ENH980

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Control of Common Groundsel in Florida Container Nurseries [1]

Alejandro Bolques, Jeffrey G. Norcini, James Aldrich, Courtney E. Gist[2]

Description

Common groundsel (*Senecio vulgaris* L.) is a weed that needs to be monitored year-round in container nurseries since these conditions are ideal for common groundsel. Seed can germinate only a few days after they land on the container medium surface (Figure 1).

If left uncontrolled, plants will grow up to 18 inches tall with multiple flowering stalks (Figure 2). Flowers are tubular in shape and seeds are tipped with a tuft of silky white hairs (Figure 3). Under Florida container nursery conditions, the whole life cycle — from seed germination to flowering and seed set — can occur in as little as 6 weeks.

Common groundsel has only been officially reported in Escambia, Gadsden, and Lake Counties, but anyone in Florida producing containerized ornamentals should be on the lookout for common groundsel as its ocurrence is probably more widespread.

Figure 1. Common groundsel seedling. Credits: James Altland, Oregon State University, North Willamette Research and Extension Center, Aurora.

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2. Alejandro Bolques, Horticulture Extension Agent, Florida A&M University College of Engineering Sciences, Technology and Agriculture, Cooperative Extension and Outreach Programs, Quincy, Florida 32351; Jeffrey G. Norcini, Associate Professor, native wildflower specialist, and James H. Aldrich, Senior Biological Scientist, North Florida Research & Education Center, Quincy, FL 32351; Courtney E. Gist, Extension Intern, Gadsden County Cooperative Extension Service.

Figure 2. Typical appearance of mature common groundsel. Credits: Susan Aldrich-Markham, Oregon State University Extension Service, McMinnville.

Figure 3. Closeup of common groundsel flowers and seedhead. Credits: Susan Aldrich-Markham, Oregon State University Extension Service, McMinnville.

Control

Since seeds are easily spread by wind and each plant can produce about a million seeds, common groundsel can spread quickly throughout a nursery if measures are not taken to control it. We describe below some methods to control this weed.

Sanitation. Check for common groundsel during your scouting routine for insects and diseases. Eliminate infestations on bed perimeters, in aisles, and on the perimeter of the nursery. Since common groundsel can be biennial, use a postemergence herbicide that is nonselective and translocated throughout the plant to ensure that the roots are killed. If the roots are not killed, the shoots will resprout. In general, use an herbicide that contains either glyphosate (for example, Roundup®) or glufosinate (Finale®) as the only active ingredient since some products contain other active ingredients not suitable for use in container nurseries. Exceptions to this rule are specially formulated products like QuikPRO™ Herbicide (glyphosate + diquat) that are labeled for control of groundsel. For long-term control, tank mix a labeled preemergence herbicide that is compatible with the postmergence herbicide. Some preemergence herbicides labeled for control of groundsel are listed in Table 1; however, check the postemergence and preemergence herbicide labels to determine if they can be tank mixed and used in your situation. Reapply a preemergence herbicide as needed according to label guidelines.

Do not mow or use a string trimmer to eliminate plants that have flowered as you probably will spread more seed. When crops are repotted or being brought into the nursery for the first time, carefully check for and remove common groundsel plants and seedlings. If the common groundsel in a pot has seedheads, repot the plant in fresh medium that is free of weed seeds. Apply a preemergence herbicide and irrigate the plants to activate the herbicide and form a protective barrier on the medium surface.

Preemergence Herbicides for Container Crops. An integrated approach of sanitation plus the use of preemergence herbicides should prevent any significant infestations of common groundsel. There are several preemergence herbicides labeled for control of common groundsel or groundsel species in general.

In 2002, we evaluated several of these herbicides under container nursery conditions (Table 1) (Bolques et. al, 2003). One day prior to herbicide

application in late May, 50 common groundsel seeds were spread evenly over individual 1-gallon containers filled with 80:10:10, pine bark:peat:sand (by vol.) amended with 13-6-6 sludge (Graco Fertilizer, Cairo, GA). Seeds were derived from plants found at a Gadsden County container nursery. Four single-pot replications per herbicide treatment were randomly arranged on a full sun bed. Number of common groundsel in each pot were counted 2, 4, and 12 weeks after the herbicdes were applied. Nonherbicide-treated pots served as controls.

Gallery™, Princep®, and Snapshot™ TG provided the best control of common groundsel throughout the study. By 4 weeks after treatment, 100% control was observed in all pots treated with these herbicides; 100% control was also observed at 12 weeks (Table 1). Moreover, there were never more than two seedlings in any pot treated with these herbicides, and none of them flowered. Ronstar® 2G clearly provided the least control (62% to 76%). Most other herbicides provided at least 90% control by 4 weeks after application and maintained that level of control another 8 weeks. The only exception was Ronstar® 50WP which provided 80% control at 4 weeks and 84% control at 12 weeks. Gallitano and Skroch (1993) reported 100% groundsel control with Gallery™ nearly 29 weeks after application but slightly better control of groundsel than we observed with Rout® and OH-II®, and even better control with Ronstar® 2G. In their experiment, Ronstar® 2G provided 100% control at 29 weeks.

Despite substantial reductions in number of groundsel in our herbicide-treated pots, many of the groundsel in those pots flowered. Moreover, we observed that common groundsel seed could mature soon after flowering, spread easily by air currents, and germinate within a few days after settling in pots. Relatively rapid development (germination to mature seed) under container production conditions seems to be characteristic of at least some populations of common groundsel (Kadereit and Briggs, 1985; Theaker and Briggs, 1993). Thus herbicides providing any less than 100% preemergence control might result in a common groundsel infestation unless vigorous roguing of escapes is practiced.

Postmergence Herbicides for Container Crops. Common groundsel that has infested containers probably will have to be removed manually. Goal® 2XL is labeled for postemergence control of common groundsel (< 4 inches tall) for only a very limited number of container-grown, coniferous species. We are not aware of any other postemergence herbicide labeled for control of common groundsel in container-grown ornamentals.

Conclusion. To prevent common groundsel infestation, use good exclusion and sanitation practices augmented with preemergence herbicides.

Literature Cited

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Table 1. Preemergent control of common groundsel under typical container nursery conditions.

Herbicide			
Trade name	**Active ingredient**	**Rate (lb ai/A)**	**% Control 12 WAT[z]**
Gallery™ 75DF	isoxaben	1.0	100b[y]
Goal® 2XL	oxyfluorfen	0.5	90ab
OH II®	pendimethalin + oxyfluorfen	1.0 + 2.0	91ab
Princep® L	simazine	4.0[z]	100b
Regal O-O Herbicide®	oxadiazon + oxyfluorfen	1.0 + 2.0	91ab
Ronstar® 2G	oxadiazon	4.0	76a
Ronstar® 50WP	oxadiazon	4.0	84ab
Rout®	oryzalin + oxyfluorfen	1.0 + 2.0	90ab
Snapshot™ TG	isoxaben + trifluralin	1.0 + 4.0	100b

[z] WAT = Weeks after treatment; compared to nontreated pots.

[y] % control means with the same letter are not significantly different.

[z]A high rate of Princep® was used to determine if the common groundsel from Gadsden County was resistant to simazine as has been reported for some other populations (Holliday and Putwain, 1977; Holliday and Putwain, 1980).