

Notify the Weed Board of your plan for control. Leave a message 24-hours a day at 509-725-3646

Herbicide Recommendations

For Noxious Weed Control

Call 509-725-3646 if you have questions.



Before spraying herbicides, check out:

- **What herbicides are recommended?**
- **When should I spray?**
- **Should I be using an MSO surfactant?**
- **What chemicals work best on each weed?**
- **What other control options are there?**
- **Are there other cautions I should be aware of?**

This publication is meant for general reference. Consult actual herbicide labels and LCNWCB-Options for Control brochure series for specific control recommendations.

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Some Services Provided by the Weed Board

- Landowners are responsible for controlling noxious weeds on their property, per **RCW 17.10**.
- The Weed Board provides **technical assistance**, including numerous brochures and pamphlets, to assist landowners in controlling their noxious weeds.
- Weed Board staff will meet with landowners on their property for “**weed walks**” to identify plants and problem weeds, and to recommend options and solutions.
- The Weed Board will provide landowners with **GPS points on maps** to indicate the location of noxious weeds on their property, if needed.
- At a landowner’s request, provide **maps and assistance to commercial sprayers** to facilitate weed control on a landowner’s property. This is especially beneficial to **absentee landowners** who own vacation property in the county.
- The Weed Board will loan out a **4-gallon backpack sprayer** to landowners *at no charge*. We do require a **\$100 deposit** (check only) that is fully refundable when the sprayer is returned in the same condition.
- The Weed Board conducts an **annual pesticide re-certification** each fall. The seminar offers **re-certification credits** for those already licensed.
- Licensed applicators may use a **Weed Board computer** to earn **on-line pesticide license credits** from **Washington State University**. Call ahead for an appointment.



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Getting a Pesticide Applicator's License

What are the advantages?

- A **licensed applicator** can purchase larger quantities of herbicides.
- A **licensed applicator** can purchase and use “**Restricted-Use**” **Pesticides**.
- Some of the active ingredients found in “**Restricted-Use**” **Pesticides** include **Atrazine, Diuron, Picloram and Simazine**.
- There are **450 Restricted-Use Pesticides** in the state of **Washington**.
- “**Restricted-Use Pesticides**” are herbicides judged by the **EPA** and the state of **Washington Department of Agriculture** to be **hazardous** to humans and non-targeted species. Due to the safety threat, **licensed applicators** must maintain **precise recordkeeping** on their use, including date, calibration, temperature, wind conditions, targeted weeds, and amount used.
- **Hazards to humans** are evaluated based on whether a pesticide exceeds established levels for acute or dermal toxicity, inhalation concentration, eye and skin corrosiveness, and whether the pesticide causes significant chronic or delayed-toxic effects.



How to get a Pesticide Applicator's License

- Contact the **Dept. of Agriculture** at **222 N. Havana Street, Spokane Valley (509-533-2690)** for an application.
- **Pay** the fees, **study** the materials and **pass** the examination.

*Any federal **Restricted-Use Pesticide** is automatically restricted in the state of **Washington**.

Are there effective pesticides available if I don't have an Applicator's License?

- There are **lots of herbicides available** to landowners for effective control of noxious weeds. See our recommendations.

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Herbicides ~ Their Chemical Names

Size is limited for the general public.

Most of the products listed below are **Restricted-Use Pesticides** in sizes larger than **one-gallon**. However, most are available in smaller containers.

2,4-D

2,4-D is a **broadleaf herbicide** that will last in the soil **2-4 weeks** after spraying. Nearly all of its effect is on the foliage. This product is sold under many names and formulations such as **Amine4®**, **Hi-Dep®** and **Weedar®**.

Dicamba

This is the active ingredient in **Banvel®**. It is a **broadleaf herbicide** that can last **2-4 months** in the soil. Most of its activity is through the weed's foliage, but there is some residual control of new seedling weeds.

Dicamba + 2,4-D

This combination is recommended for most landowners with noxious weeds in a pasture or lawn. Some of the more common trade names include **Rangestar®**, **Brush Buster®** and **Vengeance®**.

Picloram

Tordon® is the trade name for this **Restricted-Use Pesticide**. It is very long-lasting. This broadleaf herbicide will control nearly all broadleaf plants for **2-3 years**. **Picloram** has foliar activity, as well as some soil and root activity.

Glyphosate

Most commonly known as **Roundup®**, this active ingredient can be found in many herbicides. **Glyphosate** only works on foliage. It has no soil activity. **Glyphosate** kills all plants, leaving bare ground for new weeds to get established, unless you plan to re-seed after spraying. *Use caution* when using **Glyphosate!**

Clopyralid

This chemical is commonly sold as **Transline®**. Although not labeled for turf, it is a great broadleaf herbicide for pastures and non-crop settings. **Transline®** is recommended when weeds are growing among conifer trees.

If you add **2,4-D**, it is called **Curtail®**.

If you add **Triclopyr**, it is **Redeem®** or **Confront®**.



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More Chemical Names...

Chlorsulfuron

A selective broadleaf herbicide for use in non-crop settings. It is commonly known as **Telar®**. Go to page 15 to find how to purchase this herbicide locally.

Metsulfuron

Commonly known as **Escort®**, this selective-broadleaf herbicide is used for weed and brush control in pastures, rangeland and non-crop areas.

Imazapic

Commonly known as **Plateau®**, this selective herbicide is good for controlling broadleaf weeds and some grasses.

Norflurazon

Commonly known as **Predict®**, this selective herbicide is applied **pre-emergence** for the control of grasses and some broadleaf weeds.



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Pendimethalin

Commonly known as **Pendulum®**, this selective pre-plant, pre-emergence, and early post-emergence herbicide is used to control annual broadleaf and grass weeds such as **Puncturevine**.

Aminopyralid

A selective broadleaf herbicide for use in non-crop settings. It is commonly known as **Milestone®**. Go to page 15 to find out how to purchase this herbicide locally. It is not a restricted use herbicide, so you don't need a license to purchase. This herbicide has systemic plus residual activity that makes it equally effective at multiple growth stages. If you add **2,4-D**, it is called **Forefront**. If you add **Metsulfuron** (Escort), it is called **Chaparral**.



Calibrations, Conversions and Measurements

Quarts/Acre to Ounces/Gallon

1/2 qt./Acre =	1/4 oz./gal.
1 qt./Acre =	1/2 oz./gal.
2 qt./Acre =	1 oz./gal.
3 qt./Acre =	1-1/2 oz./gal.
1 pint/Acre =	1/4 oz./gal.
2 pints/Acre =	1/2 oz./gal.

Capacity Measure Liquid

- 1 pint = 2 cups
- 1 fluid ounce = 2 tablespoons
- 1 cup = 8 fluid ounces
- 1 tablespoon = 3 teaspoons

Backpack Calibrations (Per one gallon of water)

• 2,-4D	2 ounces	• Curtail	1 ounce
• Hi-Dep	2 ounces	• Redeem	1 ounce
• Rangestar	1 ounce	• Tordon	1/2 ounce
• Roundup	2 ounces	• Milestone	2 milliliters

Good Pointers

- If you are applying herbicides and are **soaking** the plants, your rate of application is approximately
- **100 gallons per acre**. If you are just **wetting** the plants, your rate of application is approximately
- **50 gallons per acre**.
- The goal is to be applying at the **50-gallon per acre** rate whenever spraying.

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Herbicide Recommendations: A-C

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u> <u>Rosette/</u> <u>Seedling</u>	<u>July</u> <u>Bolting, Bud & Bloom</u> NOT MATURE PLANTS	<u>August-Nov</u> <u>Flowering,</u> <u>Seed, Regrowth</u>
Absinth Wormwood	Perennial	Telar RangeStar Milestone 2,4-D	Telar RangeStar Milestone 2,4-D	Telar RangeStar Milestone 2,4-D
Annual Bugloss (Use a Surfactant)	Annual	2,4-D RangeStar Redeem Milestone+ 2,4-D	2,4-D RangeStar Redeem Milestone + 2,4-D	2,4-D RangeStar Redeem Milestone + 2,4-D
Baby's Breath	Perennial	Dicamba Tordon + 2,4-D RangStar Milestone	Dicamba Tordon + 2,4-D RangeStar	Dicamba Tordon + 2,4-D RangeStar Milestone
Bull Thistle	Biennial	RangeStar Curtail Tordon Milestone Redeem Cimarron Max	RangeStar Curtail Tordon Milestone Redeem Cimarron Max	RangeStar Curtail Tordon Milestone Redeem Cimarron Max
Butterfly Bush	Perennial	Glyphosate	Glyphosate	Glyphosate
Canada Thistle	Perennial	RangeStar Curtail Tordon Redeem Cimarron Max Milestone	RangeStar Tordon + 2,4-D Telar Cimarron Max Milestone	Tordon + 2,4-D Cimarron Max <u>Fall Regrowth:</u> Telar Banvel/Clarity Milestone Milestone

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Herbicide Recommendations: C-F

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u> <u>Rosette/ Seedling</u>	<u>July</u> <u>Bolting, Bud & Bloom</u>	<u>August-Nov</u> <u>Flowering, Seed, Regrowth</u>
Cereal Rye	Annual	Achieve 40 DG Discover Osprey Axial Everest	Achieve 40 DG Discover Osprey Axial Everest	Achieve 40 DG Discover Osprey Axial Everest
Common Bugloss (Use a Surfactant)	Biennial/ Perennial	2,4-D RangeStar Redeem Milestone + 2,4-D	<u>3-Way Mix</u> Escort/Telar, 2,4-D & Dicamba Tordon + 2,4-D	Tordon + 2,4-D <u>Regrowth:</u> 2,4-D RangeStar
Common Tansy	Perennial	2,4-D RangeStar Escort Telar Cimarron Max	2,4-D RangeStar Tordon Telar Cimarron Max	2,4-D RangeStar Tordon Telar Cimarron Max
Common Teasel	Perennial or Biennial	2,4-D Chaparral Telar XP	2,4-D Chaparral Telar XP	2,4-D Chaparral Telar XP
Dalmatian Toadflax	Perennial	Tordon + 2,4-D Telar Escort	Tordon + 2,4-D Telar Escort	Telar Escort
Field Bindweed (Morning Glory)	Perennial	2,4-D RangeStar Tordon+ 2,4-D Tordon Cimarron Max	2,4-D RangeStar Tordon + 2,4-D Tordon Cimarron Max	Tordon + 2,4-D Tordon Cimarron Max

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Herbicide Recommendations: H-L

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u> <u>Rosette/</u> <u>Seedling</u>	<u>July</u> <u>Bolting, Bud & Bloom</u> NOT MATURE PLANTS	<u>August-Nov</u> <u>Flowering,</u> <u>Seed, Regrowth</u>
Houndstongue (Use a Surfactant)	Biennial	2,4-D Tordon + 2,4-D Telar Cimarron Max	2,4-D Tordon + 2,4-D Telar Cimarron Max	Tordon + 2,4-D Escort Telar Cimarron Max
Japanese Knotweed	Perennial	Aquamaster Habitat Arsenal	Aquamaster Habitat Arsenal	Aquamaster Habitat Arsenal
Knapweeds	Biennial\ Perennial	2,4-D RangeStar Curtail Redeem Cimarron Max Milestone Tordon	2,4-D RangeStar Curtail Redeem Cimarron Max Milestone Tordon	2,4-D RangeStar Curtail Redeem Cimarron Max Milestone Tordon
Kochia (Use a Surfactant)	Annual	Vista + 2,4-D RangeStar Cimarron Max	Vista + 2,4-D RangeStar Cimarron Max	Vista + 2,4-D RangeStar Cimarron Max
Leafy Spurge	Perennial	Overdrive + Tordon 2,4-D RangeStar Telar Cimarron Max Tordon	Overdrive + Tordon 2,4-D RangeStar Telar Cimarron Max Tordon	Tordon + 2,4-D Telar

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Herbicide Recommendations: M-P

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u> <u>Rosette/ Seedling</u>	<u>July</u> <u>Bolting, Bud & Bloom</u> NOT MATURE PLANTS	<u>August-Nov</u> <u>Flowering, Seed, Regrowth</u>
Musk Thistle	Biennial	2,4-D Telar Curtail Milestone Redeem Cimarron Max	2,4-D Telar Curtail Milestone Redeem Cimarron Max	2,4-D Telar Curtail Milestone Redeem Cimarron Max
Medusahead	Annual	Milestone	Milestone	
Myrtle Spurge	Perennial	2,4-D RangeStar Tordon Telar	2,4-D RangeStar Tordon Telar	2,4-D RangeStar Tordon Telar
Perennial Pepperweed	Perennial	Tordon + 2,4-D Telar Cimarron Max	Tordon + 2,4-D Telar Cimarron Max	Tordon + 2,4-D Telar Cimarron Max
Phragmites (Common Reed)	Perennial	Habitat Aquamaster	Habitat Aquamaster	Habitat Aquamaster
Poison Hemlock	Biennial/ Perennial	2,4-D RangeStar Milestone	2,4-D RangeStar Milestone	2,4-D RangeStar Milestone

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Herbicide Recommendations: P-S

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u> <u>Rosette/ Seedling</u>	<u>July</u> <u>Bolting, Bud & Bloom</u>	<u>August-Nov</u> <u>Flowering, Seed, Regrowth</u>
			NOT MATURE PLANTS	
Puncturevine	Perennial	Predict Pendulum RangeStar Telar	Predict Pendulum RangeStar Telar	Predict Pendulum RangeStar Telar
Rush Skeletonweed	Perennial	2,4-D RangeStar Redeem Telar Milestone Tordon	2,4-D RangeStar Redeem Telar Milestone Tordon	2,4-D RangeStar Redeem Telar Milestone Tordon
Scotch Thistle	Biennial	2,4-D RangeStar Telar Cimarron Max Milestone Tordon	2,4-D RangeStar Telar Cimarron Max Milestone Tordon	2,4-D RangeStar Telar Cimarron Max Milestone Tordon
St. Johnswort (Goatweed)	Perennial	RangeStar Tordon + 2,4-D Milestone Telar Cimarron Max	RangeStar Tordon + 2,4-D Milestone Telar Cimarron Max	RangeStar Tordon + 2,4-D Milestone Telar Cimarron Max

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Herbicide Recommendations: S-Y

<u>Weed</u>	<u>Growth Type</u>	<u>April-June</u>	<u>July</u>	<u>August-Nov</u>
		<u>Rosette/ Seedling</u>	<u>Bolting, Bud & Bloom</u>	<u>Flowering, Seed, Regrowth</u>
			NOT MATURE PLANTS	
Sulfur Cinquefoil	Perennial	Tordon + 2,4-D Telar Milestone	Tordon + 2,4-D Telar Milestone	Tordon + 2,4-D Telar Milestone
Whitetop (Hoary Cress)	Perennial	RangeStar Tordon + 2,4-D Telar Milestone ?	RangeStar Tordon + 2,4-D Telar Milestone ?	RangeStar Tordon + 2,4-D Telar Milestone ?
Yellow Flag Iris	Perennial	Aquamaster Habitat	Aquamaster Habitat	Aquamaster Habitat
Yellow Starthistle	Perennial	2,4-D Redeem Tordon Telar Milestone Cimarron Max Curtail	2,4-D Redeem Tordon Telar Milestone Cimarron Max Curtail	2,4-D Redeem Tordon Telar Milestone Cimarron Max Curtail

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What Should You Do After Spraying?

- **Reseed the area** with **perennial grasses**, especially if there are no other grasses or vegetation left to compete with new weeds.
- Fertilize remaining grasses to increase their competitive edge over weeds.
- **Do not overgraze.** That will only allow more weeds to come in and take over.
- Always follow up a few weeks after spraying to check for missed areas or re-growth.

Always over-seed an area disturbed by herbicides.

Are Herbicides Poisonous?

- Most **herbicides** are considered **low** or **moderately** toxic. All chemicals have a **half-life** in the environment.
- “**Half-life**” is defined as **the amount of time it takes to biodegrade one-half of the original amount.** Herbicides are broken down by sunlight and microbial activity in the soil.
- All chemicals are assigned **Lethal Dose (LD-50) numerical values** through certain testing procedures. An **LD-50** is the dose or amount of pesticide that can kill **50 percent** of the test animals when eaten or absorbed through the skin. **LD-50** is expressed in **milligrams** of chemical **per kilogram of body weight** of the test animal (**mg/kg**).
- **The lower the LD-50, the more acutely toxic the chemical.**



Chemical Name	LD-50	Half-Life
Gasoline	19	---
Caffeine	19	---
2,4-D	300 to 1,000	7 to 28 days
Aspirin	1240	---
Banvel	1700	5 months
Table Salt	3320	---
Telar/Glean	5545	3 months
Roundup	5600	7.5 days
Tordon	8200	5 months/pint

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Where Do You Purchase Telar and Milestone?

Pulling **Dalmatian Toadflax** or **Rush Skeletonweed** from the ground is not an effective means of control since the plant roots grow very deep.

For both weeds, it is essential to use an **MSO-type surfactant** or sticker, like **Hasten®**, **Syltac** or **Dynamic** so the herbicide can get inside the plant for an effective kill.

For **Rush Skeletonweed**, it is important to spray **early** before the leaves at the base of the plant dry up and stop absorbing herbicide. Look for leaves that look like crabgrass or dandelion. The leaves will have **coarse white hair** with a **red vein** in the middle of the leaf.

The most effective herbicide for these **weeds** is either **Telar** and/or **Milestone**, chemicals normally available to **licensed applicators** only, are now **available to any landowner**. Refer to the **Backpack Sprayer Pamphlet** for recipes of success.

A two-ounce container of Telar or 1 quart of Milestone are available at the following locations:

- **AG LINK** on **Highway 2** in **Reardan, 509-796-3301**. The **2-oz. container** of **granular Telar** is enough for **several acres** of solid weeds. Call them first since they need to break the chemical down from bulk containers.
- **Wilbur-Ellis** at **12001 E. Empire Way** in **Spokane Valley, 509-928-4512**. The business is north of the intersection on **North Pines Road** and **Trent**. Go north on **Pines** from **I-90**. Call ahead since they too need to break the **Telar** down from bulk containers. To save a trip, they will ship or mail the herbicide to you if you pay with a credit card.
- **FOR MILESTONE ONLY**— **Nutrien** at **1315 12th Street** in **Davenport, 509-725-3241** or in **Reardan** located on **Hwy 231** call **796-2601**.

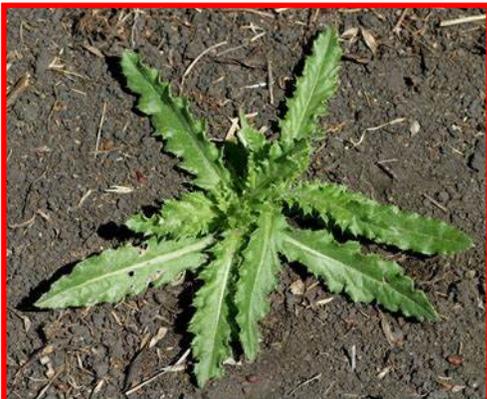
Visit our Website for additional Educational Materials.

www.co.lincoln.wa.us/weedboard

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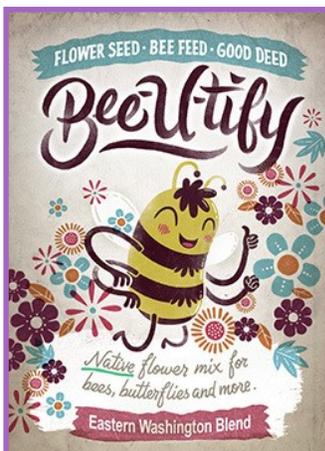


Canada Thistle needs to be sprayed with herbicide. A landowner would have effective control if the plant was sprayed in the rosette stage. Tilling and breaking up the roots will just spread the thistle throughout the field.

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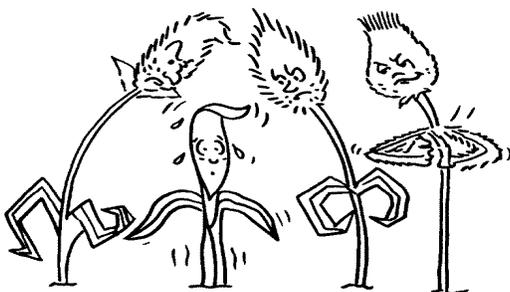


Bees are an essential part of our landscapes including farming and urban areas, yet many bee species are on the decline. Lincoln County Noxious Weed Board along with other County Weed Boards across the state are partnering up to inform the public about this matter.

Noxious Weeds are Everybody's Problem...

- Noxious weeds reduce wildlife habitat
- Noxious weeds threaten our native plants and ecosystems:
 - *Riparian Habitat
 - *Rangeland and Grassland
 - *Forest Habitat
- Noxious weeds are economically damaging:
 - *Cost to Agriculture
 - *Cost to Timber Industry
 - *Reduction in Property Values
- Noxious weeds affect recreational activities:
 - *Biking, Hiking, and Trail Riding
 - *Hunting and Wildlife Viewing
 - *Boating & Fishing
- Some noxious weeds are toxic to people and animals

...And Everyone's Solution



Noxious weeds are bullies!

Lincoln County Noxious Weed Control Board

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