

WEED RESPONSE RATINGS FOR VEGETABLE, SMALL FRUIT AND NUT CROP HERBICIDES

(See Explanation of Ratings Tables on Page 3.)

	Barnyardgrass	Bermudagrass	Crabgrass	Fall panicum	Foxtail	Goosegrass	Johnsongrass (S)	Johnsongrass (R)	Signalgrass	Texas panicum	Carpetweed	Chickweed	Cocklebur	Evening primrose	Jimsonweed	Lambsquarters	Morningglory	Nightshade	Pigweed	Prickly sida	Purslane	Ragweed	Sicklepod	Smartweed	Velvetleaf	Nutsedge, yellow	Nutsedge, purple	
2,4-D	N	N	N	N	N	N	N	N	N	N	G	G	G	G	E	E	E	E	E	E	G	E	F	F	G	F	G	
Atrazine	G	P	G	P	G	G	P	P	P	P	E	E	G	E	G	E	G	G	E	G	E	E	F	E	E	P	P	
Basagran	P	P	P	P	P	P	P	P	P	P	G	G	E	G	G	G	G	G	P	F	G	G	F	G	E	P	P	
Beyond Xtra	G		G	G	G	P	G	G																		P		
Chateau	F	F	F	F	F	F	F	P	F	F	E	E	P	E	G	E	G	E	E	E	E	G	P	G	G	P	P	
Command	E	N	E	E	E	E	E	N	E	E	N		P		F	G	P		F	E	G		F	F	E	N	N	
Curbit	G	N	E	G	G	G	G	N	G	G	G		N		N		N		G		G		N	N	N	N	N	
Dual	G	P	E	E	E	E	F	N	G	F	G	G	P	G	P	F	P	G	G	P	E	F	P	F	P	G	P	
Eptam	G	P	E	G	E	G	G	P	F	G	G	F	P	F	P	G	P	P	G	P	G	P	P	P	P	E	G	G
Fusilade DX	E	E	E	E	E	E	E	E	E	E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Glyphosate	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	E
Goal	E	P	E	F	F	E	F	P	F	F	E	E		G		E	P	E	E	E	E	E	E	E		P	P	
Karmex	G	P	G	F	G	G	P	P	P	F		G	F	G	G	E	F	G	E	F	E	G	P	F	F	P	P	
Metribuzin Pre	G	P	G	E	E	E	F	P	P	F	E	G	F	G	E	E	F	P	E	G	E	G	F	G	G	P	P	
Metribuzin Post	G	P	G	E	E	E	F	P	P	F	E	G	E	G	E	E	E	P	E	G	E	G	E	G	G	P	P	
Paraquat	E	P	E	E	E	E	E	P	E	E	E	G	G	G	G	E	G	G	E	G	G	E	G	G	G	P	P	
Poast	E	E	E	E	E	E	E	E	E	E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Princep	E	P	G	G	G	G	P	P	P	P	E	E	G	E	E	E	G	G	E	G	E	E	F	E		P	P	
Pursuit	F	F	F			P	G	G	F				E				G	P	E	F		G	P	F		F		
Pyramin	N	N	N	N	N	N	N	N	N	N						E		P	E	G	E	E		E		P	P	
Select	E	E	E	G	G	G	E	E	E	G																		
Sandea													G							G			G		G	G	E	E
Sinbar	G	F	G	E	G	G	G	P	G	G	E	E				E	E	G	G	G	G	G		G		F	P	
Spin-aid	N	N	N	N	N	N	N	N	N	N						E		G			G						P	P
Stinger	N	N	N	N	N	N	N	N	N	N	N	N	E		G				G			G	E			N	N	
Treflan	G	N	E	G	E	E	G	F	G	G	G	E	P	P	P	G	P	P	G	P	G	F	P	P	E	P	P	

At recommended rates for your soil type or weed species: E = 90% control or better
 G = 75-90% control
 F = 50-75% control
 P = 5-50% control
 N = less than 5% control

NOTE: Always check current recommendations to be sure the herbicide is registered for the crop in question.

VEGETABLE HERBICIDE REGISTRATION CHART FOR HOME GARDENS

	Asparagus	Beans, Pole & Snap	Beans, Lima	Brussel Sprouts	Broccoli	Cabbage	Carrots	Cantaloupes	Cauliflower	Collard Greens	Cucumbers	Eggplant	Garlic	Lettuce	Honeydew	Horseradish	Kale	Mustard Greens	Okra	Onions	Peas, English	Peas, Southern	Peppers	Potatoes	Pumpkins	Radishes	Sweet Potatoes	Squash	Tomatoes	Turnip Greens	Watermelon
Poast (L)**	R	R	R	R	R	R		R	R	R	R	R	R	R			R	R		R	R	R	R	R	R		R	RP	R		R
Preen (trifluralin)	R	R	R	R	R	R	R	R	R	R	R	R					R	R	R	R	R	R	RT	R		R			R	R	R

R = The herbicide is registered on this crop.

RP = Apply this herbicide only after the plants have 4 to 6 true leaves and are not under stress.

RT = Do not use this chemical on newly seeded crops or small seedlings.

* = This chemical must be incorporated into the top 2 to 3 inches of soil before seeding or transplanting.

** = Apply to annual grasses when they are less than 4 inches tall.

L = Liquid

WP = Wettable Powder

GR = Granular

Weed control in home vegetable gardens requires a coordinated effort using a combination of methods. These include cultural, mechanical and chemical techniques.

Aggressive, fast-growing crops make weed control easier because they are better able to compete with weeds. Squash, beans, southern peas, pumpkins, cucumbers, sweet corn, Irish potatoes and sweet potatoes emerge quickly and have the potential to suppress weeds. Small-seeded and slow-growing crops such as lettuce, carrots, peppers, greens, onions, English peas, tomatoes, broccoli, cabbage and radishes do a rather poor job of competing with weeds.

Cover or smother crops can be used to reduce weed seed germination in succeeding crops. Cover crops are usually planted in the fall and killed by tillage or chemicals the following spring before planting vegetables. The residue from cover crops (rye, ryegrass, etc.) can inhibit early season germination of weeds such as lambsquarters, purslane and pigweed. Avoid planting cover crops where small-seeded crops such as lettuce will be planted the following year or germination will be reduced. To prevent increases in weeds, rotate crops to different areas of the garden so that the same crop is never planted in the same area two years in a row.

Organic mulches include straw, grass clippings, leaves, newspapers, manures, bark chips and other products derived from plant materials. Do not mulch with straw containing weed seeds. Weedy straw may be cleaned by wetting to encourage weed seed germination and then air dried several times to kill seedlings. Organic mulches allow some flexibility in fertilizing and watering since they can be raked back from the plant. Use organic mulches after the soil has warmed in the spring. If applied to cold soils, the rate of soil warming will be slowed.

Black plastic is one of the most commonly used inorganic mulches. Clear plastic is not recommended. Before applying plastic films, make sure the soil is moist and most of the fertilizer has been applied. A more durable option is the use of woven landscape fabric for garden weed control.

They may last for up to 20 years if kept covered with soil. Inorganic mulches will increase soil temperature by 6 to 8°F.

When using mechanical means of weed control such as pulling, hoeing or tillage, it is important to remove weeds before they are more than 3 inches tall. There are a variety of hoes available for removing weeds including the scuffle hoe (an open stirrup with a blade), Warren hoe (arrowhead shaped), and the onion hoe (narrow blade). The scuffle hoe is a push-pull weeder that requires no lifting. The garden Weasel has three sets of wheels with spikes that are push-pulled to cultivate weeds. It is recommended where numerous small weeds are present.

Adjust tillers or cultivators to cultivate no deeper than 2 inches and to throw dirt into the row to cover emerged weeds.

When considering the use of herbicides in the home garden, it is important to know that **no single herbicide will do the entire job** of controlling weeds in all vegetable crops. Another problem is accurately and uniformly applying relatively small amounts of herbicide to the garden surface. Under application will result in poor weed control, while over application will result in crop damage.

For all-purpose weed control or to prepare a future garden site, Roundup or Ortho Kleenup (glyphosate) may be used for nonselective weed control. This is typically done in fall, late winter or early spring. **Do not use this material when crops are present or serious damage will occur.**

The major chemical available to control germinating seedlings before the crop emerges is Treflan (trifluralin). Treflan is a trade name, and the common name is listed in parenthesis. This herbicide is marketed under several trade names, so check the common name on the label before buying. Check the herbicide registration chart for home vegetable gardens for specifics on the use of these products.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Cole Crops - Broccoli and Cabbage				
Go this website for more information on weed control in vegetables: www.vegcrophandbook.com				
S-metolachlor @ 0.47 to 1.2 lb/A	Annual grasses and small-seeded broadleaf weeds.	*Dual Magnum 7.62 EC 0.5 to 1.3 pt/A.	Post-transplant.	*Section 24(c), indemnified label. Do not exceed 1.3 pt/A. Make only one application per year. Do not harvest within 60 days of application. Do not mechanically incorporate Dual Magnum before transplanting. The risk of crop injury is less with post-transplant applications than from pre-transplant applications, and the risk of crop injury is less with post-directed than from post over-the-top applications. Application before bed formation may result in crop injury. The addition of another registered herbicide, especially Goal, will increase the risk of crop injury from postemergence applications.
oxyfluorfen @ 0.25 to 0.5 lb/A	Annual grasses and small-seeded broadleaf weeds.	Goal 2XL 1 to 2 pt/A.	Pre-transplant.	Do not apply if Dual Magnum herbicide has been applied to the field during the current growing season. Do not apply as a preemergence treatment to direct-seeded broccoli. Do not apply post-transplant or over-the-top of broccoli. Sprinkler irrigation is recommended during early establishment of transplants. Do not apply more than 2 pt/A per season.
bensulide @ 4 to 6 lb ai/A	Annual grasses and broadleaf weeds. Less effective on pigweeds and morningglories. Will not control emerged weeds.	Prefar 4E 4 to 6 qt/A.	Preplant or preemergence.	For preplant application, incorporate 1-2 inches deep. For preemergence application, incorporate by irrigation 1 to 2 inches. Apply in at least 10 GPA carrier volume. Do not apply more than 6 lb ai/A. Use low rate on light soil. Cool, wet conditions may cause crop injury.

*Use of the Dual Magnum 24(c) labels for spinach, collards, kale, mustard greens, turnip greens, cantaloupe, cucumber, summer squash, watermelon, transplanted broccoli, cabbage and Chinese cabbage requires agreeing to **Syngenta's waiver of liability and indemnification agreement**. To accept, go to the website, www.syngenta-us.com/labels/indemnified-label-login, and register to set up an account. After registering go to the top left of the home page, click on **Products** and then **Indemnified Labels**. You will then be prompted to select the state, Arkansas, the product, Dual Magnum and the crop. Read the **waiver of liability and indemnification agreement** and either accept or decline. If the conditions are unacceptable, return the Dual Magnum herbicide at once unopened or use the Dual Magnum herbicide for a different approved use in accordance with the label on the product container.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
Cucurbits - Cantaloupe, Cucumber, Summer Squash, Watermelon Preplant - Burndown				
carfentrazone @ 0.03 lb/A	Annual broadleaves, excellent control of morningglories.	Aim 2EC 2 fl oz/A.	Apply to actively growing weeds less than 4 inches tall.	Crops: All cucurbits Apply to preformed beds. Transplants: Apply no later than one day before transplanting. Seeded: Apply no later than 7 days after seeding.
glyphosate @ 1 to 2 lb/A	Annual grasses and broadleaf weeds.	Glyphosate (4 lb/gal formulations) 2 to 4 pt/A.	Prior to planting for planting into a weed-free bed.	Crops: All cucurbits Apply directly to emerged weeds. Provides only postemergence control.
paraquat @ 0.5 to 1 lb/A	Annual weeds and foliage of perennials.	Gramoxone SL 2 to 4 pt/A.	Apply to emerged and actively growing weeds.	Crops: All cucurbits Apply to emerged weeds prior to planting. Herbicide has no residual activity.
Cucurbits Preplant				
ethalfuralin + clomazone @ 0.52 lb total ai	Small-seeded broadleaves and annual grasses.	Strategy 2.1L 1 qt/A.	Broadcast after seeding but prior to emergence or banded after crop emergence or transplanting.	Crops: All cucurbits Activate with at least ½-inch of irrigation or rainfall within 2 days of application. If rainfall does not occur within 5 days, incorporate with shallow cultivation or reduced weed control will occur. DO NOT soil incorporate prior to crop emergence.
halosulfuron @ 0.024 to 0.048 lb ai/A	Sedges, ragweed, pigweed, smartweed, morningglory.	Sandea 75 DG 0.5 to 0.75 oz.	Apply to soil surface 7 days pre-transplant or 7 days before seeding, before plastic installation.	Do not use in summer squash. Not recommended on pumpkin. Plastic mulch: Apply to preformed beds and prior to laying mulch. Wait 7 days before transplanting or seeding. DO NOT apply over-top of mulch. Bareground: If seeding, apply after seeding but before cracking. If transplanting, apply to preformed beds, lightly irrigate, and wait 7 days to transplant.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
CUCURBITS PREPLANT [cont.]				
bensulide @ 5 to 6 lb/A	Annual grasses and broadleaf weeds, not very effective on pigweeds and morningglories.	Prefar 4E 5 to 6 qt/A.	Apply preplant and incorporate.	Crops: All cucurbits. Incorporate 1" deep with light cultivation. Do not incorporate deeper than 2".
Cucurbits Preemergence				
bensulide @ 5 to 6 lb/A	Annual grasses and broadleaf weeds, not very effective on pigweeds and morningglories.	Prefar 4EC 5 to 6 qt/A.	Apply to soil surface of preformed beds.	Crops: All cucurbits. Must be activated within 24 hours of application or reduced weed control can occur. Wet soil at least 2-4" inches deep for best results.
bicyclopyrone @ 0.046 lb/A	Annual grass and broadleaf weeds	Optogen 3.5 fl oz	Apply before transplanting.	Crops: Watermelon. Do not disturb soil following application. Do not make more than 1 application per crop per year.
clomazone @ 0.15 to 0.25 lb/A	Small-seeded broadleaves and annual grasses.	Command 3ME 6.4 to 16 fl oz/A.	Cantaloupe, cucumber, and watermelon: apply immediately after seeding or prior to transplanting Summer squash: apply prior to seeding or transplanting.	Rate is crop dependent. Activate with at least ½-inch of irrigation. DO NOT APPLY UNDER PLASTIC. Research from other states suggests irrigation after application but prior to preparing plant holes or planting.
ethalfuralin + clomazone @ 0.4 to 1.2 lb/A + 0.125 to 0.375 lb/A	Small-seeded broadleaves and annual grasses.	Strategy 2.1L 2 to 6 pt/A.	Apply to soil surface of preformed beds.	Crops: All cucurbits. Apply immediately after planting. Activate with at least ½-inch of irrigation. DO NOT APPLY UNDER PLASTIC. See label for rotation restrictions.
ethalfuralin @ 1.1 to 1.7 lb/A	Small-seeded broadleaves and annual grasses.	Curbit 3 EC 3 to 4.5 pt/A.	Apply to the soil surface of preformed beds immediately after seeding.	Crops: All cucurbits. Activate with at least ½-inch of irrigation. DO NOT SOIL-INCORPORATE. DO NOT APPLY UNDER PLASTIC. Do not use under row covers or hot caps. May be used as banded spray between beds. Irrigate within 5 days for activation. Injury may occur under extreme cold or high moisture conditions.
S-metolachlor @ 0.64 to 1.21 lb/A	Annual grasses, yellow nutsedge and small-seeded broadleaves. Will not control emerged weeds.	*Dual Magnum 7.62 EC 0.67 to 1.27 pt/A	Apply to the crop at 1-2 leaf stage. Apply to row middles in mulched crops.	*Section 24(c), Indemnified label. Pumpkin and summer squash. Not recommended for cucumber, cantaloupe, or watermelon as significant injury can occur. Bareground: Seeded- apply directed once plants reach 4" in height. Transplant- irrigate to seal soil around the root ball then apply 10-14 days after transplanting. Plastic mulch: Seeded- apply once plants reach 3" in height. Transplant- apply 7-10 days after planting. Row middles: Rate can be increased to 1.33 pt/A

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
Cucurbits Postemergence				
bicyclopyrone @ 0.034 to 0.046 lb/A	Annual grass and broadleaf weeds	Optogen 2.6 to 2.5 fl oz	Apply to row middles any time after transplanting.	Crops: Watermelon Using a hooded sprayer will minimize crop injury during application to middles. Add NIS (0.25% v/v) or COC (1% v/v). Do not make more than 1 application per crop per year.
clethodim @ 0.09 to 0.125 lb/A	Annual and perennial grasses ONLY. Very effective on annual bluegrass.	Select 2 EC 8 fl oz/A Select Max 16 fl oz/A.	Apply to emerged and actively growing weeds.	Crops: All cucurbits Add 1 gal crop oil concentrate per 100 gal spray mix. Do not apply within 14 days of harvest. Multiple applications will be needed for perennial grass control. Repeat application after 14 to 21 days.
halosulfuron @ 0.024 to 0.044 lb/A	Sedge and broadleaf control; should be mixed with other herbicides to enhance grass activity.	Sandea 75 DG 0.5 to 0.75 oz.	Apply to emerged and actively growing weeds when crop is at 3 to 5 leaves. Split application (PRE fb POST) for better sedge control.	Crops: Cantaloupe, cucumber, pumpkin. Do not use on summer squash or watermelon. Do not apply sooner than 14 days after transplanting. Can be applied over the top, if bareground, but reduce late-season applications when the temperature and humidity are high. If on plastic, apply in row middles; keep off the plastic . Research from other universities indicates significant injury and delayed maturity possible with application to pumpkin. A directed application is recommended for pumpkin. Do not apply more than 2 oz/A per year. Do not apply to crops treated with organophosphate insecticides. Add NIS at 0.25% v/v.
sethoxydim @ 0.2 to 0.5 lb/A	Annual and perennial grasses ONLY.	Poast 1.5 EC 1 to 2.5 pt/A.	Apply to emerged and actively growing weeds,	Crops: All cucurbits Add 1 gal crop oil concentrate per 100 gal of spray mix. Total herbicide cannot exceed 3 pt/A/year. Do not apply on unusually hot and humid days. Do not apply within 14 days of harvest.

*Use of the Dual Magnum 24(c) labels for spinach, collards, kale, mustard greens, turnip greens, cantaloupe, cucumber, summer squash, watermelon, transplanted broccoli, cabbage and Chinese cabbage requires agreeing to **Syngenta's waiver of liability and indemnification agreement**. To accept, go to the website, www.syngenta-us.com/labels/indemnified-label-login, and register to set up an account. After registering go to the top left of the home page, click on **Products** and then **Indemnified Labels**. You will then be prompted to select the state, **Arkansas**, the product, **Dual Magnum** and the crop. Read the **waiver of liability and indemnification agreement** and either accept or decline. If the conditions are unacceptable, return the Dual Magnum herbicide at once unopened or use the Dual Magnum herbicide for a different approved use in accordance with the label on the product container.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
Greens [Collards, Kale, Mustard, Turnips]				
trifluralin @ 0.3 to 0.5 lb/A	Annual grasses and small-seeded broadleaf weeds.	Treflan 4 EC 12 to 16 fl oz/A.	Preplant incorporated	Trifluralin requires thorough incorporation into soil to a depth of 2-3" deep before planting. Must be incorporated within 24 hours of application, though within 8 hours is preferable.
sethoxydim @ 0.2 to 0.3 lb/A	Annual and perennial grasses.	Poast 1.5 EC 1 to 1.5 pt/A.	Postemergence. Consult label for the correct timing for the target weed(s).	Do not apply within 30 days of harvest. Do not apply more than 1.5 pt/A per treatment and do not exceed 3 pt/A per growing season. Add COC at 1 qt/A. Some necrotic speckling may occur, with use of an adjuvant in high temperatures.
clethodim @ 0.07 to 0.12 lb/A	Annual and perennial grasses.	Select 2 EC 6 to 8 oz/A or Select Max 9 or 16 oz/A..	Postemergence.	Select Max: add NIS at 0.25% v/v. Select: Add COC at 1% v/v. Adding adjuvant increases the likelihood of crop injury at high air temperatures. Very effective in controlling annual blue- grass. Apply to actively growing grasses not under drought stress. More effective than Poast for perennial grasses; use higher rate for perennial grasses. Do not apply within 14 days of harvest of green crops. Do not apply within 30 days of harvest of turnips grown for roots.
S-metolachlor @ 0.64 to 0.95 lb/A	Annual grasses and small-seeded broadleaf weeds.	*Dual Magnum 7.62 EC 0.67 to 1 pt/A.	Preemergence or postemergence.	*Section 24(c), indemnified label. Do not exceed 1 pt/A. Make only one application per year. Do not harvest within 30 days of application. Will not control emerged weeds. May be post-applied when the crop has 1 to 2 true leaves.
bensulide @ 4 to 6 lb/A	Annual grasses and broadleaf weeds. Less effective on pig-weeds and morningglories. Will not control emerged weeds.	Prefar 4E 4 to 6 qt/A.	Preplant or preemergence.	Do not use on turnips. For preplant application, incorporate 1-2 inches deep. For preemergence application, incorporate by irrigation at least 2 inches. Apply in at least 10 GPA carrier volume. Do not apply more than 6 lb ai/A. Use low rate on light soil. Cool, wet conditions may cause crop injury.
Okra				
trifluralin @ 0.5 to 0.75 lb/A	Grasses, pigweed, purslane.	Treflan 4 EC 1 to 1.5 pt/A.	Preplant incorporated.	Apply and incorporate before planting. Research from other universities suggest waiting 3 days and irrigation between application and planting.
sethoxydim @ 0.3 lb/A	Grasses only.	Poast 1.5 EC 1 to 1.5 pt/A.	Postemergence.	Apply to grasses that are actively growing and not under stress. Do not apply within 14 days of harvest. Add COC at 1qt/A; the addition of COC may increase risk of injury.
glyphosate (see labels)	Annual and perennial grass and broadleaf weeds.	Many trade names Check labels	Postemergence application to row-middles	Row middles only. Apply as a hooded spray in row middles, as shielded spray in row middles, as wiper applications in row middles, or postharvest. To avoid severe injury to crop, do not allow herbicide to contact foliage, green shoots or stems, exposed roots, or fruit of crop. PHI = 14 days.

*Use of the Dual Magnum 24(c) labels for spinach, collards, kale, mustard greens, turnip greens, cantaloupe, cucumber, summer squash, watermelon, transplanted broccoli, cabbage and Chinese cabbage requires agreeing to **Syngenta's waiver of liability and indemnification agreement**. To accept, go to the website, www.syngenta-us.com/labels/indemnified-label-login, and register to set up an account. After registering go to the top left of the home page, click on **Products** and then **Indemnified Labels**. You will then be prompted to select the state, **Arkansas**, the product, **Dual Magnum** and the crop. Read the **waiver of liability and indemnification agreement** and either accept or decline. If the conditions are unacceptable, return the Dual Magnum herbicide at once unopened or use the Dual Magnum herbicide for a different approved use in accordance with the label on the product container.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Okra [cont.]				
Halosulfuron-methyl @ 0.024 to 0.048 lb/A	Yellow and purple nutsedge and broadleaf weeds.	Sandea 75 DG 0.5 to 1 oz/A	Postemergence application to row-middles	Apply to row middles as a postemergence shielded or hooded spray to avoid contact of herbicide with planted crop. In plastic culture, do not allow spray to contact plastic. Do not apply more than 2 oz/A per 12-month period. PHI = 30 days.
Peppers				
trifluralin @ 0.5	Small-seeded annual grass and broadleaf weeds.	Treflan 4 EC 1 pt/A.	Any time from 6 weeks before planting up to planting. After bedding if beds are used.	Transplants only. Requires thorough incorporation to a depth of 2-3" within 24 hours, 8 hours preferred. Tillage that concentrates trifluralin in the root zone will cause injury. Not suggested for use in plastic mulch systems.
sethoxydim @ 0.19 to 0.38 lb/A	Grasses.	Poast 1.5 EC 1 to 1.5 pt/A.	Postemergence.	Add 1 qt COC/A- adding crop oil may increase crop injury in high temperatures. Apply only under conditions of active growth. Thorough coverage required. Do not tank mix with other pesticides. Do not cultivate 7 days before or after treatment. Cultivation soon after 7 days will be helpful. Do not apply within 20 days of harvest. Do not apply more than 4.5 pt/A per year.
clethodim @ 0.07 to 0.12 lb/A	Annual and perennial grasses.	Select 2 EC 6 to 8 oz/A or Select Max 9 or 16 oz/A.	Postemergence.	Select Max: add NIS at 0.25% v/v. Select: Add COC at 1% v/v. Adding adjuvant increases the likelihood of crop injury at high air temperatures. Very effective in controlling annual bluegrass. Apply to actively growing grasses not under drought stress. More effective than Poast for perennial grasses; use higher rate for perennial grasses. Do not apply within 20 days of harvest.
glyphosate @ 0.75 to 2.25 lb/A	Most emerged weeds except resistant weeds (some pig-weeds, ryegrass, and horse-weed)	Roundup WeatherMax 5.5L 22 to 64 fl oz/A.	Preplant burndown.	Bareground transplants: Apply no more than 1.13 lb ae/A in a single application. Must till or irrigate 0.5" and wait at least 7 days before planting to reduce risk of injury. Bareground seeding: Apply at least 3 days and irrigate before planting. Plasticulture: Up to 1.13 lb ae/A- wait 3 days before planting, up to 2.25 lb ae/A- wait at least 10 days before transplanting. AT LEAST 0.5" IRRIGATION OR RAINFALL MUST OCCUR BETWEEN APPLICATION AND PLANTING. Do not punch new holes until after washing. Transplants in old holes may be injured. For nutsedge, apply glyphosate followed by paraquat 5-7 days later.
paraquat @ 0.5 to 1.0 lb/A	Nonselective.	Gramoxone 2.0 SL 2 to 4 pt/A.	Preplant burndown, or pretransplant.	Add nonionic surfactant, 0.25% v/v.
bensulide @ 4 to 6 lb lb/A	Annual grasses and broadleaf weeds. Less effective on pig-weeds and morningglories. Will not control emerged weeds.	Prefar 4E 4 to 6 qt/A.	Preplant, or preemergence.	For preplant application, incorporate 1-2 inches deep. For preemergence application, incorporate with irrigation at least 2 inches. Apply in at least 10 GPA carrier volume. Do not apply more than 6 lb ai/A. Use low rate on light soil. Cool, wet conditions may cause crop injury.
carfentrazone @ 0.007 to 0.022 lb ai/A	Broadleaf weeds.	Aim 1.9EW 0.5 to 1.5 fl oz/A.	Preplant, pretransplant burndown, before crop emergence or post-directed in row middles.	Apply in the row middles using hooded sprayer. Apply with NIS or crop oil at recommended rates. Does not have residual activity. Drift will burn the crop leaves.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
PEPPERS [cont.]				
clomazone @ 0.25 to 0.50 lb ai/A	Annual grasses, common lambs-quarters, spurred anoda, velvet-leaf, prickly sida.	Command 3ME 0.67 to 1.34 pt/A.	Preplant, pretransplant, or pre-emergence.	Do not use on banana peppers. Place seed or root of transplants below the herbicide layer. Do not make more than one application. Use lower rate on light-textured soils.
halosulfuron @ 0.023 to 0.047 lb ai/A	Broadleaf weeds and nutsedge.	Sandea 75DF 0.5 to 1 oz/A.	Preemergence, or in row middles of direct-seeded or transplanted pepper.	Avoid contact with the crop, or with plastic. Do not make more than two applications per crop. Do not exceed 2 oz product/season.
pendimethalin @ 0.95 to 1.42 lb/A	Annual grasses and small-seeded broadleaf weeds. Will not control emerged weeds.	Prowl H2O (3.8 EC) 2 to 3 pt/A.	Preplant or postdirected to transplants.	Bell and nonbell. For non-mulched crop, apply preplant-incorporated, before transplanting. Bell and nonbell. For mulched crop only- preplant, NOT incorporated, on top of firmed bed, before laying plastic. Can also be applied in the row middles, tank-mixed with a labeled POST-herbicide. Needs irrigation or shallow incorporation for activation. Bell and nonbell. For non-mulched crop only- apply post-directed to transplants, or to established direct-seeded crop. Can also be applied in the row middles, tank-mixed with a labeled POST-herbicide. Needs irrigation or shallow incorporation for activation.
Snapbeans, Lima Beans				
halosulfuron @ 0.02 to 0.04 lb/A	Yellow and purple nutsedge, ragweed, pigweed, smartweed, cocklebur and morningglory.	Sandea 75 DF 0.5 to 1 oz/A.	Preemergence.	Apply after planting but before cracking.
S-metolachlor @ 0.6 to 1.01 lb/A	Annual weeds.	Dual Magnum 7.62 EC 10 oz to 16 oz/A.	Preemergence.	Apply during or after planting but before weeds emerge.
EPTC + trifluralin @ 3.5 + 0.5 lb/A	Annual weeds.	Eptam + Treflan 4 EC 3.5 pt/A + 1 pt/A.	Just prior to planting.	Requires thorough incorporation to a depth of 3 inches.
trifluralin @ 0.5 lb/A	Small-seeded broadleaf weeds and annual grasses.	Treflan 4 EC 1 pt/A.	Any time from 6 weeks before planting up to planting. After bedding if beds are used.	Requires thorough incorporation to a depth of 1 to 1½ inches.
bentazon @ 0.25 to 0.5 lb/A	Purslane, velvetleaf, ragweed, smartweed, cocklebur, jimsonweed.	Basagran 0.5 to 1 pt/A.	Postemergence to small weeds.	See label for details and weed sizes.
sethoxydim @ 0.3 to 0.5 lb/A	Annual and perennial grasses.	Poast 1.5 EC 1.5 to 2.5 pt/A.	Postemergence.	Do not apply within 15 days of harvest. Do not exceed 4 pt/A per season. Add 1% crop oil concentrate.
fomesafen @ 0.1875 to 0.375 lb lb/A	Many broadleaf weeds.	Reflex 2L 0.75 to 1 pt/A.	Apply postemergence to dry beans having at least 4 expanded trifoliate leaves or snap beans having at least 1 expanded trifoliate leaf. Include a nonionic surfactant at 1 quart per 100 gallons spray mixture.	Dry or snap beans only. Total use per year cannot exceed 1.5 pt/A. Do not apply within 45 days of dry bean harvest or 30 days of snapbean harvest. See label for further information.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Snapbeans, Lima Beans [cont.]				
sulfentrazone + carfentrazone @ 0.1 to 0.2 lb/A + 0.01 to 0.02 lb/A	Annual grasses and small-seeded broadleaves, good activity on pigweeds.	Spartan Charge 3.8 to 7.6 fl oz/A.	Apply to the soil surface 14 to 7 days prior to planting. Will control small seedlings at the time of application. Can also be applied preemergence.	Tank mixing with Dual Magnum preemergence may cause stunting, but will increase weed control spectrum. Apply to the soil surface immediately after planting. Do not apply to sandy soil with <1% organic matter, or soils above Ph7.
sulfentrazone + S-metolachlor @ 0.1 lb/A to 0.14 + 0.95 to 1.27 lb/A	Annual grasses and small-seeded broadleaves, excellent on pigweeds and morningglories; good control of yellow nutsedge.	Authority Elite 19 to 26 fl oz/A.	Apply to a weed-free bareground soil. Can also be applied pre-emergence.	Preplant application is safer than preemergence application.
Southernpea - Preemergence				
imazethapyr @ 0.063 lb/A	Small-seeded broadleaves and annual grasses.	Pursuit 2 AS 4 fl oz/A.	Preplant soil-incorporated, preemergence, or early postemergence.	Has activity on pigweeds, but will not control ALS-resistant pigweed.
S-metolachlor @ 0.64 to 0.95 lb/A	Small-seeded broadleaves and annual grasses.	Dual Magnum 7.62 EC 0.67 to 1 pt/A.	Preplant soil-incorporated or preemergence. Apply to a weed-free bareground soil.	Excellent control of pigweeds, other small-seeded broadleaves and annual grasses. Needs 1-inch of rainfall for activation. Rainfall exceeding 2 inches will reduce residual activity.
halosulfuron @ 0.02 to 0.04 lb/A	Yellow and purple nutsedge, some broadleaves.	Sandea 75 DF 0.5 to 0.75 oz/A.	Preemergence.	Apply after planting but before cracking.
trifluralin @ 0.5 to 0.75 lb/A	Annual grasses and small-seeded broadleaves.	Treflan 4 L 1 to 1.5 pt/A.	Apply to a weed-free bareground soil.	Requires thorough incorporation to a depth of 1 to 1.5 inches. Tankmix with another herbicide to improve spectrum.
Southernpea - Postemergence				
bentazon @ 0.5 lb/A	Prickly sida, smartweeds, and common cocklebur.	Basagran 1 pt.	Apply over the top of the crop and weed; good coverage required.	Apply over the top. Weak on pigweeds. Excellent activity on prickly sida, smartweeds and common cocklebur.
clethodim @ 0.094 to 0.125 lb/A	Grasses.	Select 2 EC 6 to 8 fl oz/A.	Apply to actively growing grass seedlings.	Add 1 gallon of crop oil concentrate per 100 gallons of spray mixture. Adding crop oil may cause crop injury at high temperature conditions. Do not apply on days that are unusually hot or humid. Do not apply within 14 days of harvest.
fomesafen @ 0.2 lb/A	Small annual grasses and small-seeded broadleaves, good activity on pigweeds 2 inches tall.	Reflex 2 SL 13 oz/A.	2- to 4-trifoliolate crop.	For dry beans only. Will burn crop leaves; crop injury will be severe if applied on a very hot, sunny, humid day, but the crop will recover. Some varieties will be injured more than others. Total use per year cannot exceed 1.5 pt/A. Do not apply within 45 days of dry bean harvest.
halosulfuron @ 0.02 to 0.04 lb/A	Yellow and purple nutsedge, some broadleaves.	Sandea 75 DF 0.5 to 0.75 oz/A.	Apply after 2nd trifoliolate but before flowering.	Directed sprays are recommended to reduce injury. Temporary stunting and chlorosis is expected with broadcast applications. Some varieties are more susceptible to injury than others.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
imazamox @0.03 lb/A	Small-seeded broadleaves, annual grasses, and sedges.	Raptor 4 fl oz/A.	Apply over the top of the crop and weed; good coverage required.	Similar to Pursuit, but has shorter residual activity. Will not control ALS-resistant pigweeds. Some varieties may be stunted by Raptor.
imazethapyr @ 0.063 lb/A	Small-seeded broadleaves, annual grasses and sedges.	Pursuit 2 AS 4 fl oz/A.	Apply over the top of the crop and weed; good coverage required.	Annual grasses and broadleaves. Will not control ALS-resistant pigweeds. Good on sedges.
sethoxydim @ 0.2 to 0.5 lb/A	Annual and perennial grasses ONLY.	Poast 1.5 EC 1 to 2.5 pt/A.	Apply to emerged and actively growing weeds.	Thorough coverage required. Do not tank mix with other pesticides. Do not cultivate 7 days before or after treatment. Cultivation after 7 days is helpful. Add 1 quart of crop oil concentrate per acre. This may cause injury on a hot, sunny day. Total cannot exceed 2.5 pt/A/year. Do not apply within 15 days of harvest.
Spinach				
sethoxydim @ 0.19 to 0.38 lb/A	Grasses.	Poast 1.5 EC 1 to 1.5 pt/A.	Before annual grasses exceed 14 days after emergence. Timing is very important. Johnsongrass: 15 to 20 inches Bermudagrass: 1-inch height or 6-inch maximum runner length	Apply only under conditions of active growth. Thorough coverage required. Do not cultivate 7 days before or after treatment. Cultivation soon after 7 days will be helpful. Do not apply within 15 days of harvest.
clethodim @ 0.094 to 0.125 lb/A	Grasses.	Select 2 EC 6 to 8 oz/A.	Postemergence.	Apply to emerged grasses. Consult manufacturer's label for specific rates and best times to treat. For sethoxydim, add 1 quart of crop oil concentrate per acre. For clethodim, add 1 gallon of crop oil concentrate per 100 gallons of spray solution. Adding crop oil to Poast or Select may increase the likelihood of crop injury at high air temperatures. Do not apply Poast or Select on days that are unusually hot and humid. Do not apply sethoxydim within 15 days of harvest or clethodim within 14 days of harvest.
S-metolachlor @ 0.32 to 0.64 lb/A	Annual grasses and small-seeded broadleaf weeds.	*Dual Magnum 7.62 EC 0.33 to 0.67 pt/A.	Preemergence.	*Section 24(c), indemnified label. Do not incorporate. Make only one application per year. Do not exceed 0.67 pt/A. Use low rate on coarse soil. Do not harvest within 50 days of application. Do not apply through an irrigation system. Irrigate within 2 days of application.

*Use of the Dual Magnum 24(c) labels for spinach, collards, kale, mustard greens, turnip greens, cantaloupe, cucumber, summer squash, watermelon, transplanted broccoli, cabbage and Chinese cabbage requires agreeing to **Syngenta's waiver of liability and indemnification agreement**. To accept, go to the website, www.syngenta-us.com/labels/indemnified-label-login, and register to set up an account. After registering go to the top left of the home page, click on **Products** and then **Indemnified Labels**. You will then be prompted to select the state, **Arkansas**, the product, **Dual Magnum** and the crop. Read the **waiver of liability and indemnification agreement** and either accept or decline. If the conditions are unacceptable, return the Dual Magnum herbicide at once unopened or use the Dual Magnum herbicide for a different approved use in accordance with the label on the product container.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Spinach [cont.]				
phenmedipham @ 0.5 to 1 lb/A	Annual broadleaf.	Spin-Aid 1.3 EC 3 to 6 pt/A.	Postemergence.	Do not use when expected high temperatures will be above 75°F. For best results, spray when weeds are in the 2-leaf stage. Use the 6 pint rate only on well-established crops which are not under stress. Do not apply within 40 days of harvest. Spinach plants must have 6 true leaves or more. For processing spinach only. Do not exceed 22 gallons per acre water. Avoid drift.
Sweet Corn				
S-metolachlor + atrazine 1.25 to 1.5 lb + 1 to 1.6 lb/A	Annual weeds.	Dual Magnum 7.62 EC + AAtrex, atrazine See label for specific formulations.	Preplant incorporated, preemergence or early postemergence.	Use high atrazine rate where cocklebur and morningglory are severe. Rainfall in 5-7 days is necessary for best results. With preplant, shallow incorporate 2-3 inches within 7 days of planting.
bentazon @ 0.75 to 1 lb/A	Cocklebur, common ragweed, jimsonweed, Pennsylvania smartweed, velvetleaf, yellow nutsedge, and morningglory.	Basagran 0.75 to 1 qt/A.	Apply early postemergence over top when weeds are small and corn has 1 to 5 leaves.	See label for rates according to weed size and special directions for annual morningglory and yellow nutsedge control. Use a crop oil at a rate of 1 qt/A.
halosulfuron @ 0.032 lb/A	Cocklebur, passionflower, pigweed, pokeweed, ragweed, smartweed, velvetleaf.	Permit 75 DF 0.67 oz/A.	Postemergence.	Apply over the top with drop nozzles to sweet corn from spike to lay-by for control of emerged weeds. Add nonionic surfactant at 0.5 oz per gallon of spray solution or 1 quart per 100 gallons of spray solution. See label for all instructions and restrictions.
S-metolachlor + atrazine @ 1 to 2 + 0.78 to 1.56	Most annual grass and broadleaf weeds.	Bicep II Magnum 1.3 to 2.6 qt/A.	Preemergence.	Apply to soil surface immediately after planting. See label for further instructions.
atrazine @ 1 to 2 lb/A	Most annual broadleaf and grass weeds.	Aatrex 4L 1 to 2 qt/A.	Preemergence or postemergence.	Apply to soil surface immediately after planting. Shallow cultivation of preemergence applications improves control. Postemergence: Use the 2 quart rate and apply before weeds reach 1.5 inches. See label for amount of crop oil to add. For best results, tank mix with a grass herbicide such as Dual.
Sweet Potatoes				
sethoxydim @ 0.3 to 0.5 lb/A	Annual and perennial grasses.	Poast 1.5 EC 1.5 to 2.5 pt/A.	Apply to small annual grasses, preferably within 14 days after emergence. See label for timing perennial grasses.	Do not apply within 30 days of harvest. Do not apply more than 5 pt/A in one season. Add 1% crop oil concentrate.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
clethodim @ 0.09 to 0.25 lb/A	Grasses.	Select 2 EC or Select Max 8 to 16 oz/A. Add crop oil concentrate + AMS.	Postemergence.	Apply postemergence for annual grasses at 6 to 8 oz/A or bermudagrass and johnsongrass at 8 oz/A. Add 1 gallon crop oil concentrate per 100 gallons of spray mix. Adding crop oil may increase the likelihood of crop injury at high air temperatures. Very effective in controlling annual bluegrass. Apply to actively growing grasses not under drought stress. Do not apply within 30 days of harvest.
clomazone @ 0.48 to 1.5 lb/A	Annual grasses.	Command 3 ME 1.3 to 4 pt/A.	Pre-transplant.	Use the low rate on coarse soils and the high rate on fine soils. May also be applied as a single, post-transplant application to the crop before weeds emerge at a maximum of 1.5 pt/A.
fluazifop-P @ 0.19 lb/A	Grasses.	Fusilade DX 2 EC 6 to 18 oz/A.	Before annual grasses exceed 14 days after emergence. Timing is very important. Johnsongrass: 12 to 18 inches. Bermudagrass: 3-inch height or 6- to 12-inch maximum runner length.	Less effective than Poast on annual grasses. More effective on bermudagrass and johnsongrass. Thorough coverage required. Do not tank mix. Do not cultivate 7 days before or after application. Do not apply within 14 days of harvest.
flumioxazin @ 0.094 lb/A	Annual broadleaf weeds including pigweed.	Valor 51 WDG 3 oz/A.	Apply 2 to 5 days prior to transplanting crop.	Movement of soil during transplanting should not occur or reduced weed control may result. Do not use on greenhouse-grown transplants. Do not apply postemergence or serious crop injury will occur. Do not use on transplants harvested more than 2 days prior to transplanting. Do not use on transplant propagation beds. See label for instructions on use. Use only on the 'Beauregard' variety.
S-metolachlor @ 0.95 to 1.26 lb/A	Annual sedge and yellow nutsedge.	Dual Magnum 7.62 EC 1 to 1.33 pt/A.	After the sweet potatoes have been transplanted but before weeds emerge.	Do not incorporate following application. Use the lower rate on coarse-textured soils. The transplanter trench must be closed before applying. Do not apply more than 0.5 inches of irrigation for the first irrigation following application. Make only one application per season.
Tomatoes				
S-metolachlor @ 0.95 to 1.5 lb/A	Yellow nutsedge, annual grasses, broadleaf weeds.	Dual Magnum 7.62 EC 1 to 2 pt/A.	Preplant or postdirected to transplants.	Apply preplant or postdirected to transplants after the first settling rain or irrigation. In plasticulture, apply to preformed beds just prior to applying plastic mulch. Minimize contact with crop. Do not apply within 90 days of harvest. Also registered for use in row middles, and in seeded crop. See label for further instructions.
trifluralin @ 0.5 to 0.75 lb/A	Annual weeds.	Treflan 4 EC 1 to 1.5 pt/A.	Preplant any time from 6 weeks before transplanting up to transplanting. After bedding if beds are used.	Requires thorough incorporation to a depth of 1 to 1½ inches. Do not use on direct-seeded tomatoes.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Tomatoes [cont.]				
metribuzin @ 0.25 to 0.5 lb/A	Annual broadleaf and grass weeds.	Metribuzin 75 DF 0.33 to 0.67 lb/A.	Preplant or postplant	Preplant: Prior to direct seeding or transplanting. If using plastic, apply after bed formation and just prior to laying plastic. Place transplant roots below herbicide layer to avoid injury. POST: Apply overtop after transplants have 5-6 leaves or have fully recovered from shock of transplanting and weeds are small. Do not apply within 3 days after period of cool, wet or cloudy weather or injury will occur. Can also be applied as directed spray. Can use 0.67 to 1.33 lb/A if applying as a directed spray. Do not apply within 24 hours of other pesticide applications and do not tank-mix with other pesticides. See label for other precautions and rotational restrictions.
halosulfuron @ 0.02 to 0.04 lb/A	Yellow and purple nutsedge, ragweed, pigweed, smartweed, cocklebur and morningglory.	Sandea 75 DF 0.5 to 1.0 oz/A.	Preemergence and postemergence.	Direct-seeded, postemergence: Sandea may be applied over the top from the 4-leaf stage to first bloom. After bloom, use shields or directed spray to avoid contact with the plant. Transplants: May be applied from 14 days after transplanting to first bloom. After first bloom, apply as a directed spray.
sethoxydim @ 0.19 to 0.38 lb/A	Grasses.	Poast 1.5 EC 1 pt/A.	Before annual grasses exceed 14 days after emergence. Timing is very important. Johnsongrass: 15 to 20 inches. Bermudagrass: 1-inch height or 6-inch maximum runner length.	Apply only under conditions of active growth. Thorough coverage required. Do not tank mix with other pesticides. Do not cultivate 7 days before or after treatment. Cultivation soon after 7 days will be helpful. Do not apply within 20 days of harvest. Do not apply more than 4.5 pt/A per season.
clethodim @ 0.09 to 0.25 lb/A	Annual and perennial grasses.	Select 2E 6 to 16 oz/A.	Postemergence.	Add 1.0% crop oil concentrate. Apply to actively growing grasses. Repeat applications may be needed for perennial grass control. Good on annual bluegrass and broadleaf signalgrass.
trifloxysulfuron-sodium @ 0.0047 to 0.0094 lb/A	Yellow nutsedge, morningglory, common cocklebur, common lambsquarters and other broadleaf weeds.	Envoke 75 DG 0.1 to 0.2 oz/A.	Post-directed.	In row. Apply post-directed to tomato grown on plastic for control of nutsedge and certain broadleaf weeds. Crop should be transplanted at least 14 days prior to application. The application should be made prior to fruit set and at least 45 days prior to harvest. Use nonionic surfactant at 1 quart per 100 gallons spray solution with all applications. Row middles. Apply for control of nutsedge and certain broadleaf weeds. Crop should be transplanted at least 14 days prior to application. Use nonionic surfactant at 1 quart per 100 gallons spray solution with all applications. See label for information on registered tank mixes. Tank mixtures with Select or Poast may reduce grass control. See label for more information.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
Carfentrazone @ up to 0.031 lb/A	Most broadleaf weeds less than 4 inches tall or rosettes less than 3 inches in diameter; does not control grasses	Aim 1.9 EW or Aim 2 EC Up to 2 oz/A. Add nonionic surfactant	Apply as a preplant burndown treatment.	See label for rates. May be tank-mixed with other registered burndown herbicides. Efficacy requires good coverage and the use of a non-ionic surfactant. Transplanted crop. Apply no later than 1 day before transplanting. Seeded crop (Aim 2 EC only). Apply no later than 7 days before planting seeded crop.
Paraquat @ 0.5 to 1 lb/A	Contact kill of all green foliage, stale bed application	Firestorm 3 SL 1.3 to 2.7 pt/A Gramoxone 2 SL 2 to 4 pt/A	Preplant burndown application.	Apply to emerged weeds in a minimum of 20 gal spray mix per acre before crop emergence as a broadcast or band treatment over a pre-formed row. Row should be formed several days ahead of planting and treating to allow maximum weed emergence. Use a nonionic surfactant at a rate of 16 to 32 oz per 100 gal spray mix or 1 gal approved crop oil concentrate per 100 gal spray mix.
Oxyfluorfen @ 0.5 lb/A	Broadleaf weeds including Carolina geranium and cutleaf eveningprimrose and a few annual grasses	Goal 2 XL Up to 2 pt/A	Preplant burndown/preemergence application.	Plasticulture only. Apply to soil surface of pre-formed beds at least 30 days prior to transplanting crop. While incorporation is not necessary.
Napropamide @ 1 to 2 lb/A	Annual grasses and small-seeded broadleaf weeds including lambsquarters, pigweed, carpetweed, and common purslane	Devrinol 50 DF or Devrinol 2 EC 2 to 4 lb/A 2 to 4 qt/A	Preemergence.	Bareground: Apply preplant and incorporate into the soil 1 to 2 inches as soon as possible with a rototiller or tandem disk. Can be used on direct-seeded or transplanted tomatoes. See label for instructions on use. Plasticulture: Apply to a weed-free soil before laying plastic mulch. Soil should be well worked yet moist enough to permit a thorough incorporation to a depth of 2 inches. Mechanically incorporate or irrigate within 24 hours after application. If weed pressure is from small seeded annuals, apply to the surface of the bed immediately in front of the laying of plastic mulch. If soil is dry, water or sprinkle irrigate with sufficient water to wet to a depth of 2 to 4 inches before covering with plastic mulch. Between rows: Apply to a weed free soil surface between the rows (bareground or plastic mulch). Mechanically incorporate or irrigate Devrinol into the soil to a depth of 1 to 2 inches within 24 hours of application. See XT labels for information regarding delay in irrigation event.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
VEGETABLES				
Tomatoes [cont.]				
Pendimethalin @ 0.5 to 1.5 lb/A	Annual grasses and small-seeded broadleaf weeds including lambsquarters, pigweed, carpetweed, and common purslane	Prowl H20 AS 1 to 3 pt/A	Preemergence.	<p>Plasticulture In-row. May be applied as a preplant surface application or a preplant incorporated application prior to transplanting tomato.</p> <p>Bareground In-row. May be applied as a broadcast preplant surface application or preplant incorporated application prior to transplanting tomato.</p> <p>Post-directed spray. May be applied as a post-directed spray on the soil at the base of the plant, beneath plants, and between rows. Avoid direct contact with tomato foliage or stems. Do not apply over the top of tomato. PHI=21 days. Do not apply more than 3 pt per acre per season. See label for specific use rate for your soil type. Emerged weeds will not be controlled. See label for further instructions and precautions.</p>
Rimsulfuron @ 0.25 to 0.5 lb/A	Most broadleaf weeds including wild radish, common purslane, redroot and smooth pigweed	Matrix 25 WDG, Pruvix 25 WDG 1 to 2 oz/A	Postemergence.	Apply in tomatoes after the crop has at least two true leaves and weeds are small (1-inch or less) and actively growing. Add nonionic surfactant at 1 qt per 100 gal of spray solution. Do not apply within 45 days of tomato harvest. See label for further instruction.