

Roadside Chemical Usage Guidelines



2009 Edition

Updated May 2009

Table of Contents

Introduction: The Importance of Roadside Vegetation Management

General Nebraska Weed Information	2
Nebraska Noxious Weeds.....	3
NE Dept of Agriculture Noxious Weed Program Info	3
Map of Weed Management Areas	4
List of Vegetation Management Websites.....	5
Control Calendar.....	6
Guidelines & Forms	7
Certification of Chemical Applicators	8
Pesticide Application Report	8
Chemical Additives & Accessories	10
Dye.....	11
Surfactant.....	11
Drift Control	11
Insect Control	11
Insect Control – Lawns.....	11
Insect Control – Right of Way.....	11
Weed Control	11
Lawns.....	11
Right of Way.....	11
General Vegetation Control.....	11
Guardrail Vegetation	12
Noxious Weed Control.....	14
Thistle Control – Spot Spraying.....	14
Canada Thistle	14
Leafy Spurge	15
Purple Loosestrife	15
Salt Cedar	16
Common Reed	16
Bindweed.....	17
Sericea Lespedeza.....	17
Woolly Bursage	17
Houndstongue	17
Yellow Bedstraw.....	17
Wetland Vegetation Control	18
Wetland Noxious Weed Control & Brush Control.....	18
Wetland Volunteer Tree & Noxious Weed Control.....	18
Tree, Brush & Stump Control.....	19
Cut Stump Herbicides for Fall & Winter.....	20
Red Cedar Control for Cedars 3 ft. & Smaller.....	20
Tree Control with Dormant Basal Treatment.....	21
Herbicide Information Table.....	22
Sprayer Calibration Info	24

The Importance of Roadside Vegetation Management

Keeping Nebraska's highways safe for those who travel includes the careful management and control of roadside vegetation. (*"Vegetation" as referenced here includes grasses, wildflowers, shrubs, brush, and trees.*) This includes, but is not be limited to, vegetation in the "clear zone" area, that part of the right of way that must remain free of obstructions.

Some examples are:

- Vegetation that hinders the visibility of traffic approaching any intersection.
- Vegetation overhanging or encroaching upon a right of way.

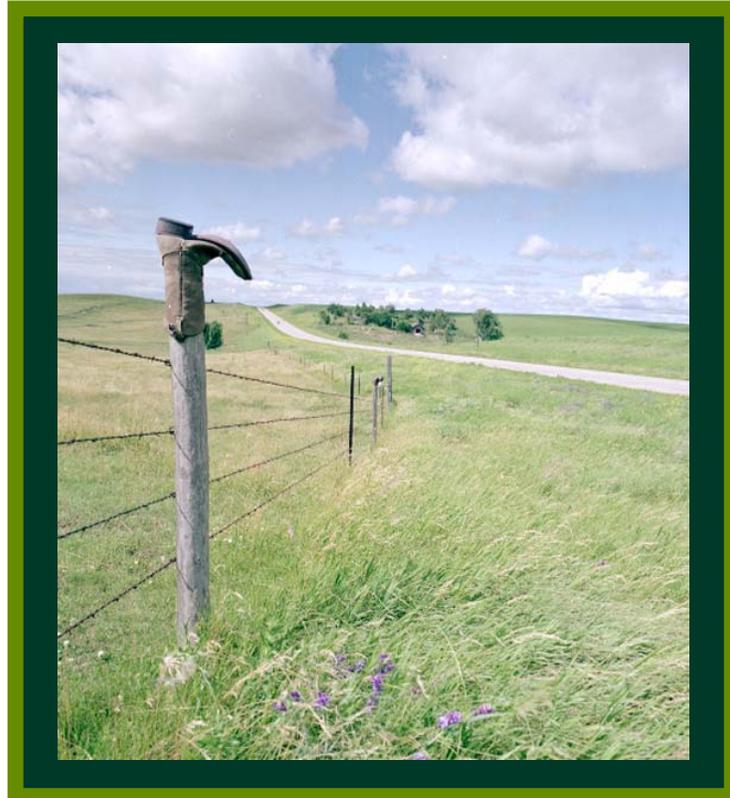
Note: *The State has the right to cut vegetation overhanging its right-of-way to protect the traveling public. In the event of a tree trunk on private property with limbs overhanging state right of way, this may be done without the consent of the private owner since one does not have the right to encroach upon State right-of-way in any manner.*

Safety is foremost in our landscape management and design. Common sense must prevail in the placement and/or maintenance of vegetation so safety hazards are not created or allowed to continue, once noted.

Safety of NDOR employees and the environment are other concerns that have influenced the choice of chemicals and methods recommended in this document. If an effective alternative to a restricted use pesticide is available, that is preferable to one of restricted use. Since many of the soils in Nebraska are porous and groundwater is a limited resource, pesticides least likely to contaminate groundwater or surface water are preferred to those that pose such a risk. NDOR also has a responsibility to make sure chemicals applied to the right-of-way stay there.

If you have concerns or questions about the treatments recommended in this document, please contact Ronald Poe with the Roadway Stabilization Unit: Ronald.Poe@nebraska.gov, (402) 479-4499.

Nebraska Weed Info



Questions about the information in this section should be directed to Ronald Poe at (402) 479-4499

Email: Ronald.Poe@nebraska.gov

(ALWAYS READ AND FOLLOW LABEL DIRECTIONS)

Nebraska Noxious Weeds

- | | | |
|-----|---------------------------|--|
| 1. | Leafy Spurge..... | Statewide |
| 2. | Musk Thistle | Statewide |
| 3. | Canada Thistle | Statewide |
| 4. | Plumeless Thistle | Statewide |
| 5. | Diffuse Knapweed | Statewide |
| 6. | Spotted Knapweed..... | Statewide |
| 7. | Purple Loosestrife | Statewide |
| 8. | Salt Cedar | Statewide |
| 9. | Common Reed | Statewide |
| 10. | Bindweed | Banner, Box Butte, Cheyenne, Deuel,
Dundy, Dawes, Garden, Morrill,
Scotts Bluff, Sheridan Counties |
| 11. | Yellow Bedstraw..... | Cherry County |
| 12. | Woolly Leaf Bursage | Banner County |
| 13. | Bull Thistle..... | Rock County |
| 14. | Scotch Thistle..... | Dawes, Morrill Counties |
| 15. | Houndstongue..... | Dawes County |
| 16. | Sericea Lespedeza | Pawnee, Johnson, Otoe, Gage, Nemaha, Richardson Counties |
| 17. | Flodman Thistle..... | Fillmore County |
| 18. | Tall Thistle..... | Fillmore County |

For information on noxious weeds in Nebraska or its counties contact:

Mitch Coffin, Program Manager
 Nebraska Department of Agriculture
 Bureau of Plant Industry
 Noxious Weed Program
 PO Box 94756, Lincoln, NE 68509
 Office: 402-471-6844
 Cell: 402-416-0603
 FAX: 402-471-6892
mitch.coffin@nebraska.gov

Most counties in the state are covered by a Weed Management District. They frequently sponsor workshops on noxious species found in that area and are a good resource. See map of WMA's on the following page to locate the one nearest you. The county weed superintendents are also a good source of information.

Vegetation Management Websites

(for information, labels, and MSDS)

BASF.....	www.vmanswers.com/lib/
Becker-Underwood.....	www.beckerunderwood.com/
DowAgro.....	www.dowagro.com/prod/index.htm
Dupont.....	www.dupont.com/ag/vm/
Monsanto.....	www.monsanto.com/ito
PBI Gordon.....	www.pbigordon.com
Nufarm.....	www.nufarm.com/USIVM/IVM
UAP Co.....	www.uap.com
Van Diest Supply Co.....	www.vdsc.com
Labels and MSDS for all companies.....	www.cdms.net/manuf/manuf.asp
Invasive Species Information.....	www.invasivespeciesinfo.gov
County Extension Offices.....	www.extension.unl.edu/web/Extension/officeslist
Nebraska Department of Agriculture.....	www.agr.state.ne.us/division/bpi/nwp/nwp1.htm
Nebraska Weed Control Association.....	www.neweed.org
Nebraska Invasive Species Project.....	www.snr.unl.edu/invasives/
Pesticide Education Resources.....	www.pested.unl.edu/pesticide/pages/index.jsp

Control Calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Canada Thistle													
						Caution: seed spread							
Leafy Spurge													
						Caution: seed spread				Plateau			
Biennial Thistles													
			Rosettes								Rosettes		
Knapweeds													
			Rosettes								Rosettes		
Purple Loosestrife													
						Contact wetland manager if found in mitigation site							
Salt Cedar													
	Apply seasonally recommended chemical to cut stump.												
									Contact wetland manager if found in mitigation site				
Red Cedar	Priority given to hazard trees, seed bearing (blue berry), adjacent to rangeland & pasture												
Trees & Shrubs				No treatments 3/1 to 8/1									
	No snow on ground												
										After leaf drop, no snow			

	plant is flowering
	mechanical control
	chemical control

Guidelines & Forms



Questions about the information in this section
should be directed to Ronald Poe at (402) 479-4499
Email: Ronald.Poe@nebraska.gov

(ALWAYS READ AND FOLLOW LABEL DIRECTIONS)

Certification of Chemical Applicators

- NDOR maintenance personnel who apply Pesticides should be certified by the Nebraska Department of Agriculture.
- Restricted Use Chemicals should only be used after all nonrestricted options have been tried, and failed, to control the problem. Maintenance personnel who apply Restricted Use Chemicals **must** be certified in Right-of-Way Pest Control to apply those chemicals.
- Maintenance personnel who apply a Restricted Use Chemical to treat for pocket gophers must be certified in Wildlife Damage Control.
- Maintenance personnel who apply any insect control, chemicals, including fertilizer, to lawns must be certified in ornamental and turf pest control.
- These rules also apply to the contractors that maintain any of our state operated rest areas, offices, maintenance yards, or apply chemicals on any NDOR right of way areas.

From: Nebraska Department of Agriculture

1. The Nebraska Pesticide Act, §2-2638(2), states in part that:

“Any person who applies lawn care for hire or compensation, shall apply to the Department for a commercial applicator license regardless of whether such business applies to any restricted use pesticides.”
2. Section 005.02A4 of the Nebraska Pesticide Act regulations defines that the Ornamental and Turf Pest Control category as:

“...including commercial and noncommercial applicators using or supervising the use of restricted use or general use pesticides to control pests in the maintenance and production of **ornamental trees, shrubs, flowers, and turf**, including in and around structures, greenhouses, plant nurseries, golf courses, athletic fields, public or private grounds and turf farms.”

Nebraska Department of Roads’ employees who apply pesticides, either general use or restricted use pesticides, in the maintenance of ornamental trees, shrubs, flowers, and turf on roadside rest areas are, therefore, required to be certified as either commercial or noncommercial pesticide applicators in Nebraska.

Restricted Use Pesticide Application Report

To be completed by Commercial Pesticide Applicators who apply Restricted Use Pesticides in Nebraska. Ref. 40 C.F.R. §171.11(c)(7).

Date Report Filed:

Pesticide Applied By: (Name, address, and certified applicator number)			Pesticide Applied For: Nebraska Department of Roads PO Box 94759 Lincoln Nebraska 68509-4759		
MONTH	DAY	YEAR	Time of Application <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.		Location of Application: (Highway and Reference Post(s))
Trade Name and EPA Registration Number of Pesticide Applied:			Size of Application Area:		
Rate of Application (lb/ac):		Total Amount Applied:		Targeted Pest(s):	
COMPLETE THIS SECTION IF DISPOSAL IS REQUIRED					
Type of Pesticide:		Amount:			
Method:		Location:		Specific Crop or Commodity Applied To: Turf-Lawn <input type="checkbox"/> Roadside <input type="checkbox"/>	
Additional Comments (wind speed, direction):					

DR Form 187a, Apr 09

Nebraska Department of Roads

Pesticide Applications Document

(To be completed annually for each pesticide)

Distribution

Supervisor
Maintenance Engineer, Operations Division
Employee

Date:	Pesticide to be Applied:	Restricted Use: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Supervisor:	Applicator:	Employee NIS No.	Certified: <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>I have been given information on the use of the pesticide</p> <p>for application on <i>(Identify target species)</i></p> <p>I have been given the label and the Material Safety Data Sheets and have been given time to read them. Time was made for me to ask questions about the chemical.</p> <p style="text-align: right;">..... <i>(Signature of Applicator)</i></p>			
<p>Method of Application: <input type="checkbox"/> Backpack Sprayer <input type="checkbox"/> Tank Sprayer <input type="checkbox"/> Hand Sprayer <input type="checkbox"/> Other</p> <p>Before being sent out to apply pesticides, the equipment to be used has been inspected and checked by</p> <p style="text-align: right;">..... <i>(Signature of Person Who Checked Equipment)</i></p>			

DR Form 187, Mar 07

Chemicals and Vegetation Control



Questions about the information in this section
Should be directed to Ronald Poe at (402) 479-4499
Email: Ronald.Poe@nebraska.gov

(ALWAYS READ AND FOLLOW LABEL DIRECTIONS)

Chemical Additives and Accessories

Dye	Becker Underwood – Tablets – Liquid & Water Soluble Packets
Surfactant	Non-ionic - Premier 90, Liberate (surfactant & drift control) Methylated Seed Oil – Soy Stik Silicon – Silenergy, Silco
Drift Control	Gardian, Liberate (surfactant & drift control)

Insect Control

Insect Control – Lawns

Billbug & Webworm	Talstar One or Tempo SC Ultra
Spider Mites	Soapy Water, Avid, or Talstar One
Grubs	Merit or Mach II – <i>Apply June 10 to July 10</i>

Insect Control – Right of Way

Eastern Tent Caterpillar	Tempo SC Ultra – Sevin or Eight Non-chemical – Dipel
Grasshoppers	Tempo SC Ultra – Same as tent caterpillar
Mosquitoes	Adults – Talstar, Tempo WP on shrubs & trees Larvae – Non-chemical – Minnows, BTI briquettes

Weed Control – Lawns

Pre-emergent – Dimension or Barricade

Broadleaf Weeds – Trimec 992 or Vessel (2,4-D amine); Mecamine “D” or Speedzone (2,4-D ester)

General Weed Control – Right of Way

In Joints	Campaign, Journey, Stalker, Glyphosate (follow label instructions for spot spraying)
Wet Ditches	Rodeo, Habitat
Under Asphalt	Stalker, Journey, Arsenal
In Trees & Shrubs	Casoron 4G – November thru March, Pendulum
Grass in Trees & Shrubs	Poast, Over the Top with Fusilade 2000 during the growing season

General Vegetation Control

Guardrail Vegetation Chemicals

Chemical treatments must be rotated to minimize resistance development in annual weeds. Some weeds have already developed resistance to glyphosate (Round-Up) including Marestalk and Giant Ragweed. **Guardrails set in pavement should only be treated after weeds appear.**

Guardrails and signs set in pavement (**do not overspray**), treat after weeds emerge:

Product Name	Quantity	Water	Surfactant	Notes
Round-Up, (Glyphosate)	6 oz	1 gal.	Follow label	Generic formulations available
Journey (Imazapyr, glyphosate)	1 gal.	10 gal	1 pint MSO 3 oz Non-ionic	Premix of glyphosate and imazapyr (Arsenal),
Horticultural Vinegar (Acetic acid)	100% product	No mixing	None needed	available from A.M. Leonard & others; apply when temperatures are over 70, may take 2 applications

Guardrails (not around water or in pavement) – mixes above or the following if resistance occurs:

Pre-emergence:				
Product	Product Qty	Water	Surfactant	Notes
Pendulum AquaCap (Pendimethalin)	1.5 gal	100 gal	Non-ionic, 1.5 qt	Fish toxin, add glyphosate for post-emergent application
Arsenal (Imazapyr)	3 gal			
Landmark XP (Sulfometruon methyl, Chlorsulfuron)	10 oz.	100 gal	Non-ionic, 1 qt	Payload must be applied within 24 hours of mixing, do not apply where runoff is likely, toxic to aquatic species
Payload (Flumioxazin)	16 oz.			
Tailspin (Fluroxypyr, Triclopyr)	1 gal.	100 gal	Silicon, 6 oz	Fish toxin
Escort XP (Metsulfuron methyl)	2 oz.			

Post-emergence Guardrail treatment:

Product	Product Qty	Water	Surfactant	Notes
Escort XP (Metsulfuron methyl)	1 oz	25 gal	Non-ionic, 12 oz	Premix Escort with 1 gal water to make slurry, use within 24 hours, must be agitated
2,4-D	24 oz			
Pendulum (Pendimethalin)	1.5 gal.	100 gal	Non-ionic, 1.5 qt	Fish toxin
Glyphosate	4 gal			
Vista (Fluroxypyr)	8 oz	10 gal	MSO, 10 oz	For Kochia & Russian thistle, toxic to fish

Noxious Weed Control

Spot Spraying for Thistle Control (Canada, Musk, Plumeless, Scotch, Bull)

(www.newweed.org/noxiousweeds.htm): the best time to treat biennial thistles is the spring or early summer before they bolt and flower, but they are most visible when flowering. Check areas where control was applied or needed in previous years to scout for thistle rosettes in the fall.

Product	Quantity	Water	Surfactant	Other
Escort XP (Metsulfuron methyl) + 2,4-D	3 grams, 0.1 oz 3 oz	10 gal	3 oz non-ionic	Requires good agitation
Transline (Clopyralid)	3-5 oz	10 gal	Optional	Higher rate is for Canada Thistle
Telar XP (Chlorsulfuron)	10 grams, 1/3 oz	10 gal	1 oz. ammonia	Requires good agitation; must use within 24 hours
Milestone	7 oz	100 gal	1 qt non-ionic	Do not overapply

If unable to spot spray thistles, mow before seed sets (while plants are flowering).

Canada Thistle (www.newweed.org/noxiousweeds.htm): one of our most serious weeds because it is a perennial that will spread if not controlled. Some colonies develop resistance to specific herbicides so switch to another active ingredient if suppression is not achieved after 3 years of treatment. Mow when the plant is blooming to prevent seed formation and dispersal.

Product	Quantity	Water	Surfactant	Other
Milestone (Aminopyralid)	1 oz	10 gal		If overapplied, may result in bareground
Escort XP (Metsulfuron methyl) + 2,4-D amine	3 grams, 0.1 oz 3 oz	10 gal	3 oz non-ionic	Requires good agitation
Transline	6 oz	10 gal	Optional	Doesn't affect grasses

Leafy Spurge (www.newweed.org/noxiousweeds.htm) is another serious, perennial pest that will spread if not treated.

1. When plant is budding:

Product	Quantity	Water	Surfactant	Other
2,4-D Low Volatile Ester	3 qts	100 gal	Non-ionic, follow label	30 gal per ac. Rate, 16 oz dye

Retreatment in the fall with Plateau will be needed for control. The mix above will slow its spread.

2. When plant is flowering, mow it to prevent seed formation and mark it for fall treatment.

Fall Treatment:

Product	Quantity	Water	Surfactant	Other
Plateau (Imazapic) + 2,4-D	8 oz	100 gal	1 pint non-ionic	Apply 2 weeks before 1 st frost

Fill $\frac{3}{4}$ tank with water; add surfactant & 2,4-D; add Plateau and remaining water.

Knapweeds (Spotted, Diffuse [www.newweed.org/noxiousweeds.htm])

Product	Quantity	Water	Surfactant	Other
Transline (Clopyralid)	5 oz	10 gal		Rosette to bud stage
2,4-D ester	10 oz	10 gallon	Drift control	Rosette stage

Purple Loosestrife (www.newweed.org/noxiousweeds.htm): use aquatic label herbicide if the area to be treated has surface water. Do not mow. New plants can sprout from cuttings.

Product	Quantity	Water	Surfactant	Other
2,4-D amine	1 pint	10 gal	Follow label	Use aquatic formulation for plants in water
Rodeo* (glyphosate)	1 pint	10 gal	5 oz nonionic	Summer or fall
Habitat* (Imazapyr)	1 pint	10 gal	Non-ionic: 3 oz MSO: 13 oz	

* Aquatic label herbicide

Biological Control: Galerucella spp. beetles have been released along the Platte, Niobrara, and Missouri Rivers in Nebraska to suppress purple loosestrife. Contact the county weed supervisor for information on the release of beetles to infested R.O.W., especially wetland mitigation sites.

Saltcedar (www.newweed.org/noxiousweeds.htm): leave in place for 2 years for chemical to act on all parts of tree. Cuttings removed too soon could sprout.

For cut stump application mix 8-12 oz. Habitat per gallon of water and apply to outer quarter of cut surface. The mixes below are for foliar application:

Product	Quantity	Water	Surfactant	Other
Habitat* (Imazapyr)	20 oz	10 gal	Non-ionic: 3 oz MSO: 13 oz	Apply during flowering(June)
Rodeo* (glyphosate)	13-25 oz	10 gal	Non-ionic, 5 oz	may require repeat application

* Aquatic label herbicide

Common Reed (*Phragmites australis*) (www.newweed.org/noxiousweeds.htm)

This grass is colonizing sandbars and banks along the Platte River. It has also been found in some wetland mitigation sites. Coordinate control efforts with the local Weed Management Area to prevent duplication or overapplication. Several grants have been awarded to control this plant along the Platte and Republican Rivers. If the plant is encroaching on ROW from private land, mow it for control. Encroachment will continue without cooperation from adjacent landowners. Typically our ROW will not support this species.

Treatment is most effective in early fall, two weeks before the first frost. Elsewhere use the following treatments:

Product	Quantity	Water	Surfactant	Other
Habitat* (Imazapyr)	1.5% solution 48 oz	25 gal	Non-ionic: 3 oz MSO: 13 oz	Considered to be most effective
Rodeo* (glyphosate)	1.5% solution 48 oz	25 gal	Non-ionic, 5 oz	may require repeat application

* Aquatic label herbicide

County Declared Noxious Weeds

Bindweed Banner, Box Butte, Cheyenne, Deuel, Dundy, Dawes, Garden, Morrill, Scotts Bluff, Sheridan Counties

1. Escort XP 1.5 oz + 3 qts 2,4-D ester + 1 gallon non-ionic surfactant per 100 gallons of water; requires good agitation
2. Plateau 1.5 oz + 1.3 oz methylated seed oil per gallon of water
3. Glyphosate 32 oz + 2,4-D ester 0.5 pint/acre, apply late summer through fall

Sericea Lespedeza (www.newweed.org/watchlist.htm) Pawnee, Gage, Nemaha, Richardson, and Otoe Counties: ***2,4-D is not effective against this plant.***

1. Garlon 3A: 2 oz. per gallon water prior to bloom
2. Escort XP 1 oz + 1 qt. non-ionic surfactant per **100 gallons** water late summer to fall application when plants are blooming; requires good agitation

Woolly Bursage (www.newweed.org/watchlist) Banner County

1. Round-Up Max 1-2 oz per gallon water
2. 2,4-D low volatile ester 1.5 oz. per gallon water when plant is budding
3. Plateau 1 oz + 1.3 oz methylated seed oil per gallon water

Houndstongue (www.newweed.org/watchlist.htm) Dawes County

1. Plateau 1.5 oz + 1.3 oz methylated seed oil per gallon of water
2. Escort XP 1.5 oz + 1 qt. non-ionic surfactant per **100** gallons water; requires good agitation

Yellow Bedstraw (<http://plants.usda.gov/java/profile?symbol=GAVE>) Cherry County

Plateau 1.5 oz + 1.3 oz methylated seed oil per gallon of water

Other Weeds of Concern on the ROW

Teasel (eastern Nebraska [wisplants.uwsp.edu/scripts/detail.asp?SpCode=DIPLAC])

1. Escort XP 1 gram + 1 gallon water + (1 oz per 100 gallons water + 2-4 pints non-ionic surfactant)
2. Transline 1 oz + 0.64 oz non-ionic surfactant per gallon of water
3. Garlon 2.5 oz per gallon water

St. Johnswort (www.newweed.org/watchlist.htm) is of concern around rangeland and pasture because it poses a health risk to cattle that consume it.

1. Cimarron Plus 1/4 oz per gallon water

Wetlands Noxious Weed Control and Brush Control

The Department of Roads now owns many wetlands across Nebraska. The wetlands are not free from noxious weeds and invading Cottonwoods. The two noxious weeds that are the most common in the wetlands are Purple Loosestrife and Canada Thistle with an occasional patch of Leafy Spurge in the upland portion of the wetlands.

The County Weed Control Authorities may call your attention to these noxious weeds and want to spray them or urge you to get in there and spray these weeds or you may notice these weeds through your own vigilance.

Do not spray in the wetlands on your own. Call the Environmental Permits Unit at (402) 479-4418 and talk it over with the Manager or the Biologist in charge of that wetland.

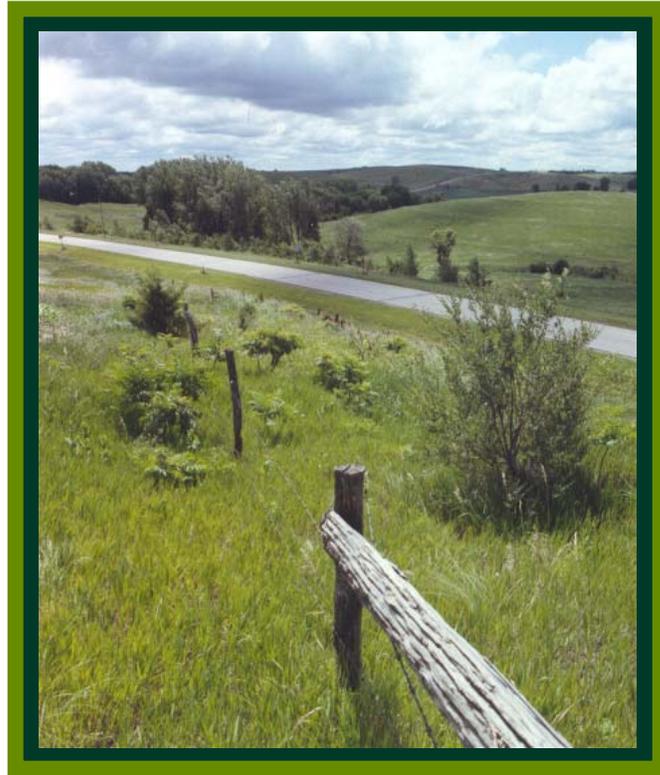
Wetland Volunteer Tree & Noxious Weed Control

Recipe for a three-gallon backpack sprayer applied after July 15

1. For a three-gallon backpack sprayer, add the following:
 - A. 1 Gallon of Water
 - B. 6.25 fluid ounce of Rodeo
 - C. 2 Ounces Non-ionic surfactant
 - D. 1 Ounce of Dye
 - E. Add 2 more Gallons of Water
2. Spray to wet the entire plant
3. The solution may also be made up in bulk.

This recipe is good for Volunteer Trees and Purple Loosestrife in wetlands.

Tree, Brush & Stump Control



Questions about the information in this section
should be directed to Ronald Poe at (402) 479-4499
Email: Ronald.Poe@nebraska.gov

ALWAYS READ AND FOLLOW LABEL DIRECTIONS

Cut Stump Herbicides

During the growing season:

- A. Roundup – Pro: 75-100% concentrate
- B. Krenite S: 50-100% concentrate

During the dormant season:

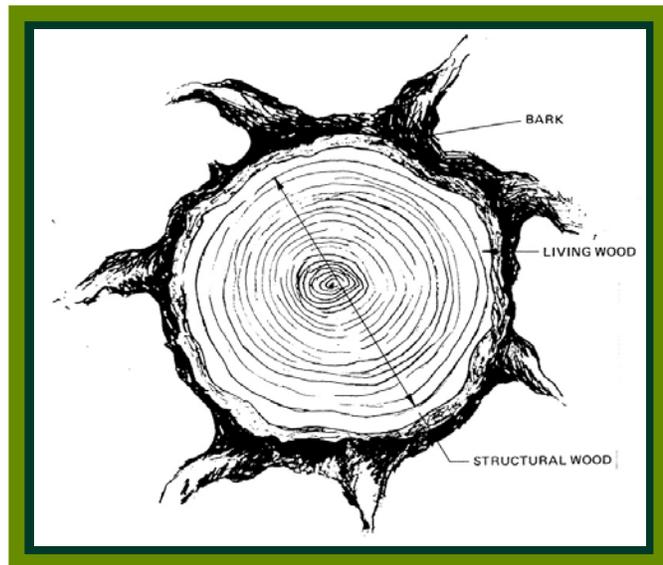
- A. Pathfinder II or Garlon 4 + J.L.B. Oil
- B. Stalker basal mixtures

Cut Stump Treatment for Stumps Over 3” in Diameter

- Treat the Living Wood Only – Treat Immediately After Cutting
- Stumps that 3” and under, cover the entire stump and sides immediately

Foliar Application

Woody vegetation and brush should be controlled during the dormant season if possible. If not, a foliar application may be made with Garlon or after August 1, Krenite



Red Cedar Control for Cedars Three Feet and Smaller

Cedars cut below live branches will not resprout and need no chemicals. Herbicides do not work well on trees larger than 6’ and the potential for offsite drift is high. Eradication priority should be given to female trees bearing fruit (blue berries), especially where ROW adjoins range or pasture.

100 Gallon Mix

1. 2 Ounces of Escort XP
2. 1 Pint of silicon surfactant
3. Spray to Wet – from Spring greenup to first frost
4. Symptoms are slow to appear – may take the entire growing season for a complete kill.

Call if you have questions, (402) 479-4499, or email Ronald.Poe@nebraska.gov.

Tree Control with Dormant Basal Treatment (cannot be used in snowcover or standing water)

- Spray entire trunk from knee high to the ground.
- Spray to **wet only** – we do not want runoff.
- Wear appropriate clothing:
 - Rubber Boots
 - Plastic Gloves
 - Disposable Coveralls



1. Pathfinder II is a ready to use product and requires no mixing
2. Garlon 4 1 qt. per 3 qts 11penetrating oil makes 1 gallon of spray
3. Stalker 8-12 oz. per gallon of penetrating oil; do not use around desirable woody plants

Penetrating or basal oil is carried by Van Diest or UAP as J.L.B. Oil Plus.

The recipe says the basal treatment should be made to the lower 12 to 18 inches of the tree trunk –approximately **knee high down to the ground**. Spray to wet – runoff is not necessary and only wastes the mix.

Areas that are treated with this basal method will have dead brush next year and can be a scheduled cleanup event.

Seasonal Brush Control

Spring – Summer

August 1 to September 15

After leaf drop to March 15

No treatment from March 15 to July 15

Krenite-S – See Below

Use basal treatment above or cut stump p. 21

Use the following recipe for Aug-Sept brush control: Good Coverage = Good Control
100-Gallon Mix

1. 1 Quart drift control agent
2. 1½ Gallons Krenite-S
3. Use Good Pressure (50 to 80 psi)

GENERAL INFORMATION ON HERBICIDES

PRODUCT	ACTIVE INGREDIENT(S)	SURFACTANT	HAY RESTRICTION	RAINFAST	OTHER
Broadleaf					
Several	2,4-D amine or ester	Follow label	30 days	4 hrs	Amine formulation causes irreversible eye damage; do not use around grapes
Cimarron Plus	Metsulfuron methyl + Chlorsulfuron	Non-ionic	37	4 hrs	Effect not seen immediately, leaching potential increases with soil pH
Escort XP	Metsulfuron methyl	Non-ionic	0-3 days	4 hrs	Effect not seen immediately
Milestone	Aminopyralid	Non-ionic	0	4 hrs	Eye irritant
Overdrive	Diflufenzopyr	Follow label	0	4 hrs	Use with caution around alfalfa & soybeans, high runoff potential - do not overapply
Telar	Chlorsulfuron	Non-ionic	0		Effect not immediately seen, not effective in fall; leaching potential increases with soil pH
Transline	Clopyralid		0	2 hrs	High runoff and leaching potential, do not overapply or use near shallow groundwater, eye irritant
Vista	Fluroxypyr		7		High runoff potential, do not overapply; toxic to fish
Non-Selective					
Campaign	Glyphosate + 2,4-D		30 days	6 hrs	Eye injury potential
Habitat*	Imazapyr	Non-ionic or MSO required	7 days	1 hr	High runoff & leaching potential
Journey	Imazapic + Glyphosate		7 days	1 hr	Runoff & leaching potential
Plateau	Imazapic	Methylated seed oil (MSO)	7 days	1 hr	High runoff & leaching potential, especially in high pH soils
Rodeo*	Glyphosate	Non-ionic	0-56 days	2-6 hrs	
Round-Up	Glyphosate	Non-ionic	0-56 days	2-6 hrs	Low leaching & runoff potential, carried by sediment

Product	Active Ingredient(s)	Surfactant	Hay restriction	Rainfast	Other
Trees & Brush					
Brushmaster	2,4-D + dicamba	None			Use with caution around alfalfa & soybeans
Garlon 3A*	Triclopyr amine	Non-ionic	14 days	6 hrs	Irreversible eye damage
Garlon 4	Triclopyr ester				Toxic to fish
Krenite	Fosamine		NA		
Pathfinder II	Triclopyr ester	None	365 days		
Stalker	Imazapyr	optional	7 days		High runoff & leaching potential
Bareground					
Arsenal	Imazapyr	Nonionic		1 hr	High runoff & leaching potential
Landmark XP	Sulfometuron methyl + Chlorsulfuron	Improves post emergent control, see label			
Payload	Flumioxazin	Non-ionic	Season long	1 hr	Low leaching, medium runoff – attaches to sediment
Pendulum Aquacap	Pendimethalin				Toxic to fish, Low leaching, medium runoff – attaches to sediment
Tailspin	Fluroxypyr, Triclopyr	silicon			Toxic to fish

*Aquatic label

Calibration of Sprayers

Calibrating spray equipment is critical to the proper application of herbicides. The University of Nebraska Lincoln has published a NebGuide (G1511) that provides guidance on calibrating broadcast and hand sprayers: <http://www.ianrpubs.unl.edu/sendlt/g1511.pdf>

The same information is provided in the UNL *Guide for Weed Management in Nebraska* (EC 130), p. 30: <http://www.ianrpubs.unl.edu/sendlt/ec130.pdf>

The NebGuide has been reprinted with permission from the University of Nebraska-Lincoln Extension:

v:\pdv\Krohn\chem-guide-final.doc