THURSTON COUNTY NOXIOUS WEED FACT SHEET

Tansy Ragwort *(Jacobaea vulgaris)*

Description: Tansy ragwort (*Jacobaea vulgaris*) is a biennial, sometimes short-lived perennial, noxious weed with a well-developed system of fibrous coarse roots that spread out from the crown of the plant. As a biennial, tansy ragwort spends the first year in the rosette stage with dark green basal leaves that appear ruffled. During the second year one or several flower stems bolt and begin forming flower heads. Each flower head is composed of many daisy-like yellow flowers, with each flower a composite of disc flowers surrounded by (usually) 13 petals. Reproduction is mainly by seed, however some plants may become perennial if mowed, grazed, or otherwise disturbed.

Impacts: Tansy ragwort is toxic and a threat to livestock and agriculture. Toxicity of the plant remains even when it is dried and baled in hay. These toxins (pyrrolizidine alkaloids) are also a threat to humans as possible contaminants to the human food chain. Herbal remedies, contaminated milk and other dairy products, and honey, are potential sources of toxins in the food chain, with long-term consumption being a concern.

Control Options: Thurston County's Integrated Pest Management emphasizes cultural, biological, and manual control methods to keep pests and vegetation problems low enough to prevent damage. The strategy of Thurston County's IPM policy is to minimize the use of pesticides.

► Cultural / Habitat

Cultural control includes the use of management tools such as re-vegetation of disturbed soil, fertilization, and the use of mulch. Re-seeding with desirable species provides cover of bare and disturbed soils, prevents germination of tansy ragwort seeds, and provides competition. Reseeding is recommended anytime bare soil conditions exist.

► Manual / Mechanical

Tansy ragwort can be controlled about half the time by manual pulling as long as it's done before flowers begin to seed. Small sites can be very effectively maintained by manual and mechanical techniques (anywhere from 20 to 100 plants or even more if plants are easy to pull). Tansy ragwort can re-grow when pulled if the fibrous roots are broken or anytime the plant is cut. When it re-grows it becomes perennial and returns each year until it produces seeds. The best time to use manual control of tansy ragwort is when conditions allow all or most of the root to be pulled with the upper part of the plant. This will most likely occur when the soil is damp and is not hard packed. Manually pulling the plant is best during the second and later years in the plants life cycle when it produces tall stems that are easy to see and pull. Cutting is effective if plants are going dormant due to an extended period of drought, however we have not seen this situation in Thurston County for several years. If any rainfall occurs, re-bloom after cutting usually occurs within about 3 weeks.

► Biological

Biological control efforts to date have consisted of the distribution of three effective biological agents: the Cinnabar Moth *(Tyria jacobaeae)*, which defoliates the plant, a flea beetle *(Longitarsus jacobaeae)*, that mines the root system, and a seed fly *(Pegohylemyia seneciella)*, that consumes the seeds. All three biological agents are well distributed throughout the County as a result of a 25-year disbursement effort by the noxious weed program. Population densities of tansy ragwort have dropped dramatically, due in part to these three biological control agents, but it is insufficient in satisfying the legal requirements for controlling this plant by property owners.

Cinnabar larvae
Photo by Jens Buurgaard Nielsen

Cinnabar Moth Adult
Photo by Keith Edkins

► Chemical

Spot spraying with ***triclopyr*** (examples: Lilly Miller's liquid concentrate "Blackberry and Brush Killer" and Ortho's "Brush-B-Gon Poison Ivy Killer Concentrate") is effective in controlling tansy ragwort. Triclopyr is a selective herbicide that will not kill grass when used according to label instructions, but may damage or kill other broadleaf plants. Triclopyr products are rated as "moderate in hazard" by Thurston County's pesticide review process because broadcast applications of triclopyr at greater than 2 lbs of active ingredient per acre can result in contaminating the food supply for birds and small animals. Since this prescription recommends only spraying individual plants or small patches, the risk to birds and small animals is greatly reduced.

Thurston County has observed that most ready-to-use, pre-mixed products do not contain sufficient active ingredients to be as effective as concentrated products that are then mixed with water to create a specific finished concentration. The following instructions are for products containing 8% triclopyr (be sure the product you choose lists triclopyr as the only active ingredient) which will be mixed down to a specified dilution rate. Be sure to read your label carefully, and make adjustments to rates accordingly.

Foliar applications of triclopyr:

- Spot application means the herbicide is applied only to the plants and not on the surrounding plants or soil. Spray each plant thoroughly on the stems and leaves enough to be wet but not dripping.
- Triclopyr is a selective, broadleaf weed killer and can injure any plants that it comes in contact with, except for grass. Care should be used to avoid contact with ornamentals and other desirable plants.
- Keep people and pets off treated areas until spray solution has dried.

For selective control of tansy ragwort in agricultural settings (pastures, hayfields, etc.): an herbicide containing the active ingredient ***aminopyralid*** (example: Milestone™, Milestone VM™, etc.) may be a preferred choice. Aminopyralid products will not harm grass and can be used around livestock (provided all label precautions are followed). ***Do not use plant material or hay from treated areas for mulch. Likewise, do not use manure from animals that have grazed or eaten hay from treated areas.***

Aminopyralid is currently sold in farm supply stores as an agricultural herbicide that is only to be used in areas listed on the label and ***may not be used in urban lawns or landscapes.*** Aminopyralid products are considered "moderate in hazard" by Thurston County's review process for the potential for chemical mobility and persistence.

Timing: Apply either triclopyr or aminopyralid in the spring when plants are actively growing and in the pre-bud to early bud growth stage—the goal is to insure all plants have emerged, but are treated before they reproduce**.**

Pollinator Protection: To minimize negative impacts to bees and other pollinators, treatment prior to blooming is recommended. Removal of flowers before treatment can be an option in some situations. If treatment must occur during the blooming period, try to spray early or late in the day or on cloudy, cool days when pollinators are least active.

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. Obey all label precautions including site specific and safety measures. Always use personal protective equipment that includes coveralls, chemical resistant gloves, shoes plus socks, and protective eyewear. Use of brand names does not connote endorsement and is for reference only; other formulations of the same herbicides may be available under other names. Information provided is current as of the date of the fact sheet. Pesticide product registration is renewed annually. Product names and formulations may vary from year to year.

Product/Method	Rates	Mix
Triclopyr Lilly Miller® "Blackberry & Brush Killer" or Ortho® "Brush-B-Gon Poison Ivy Killer Concentrate"	4 oz. (1/2 cup) per 500 ft²	To determine the amount of mix needed, first measure the area to be treated, then measure the amount of plain water needed to spray the area using a backpack or tank sprayer. Allow sufficient time for the area to dry completely before treatment. Then add 4 oz. (1/2 cup) of product to enough water for each 500 sq. ft of area that needs to be treated. Spray plants until they are wet but not dripping.
Aminopyralid Milestone ® Spot/Foliar	1 tsp per 1000 ft²	**To treat a 1,000 sq. ft. area:** Using a 2 to 4 gallon backpack or tank sprayer, add half of the water needed to cover all plants with one teaspoon Milestone™, agitate, then add water to reach desired amount (0.5 - 2.5 gallons total volume, depending on quantity and size of plants). Lightly spray all tansy ragwort plants in 1,000 sq. ft. area, then continue lightly spraying the tansy ragwort until the tank is empty and all plants have been thoroughly covered. The addition of a non-ionic surfactant (at least 80% active ingredient) is recommended to enhance herbicide activity.

REFERENCES:

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Pyrrolizidine Alkaloids: Their Occurrence in Honey from Tansy Ragwort", Science Feb. 4, 1977, Vol. 195, pages 497-499;
U.S. Food & Drug Administration CFSAN Foodborne Pathogenic Microorganisms and Natural Toxins Handbook;
USDA/ARS PPRL Tansy Ragwort Findings; IVM Technical Bulletin: Tansy Ragwort, Bio-Integral Resource Center, Berkeley, CA;
The Ecology and Economic Impact of Poisonous Plants on Livestock Production, Chapter 15,
Milk Transfer of Pyrrolizidine Alkaloids in Cattle, Journal of the American Veterinary Medical Assn., Vol.169, No.11, pages: 1192-1196

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Revised April 2019