

## INTEGRATED PEST MANAGEMENT PRESCRIPTION

# Quackgrass

(*Elytrigia repens*)

### Description:

Quackgrass is a very invasive perennial grass weed. It was introduced to the United States from Europe about two hundred years ago and now can be found in nearly all states. It grows very well in disturbed areas that are cool, moist and receive less than 50% shade.

Most quackgrass plants are about one to three feet tall although some varieties can grow close to the ground (as seen in the picture to the right). There are visible distinguishing features of quackgrass that make it appear different from other grasses; the rhizomes of quackgrass are sharply pointed and yellowish-white (that turn brown and scaly with age), and the base of the leaves wrap around or clasp the stem.



It reproduces by seed and vegetatively by sending shoots up from rhizomes (underground stems). Each quackgrass plant is either male or female which requires cross pollination for seed production. Flowers and seeds are arranged in two rows at the top of a spike (similar to wheat heads). An individual plant produces about 25 seeds that can remain viable for 4 years and possibly as long as 10 years. Vegetative reproduction from the rhizome is more significant than spread by seed in part due to the large number of sterile or non-viable seeds that it produces.

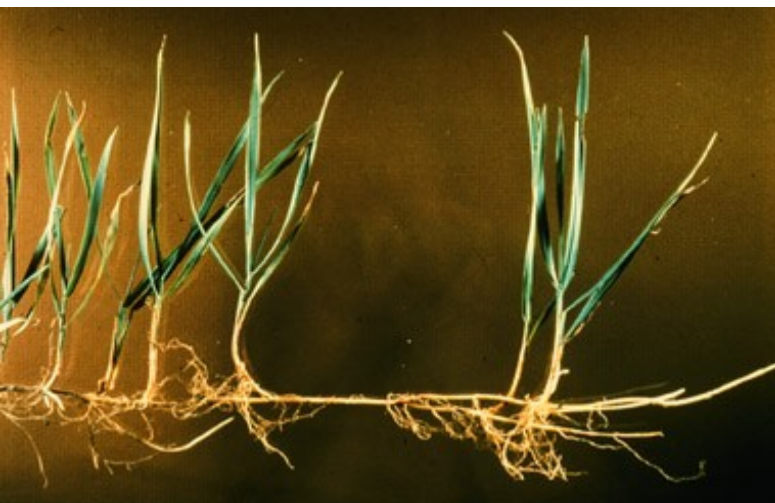
### Impacts:

Quackgrass can rapidly get established in moist, disturbed soil in crops, wetlands, yards, gardens, ditches and about any other location that it is introduced to. In crops, quackgrass can reduce yield as much as 95% and can invade areas that are bare or mix in with other grasses making it extremely difficult to remove. It is also possible that quackgrass produces a chemical that actually inhibits growth of other species making it easier for its own spread and reducing competition from native or more desirable plant species.

Because it is so aggressive and the rhizome tips are so strong, they can grow through neighboring underground plants in the soil (like potatoes) or pierce through asphalt. In one year a single plant can increase its diameter by up to six feet and can produce as much as 300 feet of rhizome.

### 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 goal of Thurston County's IPM is to minimize the use of pesticides by utilizing and providing information about the most effective control options that are available and practical.



#### ► Cultural / Habitat

Because quackgrass does not tolerate shade well, it is important to encourage the growth of desired plants in an area that has quackgrass. High yielding crops or aggressively growing plants, that can shade the area, can help reduce the spread of quackgrass - especially after mechanical or chemical control efforts.

Prevent new areas of infestation by keeping your land well vegetated with desirable species and minimizing disturbances that keep the soil bare. Reduce or eliminate seed production and spread by controlling areas with quackgrass before they are mature enough to flower (which can occur as early as June and again later in the summer).

### ► Biological

There are currently no known biological control methods available for the control of quackgrass.

### ► Manual / Mechanical

The key to manual control of quackgrass is being able to remove all of the rhizome, because fragments as small as one inch long can sprout. Digging out plants and rhizomes can work for small isolated patches (like in lawns), but larger infestations are best controlled with a combination of mechanical, habitat, and chemical control.

### ► Chemical

Effective quackgrass control can be accomplished using a systemic herbicide. Systemic herbicides circulate through the upper plant tissue, roots, and rhizomes killing the entire plant. Unfortunately there are no selective herbicide products that will kill quackgrass without injuring turf or most other grasses. Often repeat applications are required because even systemic herbicides can fail to kill dormant buds that can produce regrowth sometime later. Monitoring the area after any control is performed (an repeating control efforts) is essential to reduce population size and eventual elimination of quackgrass.



Close-up of quackgrass leaf attachment.

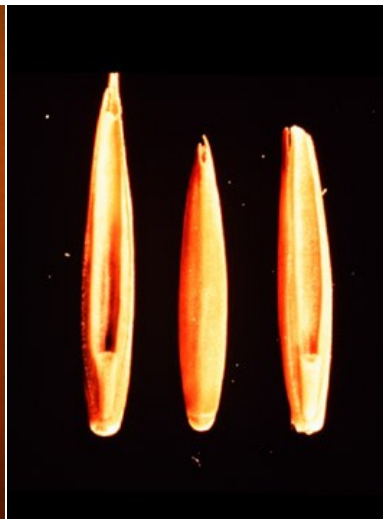
Glyphosate is the active ingredient in many systemic herbicides (Glyphosate Original®, Roundup Pro®, etc.) that are effective in controlling quackgrass. Thurston County rates glyphosate products high in hazard for carcinogenic potential. The risk from spot spraying quackgrass is considered low provided that the applicator wears a long sleeved shirt, pants and chemically resistant gloves. Glyphosate products have been shown to accomplish up to 95% control of quackgrass.

### Timing:

In crops, glyphosate products should be used in fallow periods (when crops are not in) and when the quackgrass is in the early flowering stage. Outside of crops it is still best to use herbicides in the flowering stage (before seed production). Manual removal is also best performed before seed production to help minimize future seedling control.



Quackgrass seeds on spike



Close-up view of seeds

### Pollinator Protection:

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

### ALWAYS READ AND FOLLOW ALL PESTICIDE LABEL DIRECTIONS.

Obey all label precautions, safety measures, and wear all recommended personal protective equipment. Use of brand names does not connote endorsement and is for reference only; other products with the same active ingredients may be available under other names. Pesticide product registration is renewed annually and

### REFERENCES:

Curran and Ligenfelter. Penn State University, College of Agricultural Sciences. Agronomy Facts 5 - Quackgrass Management: An Integrated Approach.

University of Iowa, Quackgrass (*Elytrigia repens*) Grass Family. 2003.

A Guide to Weeds in British Columbia. Quackgrass: *Elytrigia repens* (L.) Nevski.

Pacific Northwest Weed Management Handbook. 2009 online edition (July 21, 2009).



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