Controlling Jerusalem Artichoke
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IPM Facts
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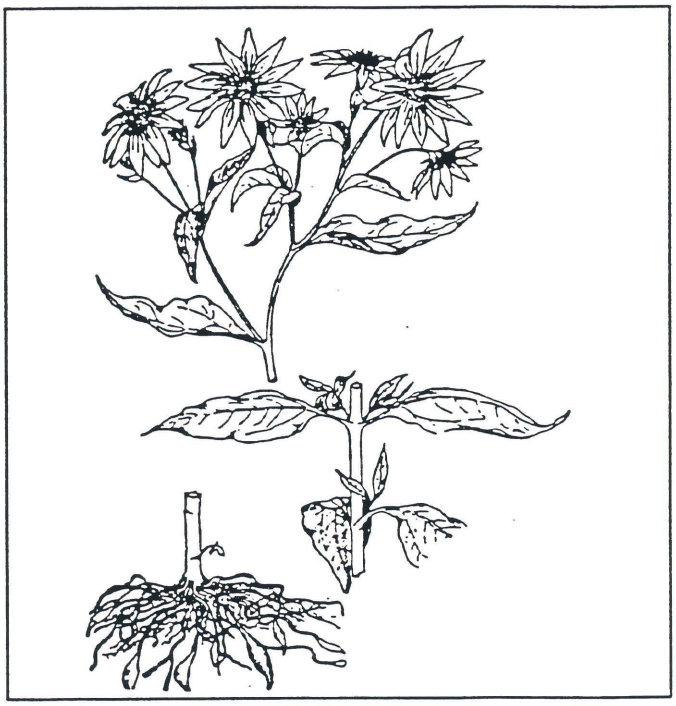
What is a Perennial Weed?

A perennial weed is any weed capable of surviving for three or more years Perennial weeds are characterized by vegetative reproduction. Vegetative reproduction in these species is due to (a) rhizomes–underground creeping stems commonly found in perennial grasses; (b) stolons–prostrate stems or runners on the soil surface with roots at the nodes; (c) creeping roots; (d) tubers–underground enlarged storage stems; or (e) bulbs–underground storage organs consisting of a stem axis covered with many overlapping leaf scales.

Perennial weeds may or may not reproduce by seed. They always, however, have the potential to reproduce by vegetative means.

Description of Jerusalem Artichoke

Jerusalem artichoke grows from characteristic white tubers that form on the tips of the roots. The stems of the plant are rough-hairy, branch near the top, and can reach a height of 9 feet. Leaves are large with a rough upper surface, hairy lower surface, and can vary from egg-shaped to lance-shaped. Leaf edges are saw-toothed. Flowers are daisy-like with yellow centers and petals, and are 2 inches in diameter. Seeds are flattened, wedge-shaped, smooth, and often mottled with black. In addition to tubers, Jerusalem artichoke can also reproduce from rhizomes, creeping rootstocks, and seeds.



Jerusalem artichoke can be found in moist fence rows, roadsides, woods, and can be very troublesome in cultivated fields.

Methods of Control

Methods of perennial weed control fall into three categories: (a) cultural, such as crop rotation; (b) mechanical, tillage including various implements such as plows, disks, or cultivators; and (c) chemical, using herbicides. Control of perennial weeds may require a combination of all these methods. Consider the energy and environmental implications when choosing a method of control.

Mechanical Control

Mechanical control may increase or decrease perennial weed infestations. Tillage may increase infestations by moving perennial weeds to new areas of the field or breaking dormancy of underground buds resulting in new shoot growth. Tillage during cool, wet conditions results in reduced control.

Tillage may decrease perennial weed infestations if done frequently enough to deplete underground root reserves. The field should be tilled every two or three weeks. Warm, dry soil conditions increase the effectiveness of tillage for perennial weed control by drying plant roots on the soil surface.

Chemical Control of Jerusalem Artichoke

Soybeans

Herbicide[1]	Rate	Timing	Effectiveness
Classic[2] + NIS[3]	0.75 oz	2-8" POST	Good
Pursuit + 28% N + NIS	0.25 pt/A (1.4 oz 70 DG)	6-10" POST	Good
Synchrony STS[4] + 28% N + COC[3]	0.5 oz/A + 2 qt + 1%	6-10" POST	Good
Roundup Ultra	Rope-wick/Broadcast[5]	10-20" POST	Fair-Good

[1]These treatments control topgrowth only.
[2]Do not use Classic at .5 to .75 oz/A if pH is greater than 7.0.
[3]NIS = nonionic surfactant; COC = crop oil concentrate.
[4]Do not use Synchrony STS on fields north of I-96 where pH is greater than 7.0.
[5]Roundup Ultra can be applied with a ropewick more than once during the growing season if new Jerusalem artichoke plants reemerge or all plants are not above the soybean canopy at the time of th eropewick application. Roundup Ultra at 1 qt/A plus ammonium sulfate (AMS) at 17 lb/100 gal or urea ammonium nitrate (28% N) at 4% can be broadcast over only Roundup Ready soybeans for season long control.

Corn

Herbicide	Rate	Timing (Weed height)	Effectiveness
Stinger	0.5 pt/A	3-5 Leaf	Good
Hornet	4 oz/A	6-8" POST	Good
Beacon + COC or NIS[1]	0.76 oz/A	3-4" POST	Fair-Good
Banvel[2]	0.5 pt/A and repeat	6" POST[3]	Fair-Good
Banvel + 2,4-D amine[2]	0.25 pt/A + 0.5 pt/A and repeat	6" POST[3]	Fair
2,4-D amine[2]	1 pt/A and repeat	6" POST[3]	Fair

[1]COC = crop oil concentrate; NIS = nonionic surfactant.
[2]Two applications of any treatment are required for adequate results. These treatments may need to be repeated for 2 or more years. The second application will probably require a directed treatment.
[3]Treatments should be made when Jerusalem artichoke is 6 inches tall and repeated when the regrowth is 6 inches tall. The second application will probably require a directed treatment.

Spot Treatments and Between Crops

Herbicide	Rate	Timing (Weed growth stage)	Effectiveness
Roundup Ultra	2%	Spot treatment (bud stage)	Fair-Good
Roundup Ultra	3 qt/A	Bud to bloom stage	Fair-Good
Banvel	2 qt/A	Bud to bloom stage	Fair-Good
2,4-D ester	2 qt/A	Bud to bloom stage	Fair-Good

[1]Retreatment is usually required for complete control.

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To protect yourself and others and the environment, always read the label before applying any pesticide.

This publication contains pesticide recommendations based on research and pesticide regulations. However, changes in pesticide regulations occur constantly. Some pesticides mentioned may no longer be available, and some uses may no longer be legal. If you have questions about the legality and/or registration status for using pesticides, contact your county Extension office.

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