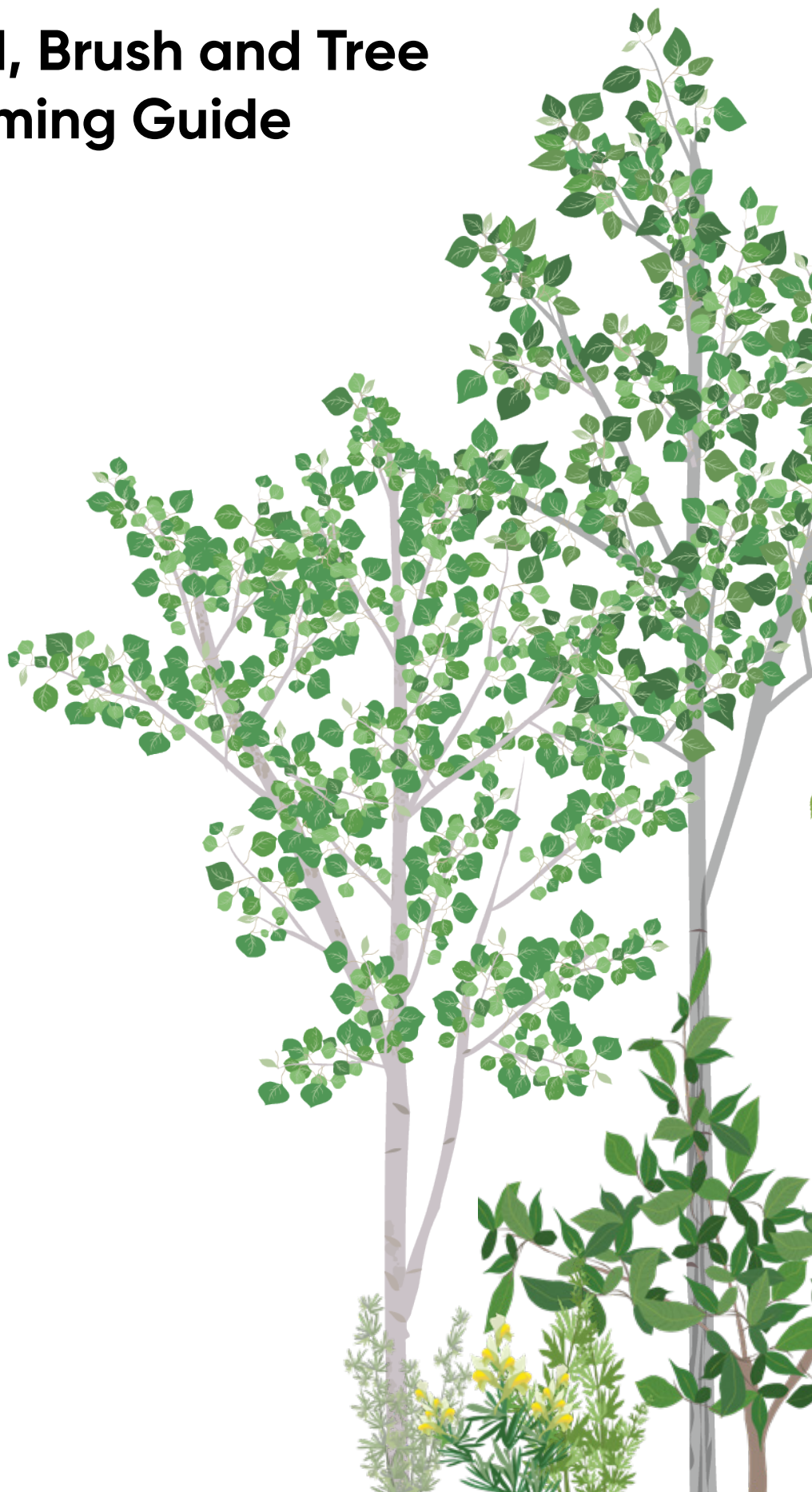


Invasive Weed, Brush and Tree Application Timing Guide



Invasive plants can thrive and spread aggressively reducing the quality and quantity of forage available to livestock. Corteva Agriscience™ Range & Pasture herbicides are effective tools in managing invasive and undesirable weeds, brush and trees in permanent grass pastures to increase grass production. After you have identified the target species, select the correct herbicide and apply with the correct water volume to ensure proper coverage and results.

IMPORTANT APPLICATION INFORMATION:

Ground Applications	Apply in a minimum of 20 gal/acre water volume
Rainfast	4 hours
Environmental conditions	Application timing may change year to year based on environmental conditions - a cool, wet spring may delay application timing to later in the season, a hot dry summer may move ideal application timing to earlier in season. If environmental stresses such as severe drought or extended periods of heat are inhibiting growth, this may decrease product efficacy. Insect and disease pressure can also reduce product efficacy. Corteva Agriscience Range & Pasture herbicides control weeds and root systems that are treated; if some weeds have not emerged at the time of application, these weeds will not have the same level of control as weeds that were fully emerged.

ABSINTHE WORMWOOD**Application Timing**

Apply in the juvenile stage when actively growing.

Herbicide Options

Restore™ II herbicide (1 L/ac)
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac)
Reclaim™ II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

BURDOCK**Application Timing**

Apply when burdock is in 4 to 6 leaf stage. Must be actively growing.

Herbicide Options

Restore II herbicide (1 L/ac) - Season long control
Reclaim II herbicide (20 ac/case)
Grazon XC herbicide (1.9 L/ac)

Additional Recommendations/ Watch Outs

If burdock has bolted, cut down to prevent seed spread. Hold off applying herbicide until following year at correct stage. Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

CANADA THISTLE**Application Timing**

Apply when population is fully emerged and ideally in full flower. Must be actively growing.
For fall treatment timing - contact your Range & Pasture Specialist.

Herbicide Options

Restore II herbicide (1 L/ac)
Restore NXT herbicide (0.6 L/ac)
Reclaim II herbicide (20 ac/case)
Grazon XC herbicide (1.9 L/ac)

Additional Recommendations/ Watch Outs

On average Canada thistle flowers later than most broadleaf weeds. For infestations that have been established for over two years, either broadcast or spot applications may be required in subsequent years to manage the problem and to remove heavy infestations.
Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

COMMON TANSY**Application Timing**

Apply in rosette stage, prior to flower. Must be actively growing.

Herbicide Options

Reclaim™ II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.

DANDELION**Application Timing**

Apply in rosette stage and prior to end of flowering. Must be actively growing.

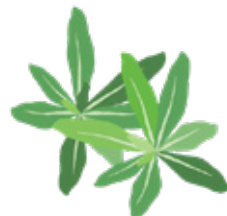
Herbicide Options

Restore™ II herbicide (1 L/ac) – Season long control
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac) – Suppression
Reclaim II herbicide (20 ac/case)
Grazon™ XC herbicide (1.9 L/ac)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

HAWKWEED**Application Timing**

Apply prior to bolting. Must be actively growing.

Herbicide Options

Restore II herbicide (1 L/ac)
Restore NXT herbicide (0.6 L/ac) – Orange hawkweed
Reclaim II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

HOARY ALYSSUM**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Reclaim™ II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.

HOARY CRESS**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Restore™ II herbicide (1 L/ac) – Season long control
Reclaim II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

LEAFY SPURGE**Application Timing**

Apply when in full true flower, prior to seed set.
Must be actively growing.

Herbicide Options

Grazon™ XC herbicide (1.9 L/ac)
Tordon™ 22K herbicide:
Broadcast – 1.8 L/ac
Spot spray – 3.6 L/ac may be used when less than 50% of the acre is treated.

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.25–0.375% v/v to Grazon XC for ground applications.

OX-EYE DAISY**Application Timing**

Apply prior to flower when actively growing.

Herbicide Options

Restore™ II herbicide (1 L/ac)
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac)
Reclaim™ II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

PASTURE SAGE**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Reclaim II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Timing can depend on environmental conditions.
Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

PRAIRIE SAGE**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Reclaim II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Timing can depend on environmental conditions.
Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

RUSSIAN THISTLE**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Restore™ II herbicide (1 L/ac)
Reclaim™ II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.

SCENTLESS CHAMOMILE**Correct Application Timing**

Apply prior to flower when actively growing.

Herbicide Options

Restore II herbicide (1 L/ac)
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac)
Reclaim II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

SPOTTED KNAPWEED**Application Timing**

Apply prior to flower when actively growing.

Herbicide Options

Restore II herbicide (1 L/ac)
Restore NXT herbicide (0.6 L/ac)
Reclaim II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Application during the summer will provide control; however, either broadcast or spot applications may be required in subsequent years.
Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

SULPHUR CINQUEFOIL**Application Timing**

Apply prior to bolting. Must be actively growing.

Herbicide Options

Restore™ II herbicide (1 L/ac) – Season long control
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac) – Suppression

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.25–0.5% v/v to Restore NXT for ground applications.

TALL BUTTERCUP**Application Timing**

Apply when actively growing in rosette stage and prior to flower.

Herbicide Options

Restore II herbicide (1 L/ac)
Restore NXT herbicide (0.6 L/ac)
Reclaim™ II herbicide (20 ac/case)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

YELLOW TOADFLAX**Application Timing**

Apply when flowering and prior to seed set.

Herbicide Options

Grazon™ XC herbicide (1.9 L/ac)
Tordon™ 22K herbicide:
Broadcast – 1.8 L/ac;
Spot spray – 3.6 L/ac may be used when less than 50% of the acre is treated.

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.25–0.375% v/v to Grazon XC for ground applications.

WILD CARAWAY**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Reclaim™ II herbicide (20 ac/case)
Restore™ NXT herbicide with Rinskor™ active (0.6 L/ac)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.
Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

WILD CHERVIL**Application Timing**

Apply when actively growing early in season.

Herbicide Options

Restore NXT herbicide (0.6 L/ac)

**Additional Recommendations/
Watch Outs**

Add a non-ionic surfactant such as Gateway at 0.25–0.5% v/v to Restore NXT for ground applications.

SILVERBERRY (WOLF WILLOW)**Application Timing**

Apply to actively growing brush after fully leafed out but prior to waxy cuticle formation.

Herbicide Options

Reclaim™ II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Scouting/leaf test is important. Once waxy cuticle has formed, herbicide uptake will be reduced and applications should be delayed until the following season.

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.2% v/v to Reclaim II for ground applications.

WESTERN SNOWBERRY (BUCKBRUSH)**Application Timing**

Apply to actively growing brush after fully leafed out but prior to waxy cuticle formation.

Herbicide Options

Reclaim II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Scouting/leaf test is important. Once waxy cuticle has formed, herbicide uptake will be reduced and applications should be delayed until the following season.

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

WILD ROSE**Application Timing**

Apply to actively growing shrubs after full leaf expansion prior to flowering.

Herbicide Options

Reclaim II herbicide (20 ac/case)

Additional Recommendations/ Watch Outs

Add a non-ionic surfactant such as Gateway at 0.2% v/v to Reclaim II for ground applications.

ASPEN (WHITE POPLAR)**Application Timing**

Apply to actively growing fully leafed out trees.

Herbicide Options

Grazon™ XC herbicide (2.5 L/ac)

Additional Recommendations/Watch Outs

Applications can be made on trees up to 12 feet in height.
Add a non-ionic surfactant such as Gateway™ adjuvant at 0.25-0.375% v/v to Grazon XC for ground applications.

BALSAM (BLACK POPLAR)**Application Timing**

Apply to actively growing fully leafed out trees.

Herbicide Options

Grazon XC herbicide (2.5 L/ac) - Suppression

Additional Recommendations/Watch Outs

Applications can be made on trees up to 12 feet in height.
Add a non-ionic surfactant such as Gateway at 0.25-0.375% v/v to Grazon XC for ground applications.

BIRCH**Application Timing**

Apply to actively growing fully leafed out trees.

Herbicide Options

Grazon XC herbicide (2.5 L/ac)

Additional Recommendations/Watch Outs

Applications can be made on trees up to 12 feet in height.
Add a non-ionic surfactant such as Gateway at 0.25-0.375% v/v to Grazon XC for ground applications.

WILLOW**Application Timing**

Apply to actively growing fully leafed out trees.

Herbicide Options

Grazon™ XC herbicide (2.5 L/ac)

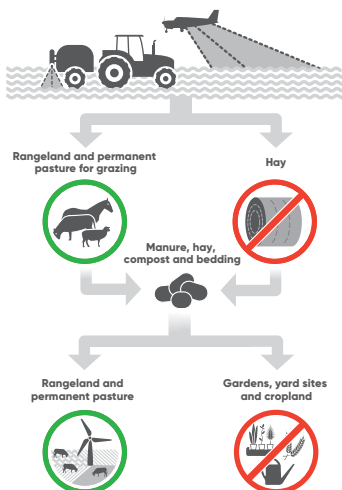
Additional Recommendations/Watch Outs

Applications can be made on trees up to 12 feet in height.

Add a non-ionic surfactant such as Gateway™ adjuvant at 0.25-0.375% v/v to Grazon XC for ground applications.

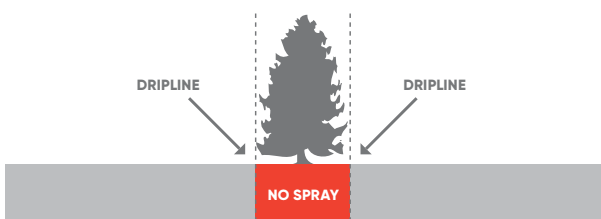
This is a reference guide only. Always read and follow label directions. For additional product information visit RangeAndPasture.corteva.ca or contact your Corteva Agriscience™ Range & Pasture Specialist.

Hay, soil and manure management

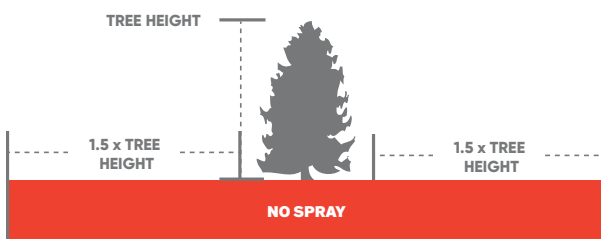


- Soil from treated areas should not be moved to areas where sensitive plants may be planted within five years.
- Manure from livestock consuming treated grass should not be used for compost or around susceptible plants.
- Clippings from grass that has been treated with range and pasture herbicides should not be used for composting or mulching.

Buffers



- Reclaim™ II, Restore™ II and Restore™ NXT with Rinskor™ active herbicides should NOT be used over the top of desirable trees. They should only be used up to the dripline (outermost edge of the tree canopy) of desirable trees. Use additional caution around lateral root systems, shallow rooting species and those that propagate vegetatively through layering.



- Grazon™ XC herbicide and Tordon™ 22K herbicide should NOT be used over the top of desirable trees. Applications should remain a distance of 1.5 times the height of desirable trees at all times.
- Do not apply Grazon XC or Tordon 22K to coarse texture soils (>40 percent sand) with a high water table (within 1.8 metres or 6 feet of the soil surface).
- Do not apply Grazon XC or Tordon 22K within 30 metres (approximately 100 feet) of an open water body (does not include dugouts) or as per provincial regulations.

Grazing and cutting restrictions



- No grazing restrictions for livestock. Seven-day grazing restriction for lactating dairy animals for Restore II, Reclaim II, Grazon XC and Tordon 22K.
- Withdraw all animals three days prior to slaughter.

- If forage or hay must be removed from an area treated with Restore II, Reclaim II, Grazon XC or Tordon 22K, do not cut the forage or hay within 30 days of application. Allow 7 days after an application of Restore NXT before cutting forage or hay.
- If livestock is being moved from a pastures treated with these herbicides to a legume-based pasture, it is recommended that animals be grazed on an untreated, non-legume-based pasture for three days when treating with Restore II, Restore NXT or Reclaim II and seven days when treating with Grazon XC or Tordon 22K.

Range & Pasture products are designed for permanent grass pastures and rangeland where grazing is the method of harvest. The manure or compost from an animal fed treated forage should only be used on appropriate use sites where the loss of broadleaf plants, including legumes, can be tolerated.

Re-seeding and grass tolerance



- Newly seeded grass should not be sprayed until secondary root development and a minimum of four leaf surfaces have established – well past the seedling stage.



- Safe to established grasses.
- Grasses may be seeded 10 months following an application.
- Legume re-establishment may be affected for up to five years.
- Soil organic matter, rainfall and temperature all affect the rate of degradation.



- Avoid applications under stress conditions when grass is not actively growing (hot or cold weather, excessive moisture or drought) as grass injury including leaf discolouration and stunting of growth in the season of application may result.

Range & Pasture products

Restore™ II

HERBICIDE

Take down your tough to control invasive weeds. Restore II, a broad-spectrum herbicide controlling a wide range of invasive broadleaf weeds will help restore the health and productivity of your pasture.

NEW

Restore™ NXT

Rinskor™ active

HERBICIDE

Restore NXT, the next evolution in the Corteva Range & Pasture portfolio for controlling invasive weeds in your pasture. In addition to controlling other invasive broadleaf weeds, Restore NXT targets cleavers, clover, common waterhemp, fireweed, mullein, poison hemlock, purple loosestrife, rush skeletonweed, scotch thistle, wild caraway, wild chervil and wild parsnip not listed on the Restore II label. Control all weeds on both the Restore NXT and Restore II labels by adding 2,4-D Amine 600 to Restore NXT.

Reclaim™ II

HERBICIDE

Proven brush control. Reclaim II, the most effective extended brush control herbicide. Designed to control brush with the added benefit of broad-spectrum, invasive broadleaf weed control.

Grazon™ XC

HERBICIDE

Grazon XC, the solution for controlling both undesirable trees and invasive broadleaf weeds in your pastures. With its proven and effective extended control, Grazon XC helps to increase your grass production and boost your bottom line. For tree recommendations, please contact your local Corteva Agriscience™ Range & Pasture Specialist.

Tordon™ 22K

HERBICIDE

Provides the longest lasting control of deep rooted, hard to control leafy spurge and yellow toadflax.

Broadcast and spot spraying

	Broadcast application 20 gal/ac water volume	Spot application Mixing in 10 L water
Restore™ II ¹ herbicide	20 ac/case	24 mL (i.e. 0.24% solution)
Restore™ NXT ¹ herbicide	33 ac/case PLUS 0.25-0.5% v/v non-ionic surfactant	15 mL (ie 0.15% solution) 0.5% v/v surfactant
Reclaim™ II ¹ herbicide	20 ac/case PLUS 0.2% v/v non-ionic surfactant	2.3 g Reclaim II A 17 mL Reclaim II B 20 mL surfactant
Grazon™ XC ² herbicide	1.9 L/ac for weed control <i>For tree rates contact Corteva Agriscience</i>	67 mL (i.e. 0.67% solution)
Tordon™ 22K ² herbicide	1.8 L/ac	50 mL (i.e. 0.50% solution)

For backpack/spot application:

¹ Thoroughly and uniformly wet the foliage, but not to the point of runoff.

² Apply to foliage until wet, up to the point of runoff.

Maximum one application per year for all treatments.

Water volumes

Ground: Minimum 20 gal/ac

Rainfast

4 hours



For specific weed, brush and tree control advice, please contact your Corteva Agriscience™ Range & Pasture Specialist or visit

RangeAndPasture.corteva.ca