF HERBICIDES</b></p>
<ul style="list-style-type: none"> <li>• For actively growing weeds in the fall, or spring prior to emergence of any crop.</li> <li>• Allow 5-7 days translocation time after application before doing any tillage when conditions are good. If cool temperatures follow application, allow additional time for translocation to be completed before disturbing treated weeds.</li> <li>• <b>ONLY</b> weeds emerged at application time will be controlled. Additional weed control programs will be necessary to control weeds germinating later.</li> <li>• Repeat application to re-growth may be necessary for complete control.</li> <li>• Not all formulations are registered on all crops. See label for specific uses and rates.</li> </ul>
<p><b>WOODY NURSERY STOCK (CONTAINER GROWN) - SOIL-APPLIED BROADLEAF HERBICIDES</b></p>
<ul style="list-style-type: none"> <li>• For pre-emergent weed control on outdoor container-grown woody ornamentals.</li> <li>• For use on: <i>Acer ginnala</i>, <i>Acer palmatum</i>, <i>Buxus sempervirens</i>, <i>Juniperus horizontalis</i>, <i>Juniperus Sabina</i>, <i>Picea pungens</i>, <i>Picea glauca</i>, <i>Quercus rubra</i>, <i>Taxus x media</i>, <i>Thuja occidentalis</i>.</li> <li>• Apply before germination of target weeds or immediately after disturbing the soil surface.</li> <li>• This herbicide can be safely applied over the top of many species of woody ornamental shrubs and trees providing the user follows the label directions.</li> <li>• Apply to dry foliage <b>ONLY</b>.</li> <li>• 1-2 cm (0.4-0.8 in.) of rainfall/irrigation is needed for activation.</li> <li>• See product label for more information.</li> </ul>
<ul style="list-style-type: none"> <li>• Registered for use by members of the Canadian Forest Nursery Weed Management Association <b>ONLY</b>.</li> <li>• PRE – for use in bareroot and container conifer seedlings.</li> <li>• Apply prior to weed emergence in conifers, four or more weeks after crop germination and emergence.</li> <li>• Rainfall or irrigation is needed to activate the herbicide.</li> </ul>
<p><b>WOODY NURSERY STOCK (CONTAINER GROWN) - SOIL-APPLIED GRASS AND BROADLEAF HERBICIDES</b></p>
<ul style="list-style-type: none"> <li>• PRE – Apply at least 4 weeks after planting into containers to a weed-free soil surface.</li> <li>• <b>Do NOT</b> use after September 15 or within 30 days of covering treated stock in overwintering structures.</li> <li>• Water immediately after application.</li> <li>• Use <b>ONLY</b> on containers growing outside.</li> <li>• For use on these species – <i>Juniperus chinensis</i>, <i>J. horizontalis</i> and <i>Thuja occidentalis</i>.</li> </ul>

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued*

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFEST/MAX. APPLICATIONS</b>
Trade Name: DACTHAL W-75 (75 WP) Product Rate/ha: 17 kg/ha Product Rate/acre: 6.8 kg/acre Active Ingredient(s): chlorthal dimethyl (12.75 kg/ha)	Group #: 3 PCP #: 8963	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: DEVRINOL 2-XT (240 g/L) Product Rate/ha 18.75 L/ha Product Rate/acre: 7.5 L/acre Active Ingredient(s): napropamide (4.5 kg/ha)	Group #: 15 PCP #: 31688	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: PRINCEP NINE-T (90 WG) Product Rate/ha: 2.5 kg/ha Product Rate/acre: 1 kg/acre Active Ingredient(s): simazine (2.25 kg/ha)	Group #: 5 PCP #: 16370	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1
Trade Name: RONSTAR 2G (2 Gr) Product Rate/ha: 100-225 kg/ha Product Rate/acre: 40-90 kg/acre Active Ingredient(s): oxadiazon (2.0-4.5 kg/ha)	Group #: 14 PCP #: 23600	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 2
Trade Name: SPECTICLE G (0.0224%) Product Rate/ha: 224 or 336 kg/ha; 2.24 or 3.36 kg/100 m <sup>2</sup> Product Rate/acre: 90 or 134 kg/acre Active Ingredient(s): indaziflam (7.53 kg/ha)	Group #: 29 PCP #: 32804	REI: 12 hours Rainfast: moisture required for activation Max. Applications: 1

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.**

- Apply at lining out, late fall or early spring.
  - Applications should be made to soil recently cultivated to a uniform texture.
  - Rain or irrigation (1 cm or 0.4 in.) is needed to activate this herbicide.
- 
- PPI – Apply at any time of the year to a weed-free soil surface.
  - May be applied to newly planted container stock after the potting media has settled from first watering.
  - Incorporate by watering within 7 days of a spring or fall application and within 2 days of a summer application.
  - Will not control bittercress.
- 
- PRE – For use on juniper, white cedar and yew **ONLY**.
  - Apply **ONLY** once per season, 1 month after planting.
  - Apply before weeds emerge or after removing weeds from the containers.
- 
- PRE – Apply any time during the year, prior to weed seed germination.
  - Can be applied to both newly transplanted and established ornamentals and trees.
  - **Do NOT** apply to wet foliage or under conditions in which granules will collect on leaves.
  - If a second application is needed, apply 60-120 days after first application.
  - Consult the label for list of tolerant species.
  - Apply at least 4 weeks before covering polyhouses in fall.
- 
- PRE – Apply as a single over-the-top application for preemergence weed control in container-grown ornamentals, trees and shrubs with an established root system. Ornamentals should be established in the container at least a week prior to application. Spread 0.5 g into a 15 cm (6 in.) pot.
  - Herbaceous annuals and perennials are sensitive to SPECTICLE G. **ONLY** apply to ornamentals listed on the label.
  - **Do NOT** exceed a single application rate of 336 kg/ha (134 kg/acre) in a 12-month period.
  - **Do NOT** apply SPECTICLE G to wet foliage to avoid damage. Wet foliage will allow the granules to adhere to the foliage and cause localized injury to the foliage.
  - **Do NOT** use around bearing fruit and nut trees.
  - **Do NOT** mix SPECTICLE G into the soil. Cultivating or disturbing the soil surface after application may reduce weed control activity.
  - Always consult product label for species and variety.

*continued*

**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops *continued***

<b>TRADE NAME/PRODUCT RATE/ACTIVE INGREDIENT(S)</b>	<b>GROUP/PCP #</b>	<b>REI/RAINFAST/MAX. APPLICATIONS</b>
<b>WOODY NURSERY STOCK (CONTAINER GROWN) - POST-EMERGENCE GRASS HERBICIDES</b>		
<b>Trade Name:</b> VENTURE L (125 g/L) <b>Product Rate/ha:</b> 0.6-2 L/ha <b>Product Rate/acre:</b> 0.24-0.80 L/acre <b>Active Ingredient(s):</b> fluazifop-p-butyl (0.075-0.25 kg/ha)	<b>Group #:</b> 1 <b>PCP #:</b> 21209	<b>REI:</b> 12 hours <b>Rainfast:</b> 2 hours <b>Max. Applications:</b> 2
<b>WOODY NURSERY STOCK (CONTAINER GROWN) - POST EMERGENCE GRASS AND BROADLEAF HERBICIDES</b>		
<b>Trade Name:</b> KATANA (25 WG) + non-ionic surfactant <b>Product Rate/ha:</b> 150-200 g/ha + 2.5 L/1,000 L <b>Product Rate/acre:</b> 60-80 g/acre + 2.5 L/1,000 L <b>Active Ingredient(s):</b> flazasulfuron (37.5-50 g/ha) + non-ionic surfactant (0.25% v/v)	<b>Group #:</b> 2 <b>PCP #:</b> 33129	<b>REI:</b> 12 hours <b>Rainfast:</b> not specified <b>Max Applications:</b> 1



**TABLE 5-2****Herbicide treatment rates for nursery and ornamental crops** *continued***PRECAUTIONS - For more information, see the label.****WOODY NURSERY STOCK (CONTAINER GROWN) - POST-EMERGENCE GRASS HERBICIDES**

- Apply to actively growing grasses prior to tillering.
- Apply at 0.8 L/ha (0.32 L/acre) at 2-5-leaf stage of volunteer wheat and barley.
- Apply at 1 L/ha (0.4 L/acre) at 2-5-leaf stage of annual grasses (2-4-leaf for foxtails).
- Apply at 2 L/ha (0.8 L/acre) at 3-5-leaf stage of quackgrass and wirestem muhly.
- Consult the label for list of tolerant species. Use as a directed application in sensitive species to avoid contact with leaves and green tissue. Some blue junipers (e.g., Bar Harbour, Blue Acres and Blue Rug) can be injured by over-the-top applications.
- Caution—There are differences between cultivars in sensitivity. For example—*Juniperus horizontalis* Blue Acres is sensitive while cv Plumosa Compacta is tolerant.
- Test on samples of each cultivar not specifically listed on the label before using the herbicide or use as a directed application.

**WOODY NURSERY STOCK (CONTAINER GROWN) - POST EMERGENCE GRASS AND BROADLEAF HERBICIDES**

- **Do NOT** apply to conifer trees within 1 year of seeding.
- KATANA may be applied over-the-top to conifers prior to spring bud break or when conifers are sufficiently hardened off. Some needle burn may be seen on a new flush if plants are actively growing at the time of application but typically there is no effect on subsequent growth. Directed applications are preferred and recommended to reduce phytotoxicity potential.
- **Do NOT** disturb the soil after application.
- Rates listed are for broadcast application. If making a banded application, see the banded application section of the label for calculating appropriate use rate.
- Higher rate is for larger weeds and heavier infestations.
- This product can be tank-mixed with glyphosate, as well as, residual herbicides that are labelled for use in conifer trees.

