HS193

UF UNIVERSITY of FLORIDA
IFAS Extension

Weed Control in Bulb Crops (Onion, Leek, Garlic, Shallot)[1]

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"Bulb crops" are a crop grouping that includes all of the *Allium* species except chives. Bulb crops include onions (dry and green), leeks, garlic and shallots. Very few shallots or garlic crops are grown in Florida. Dry bulb onions, green and bunching onions and leeks are the main crops of this group grown in the state. Where herbicides are limited, the culture of these crops must accommodate cultivation. Bulb crops do not shade out weeds that emerge in the rows. Also, many of the crops such as dry bulb onions and leeks require a long growing season. Therefore a plan for weed control must be made before planting.

Fields that are infested with nutsedge, hard seeded legumes or other difficult to control weeds should be avoided. Many weed problems can be reduced by preparing the land well ahead of planting and using Roundup in a "cropping systems" approach and/or using Paraquat in a stale seed bed approach. Preemergence and early postemergence herbicides may control many weeds for 4 to 6 weeks.

Onions and leeks are fairly shallow rooted and care must be taken not to prune these roots with cultivation especially when onions begin to bulb. Pulling or hoeing occasional large broadleaf weeds, while labor intensive, may be preferable when plants are older and bulbing.

Emerged grass weeds may be controlled either by Select, Fusilade or Poast. Care should be taken not to apply any herbicide beyond the preharvest interval specified on the labels.

Herbicide performance depends on weather, irrigation, soil type and proper selection for the weed species to be controlled. Obtain consistent results by reading the herbicide label and other information about proper application and timing of each herbicide.

To avoid confusion between formulations, suggested rates listed in Table 1 are stated in pounds of active ingredient per acre (lb ai/acre).

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Table 1. Chemical weed controls: onions, leek, garlic & shallot.

Herbicide	Labeled crops	Time of Application to crop	Rate (lbs. Al./Acre)	
			Mineral	Muck
Bensulide (Prefar 4E)	onions (dry bulb), garlic, shallots	Preplant preemergence	5-6	----
Remarks: Preplant incorporate to a depth of 1-2 inches in well worked soil. Apply preemergence and irrigate to incorporate. With overhead irrigation, wet soil at least 2-4 inches deep. For furrow irrigation, thoroughly wet the entire bed top. Controls many grass species.				
Bromoxynil (Buctril)	Onions, garlic	Preemergence Postemergence	0.25 - 0.375	----
Remarks: Apply to onions before planting until just prior to crop emergence (onions only). Postemergence apply to onions which have 2 to 5 true leaves or to garlic after emergence but before it attains 12 inches in height. Controls several broadleaf weeds such as lambsquarter, smartweed, morningglory, spiny pigweed, ragweed, etc. (see label). When they are small, do not exceed 4 leaf stage, or less than 2 inches in height. Use at least 50 to 70 gallons of water per acre for application. Soil and onion foliage must be dry at time of applications. Waxy coating on onion leaves reduces chances for injury. Onion varieties vary in sensitivity. Use on a trial basis.				
Carfentrazone (Aim)	Bulb vegetables (all)	Preplant directed-hooded Row-middles	0.031	0.031
Remarks: Aim may be applied as a preplant burndown treatment and/or as a post-directed hooded application to row middles for the burndown of emerged broadleaf weeds. May be tank mixed with other registered herbicides. May be applied at up to 2 oz (0.031 ai). Use a quality spray adjuvant such as crop oil concentrate (coc) or non-ionic surfactant at recommended rates.				
Clethodim (Select Max) (Select) (Arrow) (Intensity) (Shadow)	Onions (dry bulb), garlic, shallots (dry bulbs)	Postemergence	0. 94-.125	0.94-.125
Remarks: Controls emerged annual and perennial grasses. Use a non-ionic surfactant with Select Max and crop oil concentrate with the other products. Check the labels for surfactant to use and specific rates. Several labels will include green onions; others not. Do not apply within 45 days of harvest.				
DCPA (Dacthal W-75) (Dacthal 6F)	Onions, garlic	Preemergence Posttransplanting or at layby	6.0-10.5	----
Remarks: Controls germinating annuals. Incorporate 0.5 to 1.0 inch with overhead irrigation or shallow cultivation. Apply layby treatment to weed-free field up to 14 weeks after planting at rates not exceeding 10.5 lbs. ai./acre per season. In Hastings area, onions may be injured with single applications exceeding 6.0 lbs. ai./acre. Note precautions against planting non-registered crops within 8 months.				
Fluazifop-p (Fusilade)	Onions (dry bulb), garlic	Postemergence	0.188	0.188
Remarks: Controls actively growing grass weeds. A total of 48 oz. of product may be applied to the crop per season. Rates for the control of actively growing grass species at specific growth stages are specified on the label. Depending on the species, the growth stage for best control ranges from the 3- to 8-leaf stage. Use oil concentrates or non-ionic surfactants in the spray mixture. A pre-harvest interval of 45 days must be maintained.				
Flumioxazin (Chateau)	Onions (dry bulb)	Postemergence	.064	----

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Herbicide	Labeled crops	Time of Application to crop	Rate (lbs. Al./Acre)	
			Mineral	Muck
Remarks: Apply to transplanted onions at 2 oz product/A at the 2-6 true leaf stage and at the 3 - 6 leaf stage for direct seeded onions. Apply preemergence to weeds. Do not use a surfactant. There is a 45-day preharvest interval.				
Glyphosate (Roundup, Durango, Touchdown, Glyphomax)	Bulb vegetables	Chemical fallow preplant, preemergaence, pretransplant	0.3 - 1.0	----
Remarks: : Roundup, Glyphomax and touchdown have several formulations. Check the label of each for specific labeling directions.				
Oxyfluorfen (Goal 2xl) (Goaltender)	Onions (dry bulb)	Early postemergence Posttransplant	0.12 - 0.5	----
Remarks: Spray when seeded onions have 2 fully developed true leaves. On transplanted onions spray as soon after transplanting as practical. Necrotic lesions, twisting or stunting of onion plants can occur if applications are made during cool, wet weather or prior to the full development of the true leaves on the onion plant. Multiple applications may be made. Do not apply within 60 days of harvest.				
Paraquat (Gramoxone Inteon) (Firestorm)	Seeded onions (green or dry bulb), garlic	Preplant preemergence	0.5 - 1.0	0.5 - 1.0
Remarks: Apply as a broadcast treatment prior to, during or after seeding, but before emergence of the crop for control of emerged weeds. Weeds and grasses emerging after treatment will not be controlled. Crop plants emerged at the time of application will be damaged. Use a non-ionic surfactant with application. Do not apply within 60 days of harvest.				
Pendimethalin (Prowl 3.3 EC) (Prowl H_20)	Onions (dry bulb)	Preemergence (muck only) Postemergence or posttransplant	0.5 - 0.75	1.0 - 2.0
Remarks: In mineral soils, apply as broadcast treatment when onions have 2 to 9 true leaves at a rate of 1.2 to 1.8 pts. In muck soils may be applied sequentially as follows: Preemergence through loop stage (2.4 to 4.8 pts/A); Early postemergence (2 to 6 true leaf stage) 3.6 to 4.8 pts/A; Late postemergence (6 to 9 true leaf stage) 3.6 to 4.8 pts/A. Do **not** apply more than 14.4 pts/A per growing season on muck soils. Do **not** apply preemergence through loop stage if heavy rains are expected or severe crop injury may result. If irrigating after application, do **not** irrigate in excess of 0.5 inch. Do not apply within 45 days of harvest.				
Sethoxydim (Poast)	Bulb vegetables (all onions [dry bulb and bunching], garlic, leeks)	Postemergence	.187	.187
Remarks: For control of actively growing grass weeds. Always add a crop oil concentrate at a rate of 2 pts./acre. Do not apply within 30 days of harvest. A general use rate of 1 pt. material may be used. Do not apply more than 4.5 pts. per acre in one season.				