

HERBICIDE RECOMMENDATIONS

Before spraying herbicides, check out:

- When should I spray?
- What herbicides are recommended?
- Should I be using an MSO surfactant?
- What other control options are there?
- What chemicals work best on each weed?
- 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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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.
- Always use a surfactant. Herbicides will perform much better, and you won't need to use as much, saving you money.

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 if they have noxious 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.
- The Weed Board has a **Dew Drop seeder available to rent** out, for reseeded your pasture. The cost is \$5.00 per acre.
- Licensed applicators may use a **Weed Board computer** to earn **on-line pesticide license credits** from **Washington State University**. Call ahead for an appointment.
- We can **certify weed-free** hay and straw fields.



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

Are there effective pesticides 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 in this pamphlet.

How to get a Pesticide Applicator's License

- **Pay** the fees, **study** the materials and **pass** the examination.
 - Reservations are required. Call WSDA at (877)301-4555 or
 - Contact the Dept. of Agriculture at 222 N. Havana Street, Spokane Valley (509)-533-2690 to reserve your test spot, the first Wednesday of each month.
 - Study materials may be purchased from WSU extension. To order go to <http://pep.wsu.edu/studymaterials> or call the WSU Bulletin Office at (800)723-1763.

Herbicides — Their Chemical Names

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®**.

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.

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

<u>Quarts/Acre to Ounces/Gallon</u>	<u>Capacity Measure - Liquid</u>
1/2 qt./Acre = 1/4 oz./gal.	1 pint = 2 cups
1 qt./Acre = 1/2 oz./gal.	1 fluid ounce = 2 tablespoons
2 qt./Acre = 1 oz./gal.	1 cup = 8 fluid ounces
3 qt./Acre = 1-1/2 oz./gal.	1 tablespoon = 3 teaspoons
<u>Backpack Calibrations (Per one gallon of water)</u>	
2,-4D 2 oz.	Curtail 1 oz.
Hi-Dep 2 oz.	Redeem 1 oz.
RangeStar 1 oz.	Tordon 1/2 oz.
Roundup 2 oz.	

WEED	GROWTH TYPE	APRIL-JUNE Rosette/Seedling	JULY Bolting, Bud & Bloom	AUGUST-NOV Flower, Seed, Regrowth
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 RangeStar Milestone	Dicamba Tordon+2,4-D RangeStar Milestone	Dicamba Tordon+2,4-D RangeStar
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 Milestone Redeem Cimarron Max	RangeStar Tordon+2,4-D Telar Milestone Cimarron Max	Tordon+2,4-D Cimarron Max Fall Regrowth: Telar Banvel/Clarity Milestone
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	Biennial	2,4-D RangeStar Redeem Milestone+2,4-D	3-Way Mix: Escort/Telar 2,4-D & Dicamba or Tordon+2,4-D	Tordon+2,4-D Regrowth: 2,4-D RangeStar
Common Tansy	Perennial	2,4-D RangeStar Escort Telar Cimarron Max	2,4-D RangeStar Escort Telar Cimarron Max	2,4-D RangeStar Escort Telar Cimarron Max
Common Teasel	Perennial	2,4-D Chaparral Telar XP	2,4-D Chaparral Telar XP	2,4-D Chaparral Telar XP

WEED	GROWTH TYPE	APRIL-JUNE Rosette/Seedling	JULY Bolting, Bud & Bloom	AUGUST-NOV Flower, Seed, Regrow
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
Hoary alyssum	Annual	2,4-D	Too Late	Too Late
Houndstongue	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	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	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	Overdrive+Tordon 2,4-D RangeStar Telar Cimarron Max Tordon
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	Too Late
Myrtle Spurge	Perennial	2,4-D RangeStar Tordon	2,4-D RangeStar Tordon	2,4-D RangeStar Tordon

WEED	GROWTH TYPE	APRIL-JUNE Rosette/Seedling	JULY Bolting, Bud & Bloom	AUGUST-NOV Flower, Seed, Regrow
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 (Common Reed)	Biennial/Perennial	2,4-D RangeStar Milestone	2,4-D RangeStar Milestone	2,4-D RangeStar Milestone
Puncturevine	Annual	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 Redeem Telar Cimarron Max Milestone Tordon	2,4-D RangeStar Redeem Telar Cimarron Max Milestone Tordon	2,4-D RangeStar Redeem 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
Sulfur Cinquefoil	Perennial	Tordon+2,4-D Telar Milestone	Tordon+2,4-D Telar Milestone	Tordon+2,4-D Telar Milestone
Ventanata	Annual	Glyphosate Journey	Imazapic	Too Late
Whitetop	Perennial	RangeStar Tordon+2,4-D Milestone	RangeStar Tordon+2,4-D Milestone	RangeStar Tordon+2,4-D Milestone
Yellow Flag Iris	Perennial	Aquamaster Habitat	Aquamaster Habitat	Aquamaster Habitat
				Continued...

WEED	GROWTH TYPE	APRIL-JUNE Rosette/Seedling	JULY Bolting, Bud & Bloom	AUGUST-NOV Flower, Seed, Regrow
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

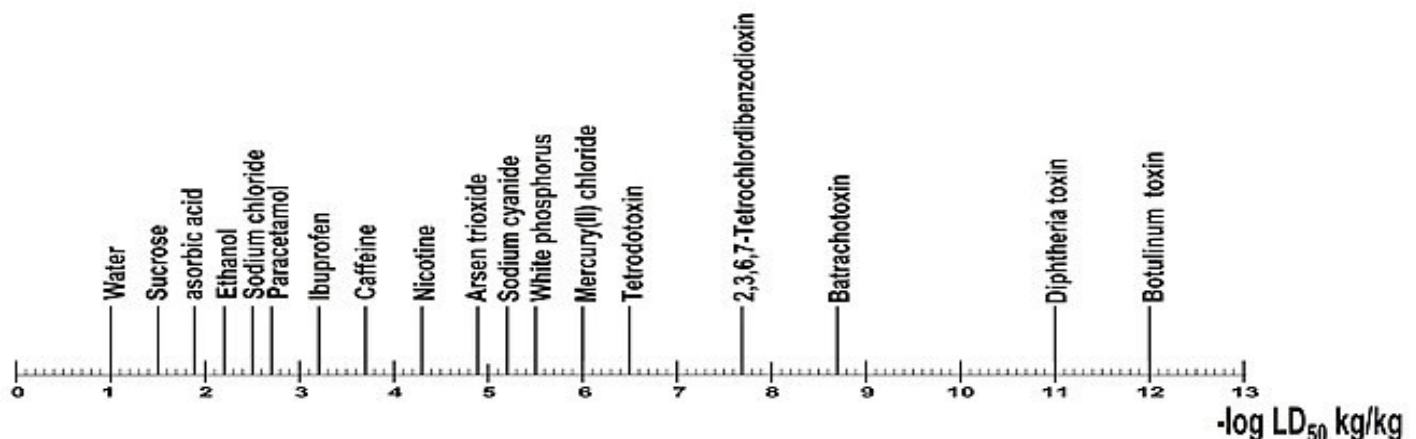
What Should You Do After Spraying?

- **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.

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.

Toxicity Rating



Where Do You Purchase Telar and Milestone?

Pulling **Dalmatian Toadflax** or **Rush Skeletonweed** from the ground is not an effective means of control, because 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 our [Backpack Sprayer Pamphlet](#) for recipes of success.

**2 oz. containers of Telar or 1 qt. of Milestone
are available at the following locations:**

- **Valley Wide 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.*

For Milestone only:

- **Crop Production Service at 1315 12th St. Davenport, call 725-3241**
- **Crop Production Service on Hwy 231, Reardan, call 796-2601.**

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!



Lincoln County Noxious Weed Control Board

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