Creeping Yellow Fieldcress (*Rorippa sylvestris*)
Biology and Control

Clyde L. Elmore
University of California, Davis

Yellow fieldcress (*Rorippa sylvestris*) is a perennial weed in the family Brassicaceae. It grows in moist areas and is found in greenhouse, container and field nurseries. It was introduced into the United States from Europe about 1818 and has become common in ornamental plantings in recent years, especially with the increased popularity of herbaceous perennials. It has spread widely, probably through repeated introductions with herbaceous ornamental propagation material. Yellow fieldcress has been recorded in most northeastern and northwestern states, across the southern provinces of Canada, in some states along the eastern seaboard, and as far south as Texas. It has been found in California in several locations in 1998 and 1999.

Yellow fieldcress is a potentially serious problem because of its competition with desirable plants and its ability to spread within the container and nursery industry once it is established. It is often introduced as a root segment. From this root segment many new plants can be produced in a short period of time. The shoots are very pliable when young and when hand pulled, it leaves behind many root segments to form many new plants. Though plants from a single introduction are mostly sterile and generally do not set seed, there is some indication that fertilization can occur between clones or through out-crossing with *R. palustris*, another fieldcress in California.

Yellow fieldcress grows best in California during cool weather, but will tolerate hot weather if watered well. It tolerates cold weather, even sub-zero temperatures. Light quality and quantity does not seem limiting for growth, since it grows well in shade as well as full sun.

Cultivation of the weed probably will make it spread, since propagation from a 3 cm (1 inch) root segment was the best method to prepare experimental plants in containers. In one experiment, when plant and shoot development was monitored for 10 weeks, there were 753 new shoots on the root pieces developed from one 3 cm segment. Burying it to 24 cm (9.5 inches) depth delayed emergence but did not keep it from emerging from a 3 cm root segment. Root growth has been observed to 3 feet in a sandy soil in southern California.

**Mulches**

Covering a root segment with a geotextile (Typar) stopped the emergence from the surface of a container, but the plant emerged from around the edge or out of the drain hole of the container. The geotextile plus trifluralin herbicide (Biobarrier) stopped emergence but the root piece was not killed under the cover. It is not known how long the root would have to be covered without light to kill the plant.
Drying

Established plants in containers were evaluated for killing by drying by withholding water for periods of seven, 10, 14, 18 and 21 days before watering again. Plants were controlled only after 21 days of draught. When ornamental bulbs were placed in the same containers, the bulbs were killed at the same draught duration.

Preemergence herbicides

Preemergence herbicides have been evaluated for the control of the 3 cm root segment. The herbicides, isoxaben (Gallery) at the use rate of 1 lb ai/A and dichlobenil (Casoron) at 3 lb ai/A were effective for long term control. Often the root piece remained alive under the herbicide, but it would not grow and emerge. When trifluralin was incorporated to 2 inches in the soil at 2 lb ai/A shoot suppression occurred. There was excellent control simazine in one study at 2 and 4 lb ai/A. Oryzalin (Surflan), prodiamine (Barricade), napropamide (Devrinol) and oxadiazon (Ronstar) did not control fieldcress as well as isoxaben. Metolachlor (Pennant), oxyfluorfen (Goal) alone or with dithiopyr (Dimension) was not effective longer than 30 to 60 days. Any combination of herbicides containing isoxaben controlled emerging shoots. At the rates used of some of these herbicides, there would be limited safety to the ornamentals, unless they were established, woody, plants.

Post emergence herbicides

Post emergence herbicides have been evaluated on young established yellow fieldcress. The most effective herbicides for the control of established field cress was MCPA or 2,4-D at 1 to 2 lb ai/A or triclopyr at rates of 1 to 1.5 lb ai/ A. Glyphosate at rates of 1 to 2 lb ai/A was not effective, but rates of 4 lb ai/A was effective for control. Halosulfuron (Manage) plus surfactant was not effective at use rates of 0.03 lb/A but was marginally effective at 0.06 lb/A for 60 days. A combination of triclopyr at 0.25 and dicamba at 0.25 was also effective for fieldcress control. Bentazon (Basagran), glufosinate (Finale), clopyralid (Stinger) did not give effective control. These herbicides could be used non-selectively to reduce or remove yellow field cress between crops or before planting new crops. They would be safe to use in perennial herbaceous or most woody ornamental crops.

Yellow creeping fieldcress could become a severe weed in California's ornamental industry if allowed to establish. We do not have selective methods of control in many ornamental crops. Crop rotation with treatments between crops or taking out crops and fumigating the soil before replanting may be the best current method for control. Though we have a few isolated sites in California now, we should eradicate these sites and be careful to not allow it to become established. The time to do this is now, and not let it become more widespread.