

Weed Control in Vine Crops 2007

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Vine Crops - Cucurbitaceae

Crop	Types	Genus and Specie
cucumber	pickle	<i>Cucumis sativus</i>
	slicing	
melon	muskmelon	<i>Cucumis melo reticulatus</i>
	honeydew	<i>Cucumis melo inodorus</i>
watermelon	watermelon	<i>Citrullus lanatus</i>

Vine Crops continued

Crop	Type	Genus and Specie
pumpkin	Jack-o-lantern	<i>Cucurbita pepo</i>
	gourds	
	zucchini	
	acorn squash	
squash	spaghetti squash	<i>Cucurbita maxima</i>
	buttercup	
	hubbard	
	Atlantic giant	
	crookneck	
	straightneck	
	banana	
NK 580		

Vine Crops continued

Crop	Type	Genus and Specie
squash	butternut	<i>Cucurbita moschata</i>
	cheese pumpkin	
	Dickinson Field	
squash	cushaw	<i>Cucurbita argyrosperma</i> (<i>Cucurbita mixta</i>)
	calabash	

Preemergence Herbicides Registered for Vine Crops

Trade name	Common name
Alanap	naptalam
Command	clomazone
Curbit	ethalfuralin
(Dual Magnum)	s-metolachlor
Prefar	bensulide
Sandea	halosulfuron
Strategy	clomazone + ethalfuralin
Treflan	trifluralin

Postemergence Herbicides Registered for Vine Crops

Trade name	Common name
Alanap	naptalam
Gramoxone	paraquat
Poast	sethoxydim
Roundup	glyphosate
Sandea	halosulfuron
Select Max	clethodim

Alanap 2L

Crops: cucumber, muskmelon, watermelon

Weeds controlled: broadleaves

Timing: PRE after seeding or TP, or PPI

Length of control: 3 weeks

Use: PPI with Prefar, 1-2 gal/ac

POST broadcast before vines run – has some POST activity

Cost/acre: \$46-\$92

Command 3ME

Crops: cucumber, muskmelon, watermelon, summer squash, winter squash

Do not use on: NK580, Turban, Golden Hubbard, Banana, Atlantic Giant, Jack-o-lantern

Weeds controlled: annual grasses, velvetleaf, other broadleaves

Length of control: 4 weeks

Use: PRE before or after seeding or TP; 0.4-1 pt. Do not apply under plastic. Use with Curbit or Sandea.

Cost/acre: \$7-\$12

Curbit 3EC

Crops: cucumbers, muskmelon, watermelon, summer squash, winter squash

Weeds controlled: annual grasses, lambsquarters, nightshade, pigweed, purslane

Weak on ragweed, and mustards

Length of control: 4 weeks

Use: 2-3 pt/acre PRE after seeding or as directed spray between rows after TP. Do not apply under plastic; use with Command or Sandea; needs water activation

Cost/acre: \$16-\$24

Prefar 4E

Crops: cucumber, muskmelon, watermelon, summer squash, winter squash

Weeds controlled: annual grasses, lambsquarters, pigweed, purslane

Length of control: 3 weeks

Use: 5-6 qt/ac PPI or PRE watered in within 24 hr.

Use with Alanap or Sandea

Cost/acre: \$50-\$75

Sandea

Crops: cucumber, muskmelon, watermelon, summer squash, winter squash

Weeds controlled: broadleaves, yellow nutsedge

Weak on nightshades; no grass control

Length of control: 6-8 weeks

Use: 0.5-1 oz PRE after seeding cucumber, melon, pumpkins, winter squash; directed between rows of summer squash. May be applied under plastic.

POST: 0.5 oz after 2 leaves. Directed spray is safer on pumpkin and squash.

Cost/acre: \$20-\$40

Strategy

Crops: all cucurbits, including Jack-o-lantern

Weeds controlled: annual grasses, several broadleaves

Length of control: 4-5 weeks

Use: 3-6 pt PRE on seeded crops; directed spray on transplanted crops. Use low rate on bright orange or pink winter squash, e.g. NK580, Banana, Golden Hubbard, Atlantic Giant

Cost/acre: \$35-\$75

Treflan (trifluralin)

Crops: cucumber, melon, watermelon

Weeds controlled: annual grasses, lambsquarters, pigweed, purslane

Weak on mustards, composites (ragweeds)

Length of control: 3-4 weeks

Use: 1-2 qt/ac between rows at 3-4 leaf stage.

Must be incorporated or watered in.

Cost/acre: \$6-\$12

Postemergence Grass Herbicides Poast, Select Max

Crops: cucumber, melon, watermelon, pumpkin, squash

Weeds controlled: annual grasses, suppresses perennial grasses

Use: Poast 1-1.5 pt/ac

Select Max 0.5-1 pt/ac

Cost/acre: Poast \$11-\$16

Select Max \$10-\$20

Gramoxone (paraquat)

Crops: all cucurbits

Weeds: foliar burndown of most weeds

Use: 1.5-2.7 pt/ac before seeding or TP to kill emerged weeds

Shielded spray between rows to kill emerged

Weeds; drift can injure crops

Cost/acre: \$9-\$18

Roundup (glyphosate)

Crops: all cucurbits

Weeds: most annual and perennial weeds

Use: 1 qt before planting or after harvest to kill emerged weeds

Cost/acre: \$7-\$10

Sandea (halosulfuron)

Crops: all cucurbits

Weeds controlled: most broadleaves, nutsedge

Weak on nightshade, lambsquarters

Use: 0.5 oz after 2 leaf stage and before flowering; cucumbers and melons broadcast over the top of crop; all other crops, apply as a directed spray between rows; may stunt crops and reduce yield.

Cost/acre: \$20

Dual Magnum (s-metolachlor)

Label pending for 2007

Crop: pumpkin

Weeds controlled: annual grasses, nightshade, Pigweed, and nutsedge

Weak on lambsquarters, mustards

Length of control: 4 weeks

Use: 1-1.3 pt PRE as a directed spray between rows of pumpkins

Cost/acre: \$15-\$20

Weed Control for Pumpkin (*C. pepo*)

1. Strategy 3-5 pt/ac PRE

At 3-4 leaf stage, apply Sandea 0.5 oz + Poast or Select Max as adirected spray between rows.

2. Curbit 3 pt/ac PRE

At 2 leaf stage, Sandea 0.5-0.75 oz + Poast or Select Max as directed spray.

Weed Control Program for Dark Colored Squash (*C. maxima*)

1. Curbit 2 pt + Command 1 pt PRE after seeding; Sandea 0.5 oz + Poast or Select Max at 3-4 leaf stage as directed spray.

or

2. Strategy 3-6 pt/ac PRE followed by Sandea 0.5 oz + Poast at 3-4 leaf stage.

Weed Control for Bright Orange or Pink Squash (*C. maxima*)

Curbit 3 pt PRE

Sandea 0.5 oz + Poast 1-2 pt at 4-5 leaf stage as directed spray; avoid plant contact

Weed Control for Summer Squash

Curbit 2 pt + Command 0.67 pt PRE after seeding or directed between rows after TP.

On plastic, apply to area between rows before TP; followed by Sandea 0.5 oz + Poast directed between rows at 4-5 leaf stage.

Sandea on Pumpkin and Squash

1. Pumpkin is more tolerant than squash to Sandea PRE and POST.
2. *Maxima* squash appear to be most sensitive.
3. Do not apply more than 0.5 oz Sandea PRE or POST.
4. Do not use NIS POST.
5. Use directed spray POST.
6. Heavy rain will increase injury.

Some things to remember about weed control in vine crops (1)

1. Weed control is essential for effective disease control and for high yields
2. Vine crops are sensitive to many of the herbicides registered.
3. Command is not registered on jack-o-lantern pumpkins
4. ALS-inhibitors (eg, Sandea) accumulate in the soil. They can be toxic to vine crops.

Things to remember (2)

5. Plant crops so that you can cultivate or disk between rows
6. Leave spray aisles for driving in the field
7. Use drop nozzles to keep Sandea off crop leaves
8. Curing is an important step in crop management; cut fruit off vines at least 2 weeks before shipping or storage
9. Never refrigerate vine crops

Pumpkin & Squash Weed Control Recommendations - 2007

1. Strategy 4 pt PRE
2. Sandea 0.5 oz POST - between rows, if possible, + Poast or Select; no NIS
3. Cultivate aisles before vines run; apply Curbit between rows or incorporate Treflan to improve long-term weed control
4. On bright orange squash, use only Curbit; no Command

Weed Control for Seeded Muskmelon on Bareground

1. Curbit 2 pt + Command 0.67 pt PRE after seeding. Needs water for activation; followed by Sandea 0.5 oz + Poast 1 pt broadcast at 2-5 leaf stage (before vining). Cost/acre: \$53

or

2. Strategy 4-6 pt broadcast after seeding; followed by Sandea 0.5 oz + Poast just before vining. Cost/acre: \$91

or

3. PPI Prefar 6 qt + Alanap 6 qt before seeding; followed by Alanap 6 qt + Poast 1 pt just before vining. Cost/acre: \$233

Weed Control for Transplanted melons on plastic mulch (1)

1. Sandea 0.5 oz to soil before laying plastic mulch; wait 7 days to plant melons; Sandea 0.5 oz + Poast 1 pt to soil between plastic before vines grow beyond plastic. Cost/acre: \$51

2. Prefar 3 qt + Alanap 4 qt, incorporate before laying plastic; Alanap 4 qt + Poast 1 pt broadcast just before vining. Cost/acre: \$146

Weed Control for Transplanted melons on plastic mulch (2)

3. Lay plastic and plant melons; apply Curbit 2 pt + Command 0.67 pt to soil between plastic after TP. Cost/acre: \$28

4. Lay plastic and plant melons; Treflan 1 qt between rows of plastic – water in; followed by Sandea 0.5 oz + Poast 1 pt directed between rows of plastic before vining. Cost/acre: \$37

Other herbicides labeled for Melon

Gramoxone (paraquat): Before seeding or TP to kill emerged weeds; or as a shielded spray between rows of plastic (it is difficult to avoid injury).

Aim (carfentrazone): Apply as a shielded spray between rows of plastic before melons vine out; drift can injure crop.

Roundup (glyphosate): Use only before planting Melons to kill emerged weeds; if applied over plastic, irrigate with 0.5 inch water and wait 3 days to plant.

Potential New Herbicide Labels for Muskmelon

Goal: under clear plastic

Matrix: between rows of plastic

Chateau: between rows of plastic

Watermelon Weed Control

All treatments labeled for muskmelon are labeled for watermelon.

Sinbar is labeled for watermelon; 2-4 oz/ac PRE after seeding or before TP; it may be applied under plastic or to row middles. 70 day PHI. Do not apply over the top of plants.

Plastic Mulch for Melons

Use black plastic plus a broadcast herbicide under the plastic for best weed control. Clear plastic gains little season advantage and creates serious weed problems.

To control weeds in holes, broadcast Alanap 4 qt + Poast 1 pt at 4-5 leaf stage.