

UGA Weed Control Programs for Yellow and Zucchini Squash in 2019

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Crop rotation, tillage, and a sound herbicide program are all critical components for long-term success. This circular focuses on developing sound herbicide programs while minimizing crop injury for production systems including: 1) seeding into bareground, 2) transplanting into bareground, and 3) transplanting into mulch. New indemnified labels for Reflex and Dual Magnum have greatly improved weed control options. Specific production practices may alter weed and crop responses; thus, *growers must evaluate these programs on limited acres until gaining experience.*

SEEDED BAREGROUND PRODUCTION:

Step 1. Control weeds prior to planting with tillage or herbicides. Apply Roundup at least 5 d before seeding at a max rate of 1.13 lb ae/A (RU PMAX = 32 oz/A) while Gramoxone can be applied up until just before crop emergence.

Step 2. Apply Reflex 8 oz/A + Curbit 12 to 20 oz/A PRE within 1 d of seeding (Fig 1). Command at 0.67 to 1 pt/A may be able to be included (refer to label for cultivar restrictions). Also, add Gramoxone if weeds have germinated.

Step 3. After the PRE herbicide is applied, *lightly irrigate at least 36 hours prior to squash emergence*. Irrigate as a means to activate the herbicide but not to move it down around the seed while germinating.

Step 4. When squash is 4" and growing normally, apply Dual Magnum overtop or directed at 8 to 12 oz/A. Delay Dual Magnum application or direct the application if plants are stressed. **DO NOT APPLY DUAL PRE** (Fig 2). If plowing, plow first followed by Dual Magnum application followed by a light irrigation for activation.

Step 4. Apply Select Max at 9 oz/A without adjuvant when grasses are 3 inches or less. 14 d PHI.

Row Middle. 1) Dual Mag. rate can be increased to 1.33 pt/A. 2) Use Sandea + surfactant for nutsedge control; do not contact crop directly. 3) Treflan up to 1.5 pt/A can be applied as a directed spray when plants are > 4 leaf; irrigate within 24 hr. 4) Roundup & Gramoxone can be applied under hoods; spray often escapes to cause serious damage, be cautious.

Fig 1. Seeded Squash Injury from Reflex applied preemergence (PRE). Tifton, GA.

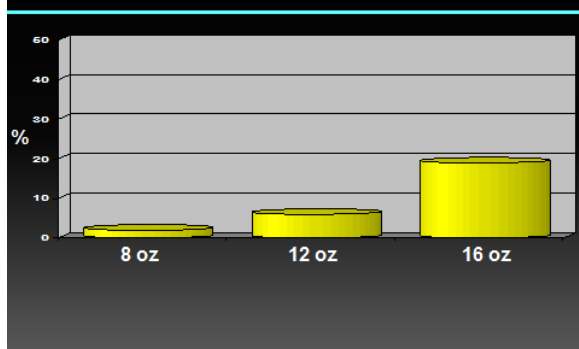
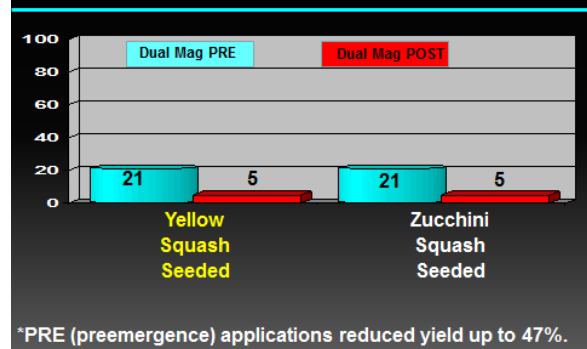


Fig 2. Yellow & Zucchini Visual Injury (%) from Dual Magnum. Tifton, GA.



Critical Thinking Points!

1. Obtain Dual Mag. & Reflex 3rd party registrations at <https://www.syngenta-us.com/labels/indemnified-label-login>
2. Command and Reflex pose serious carryover risks, check labels closely before use.
3. **DO NOT APPLY DUAL PREPLANT OR PRE (Fig 2); DO NOT APPLY REFLEX POST.**
4. Plowing is very effective; ideally plow and then apply more residual herbicides back to row middles.
5. Use conservative herbicide rates on sandy soils with low organic matter and/or with intense irrigation.
6. Curbit has the same active ingredient as Sonalan; however, Sonalan is not labeled.
7. Curbit is not labeled for pre-transplant applications or for use under mulch.
8. Always follow label restrictions of each product used; read label for potential injury or carryover concerns.

TRANSPLANT BAREGROUND PRODUCTION: Weed control is actually easier to achieve in seeded production; however, somewhat effective programs are available.

Step 1. Control all weeds prior to planting with tillage or herbicides. Gramoxone can be applied up until 24 hr before transplanting (REI for Gramoxone is 24 hr). Roundup should be applied at least 5 d prior to transplanting at a max rate of 1.13 lb ae/A (RU PMAX = 32 oz/A) and irrigation should be implemented after application and prior to transplanting.

Step 2. After preparing land to plant, apply Reflex 8 oz/A and lightly irrigate to activate the herbicide and move it into the soil preventing “splash”. Command at 0.5 to 1 pt/A may be able to be included with Reflex (refer to label for cultivar restrictions). After irrigation, prepare plant holes and plant. DO NOT include Curbit preplant, can band in row middles.

Step 3. About 10 d after planting when plants are growing normally, apply Dual Magnum topically or directed at 8 to 12 oz/A. Delay Dual Magnum application or direct application if plants are stressed. DO NOT apply pre-transplant. If plowing, plow first followed by Dual Magnum application followed by a light irrigation for activation.

Step 4. Apply Select Max at 9 oz/A without adjuvant when grasses are 3 inches or less.

Row Middle. 1) Dual Mag. rate can be increased to 1.33 pt/A. 2) Use Sandea + surfactant for nutsedge control; do not contact crop directly. 3) Treflan up to 1.5 pt/A can be applied as a directed spray when plants are > 4 leaf; irrigate within 24 hr. 4) Roundup & Gramoxone can be applied under hoods; spray often escapes to cause serious damage, be cautious.

TRANSPLANT MULCH PRODUCTION: Programs below assume 2nd crop or beyond on large bed mulch (30+inch wide bedtop; at least 4” tall). For first crop plasticulture, see the 2019 fumigant circular.

Step 1. Control previous crop and emerged weeds with metam sodium (Vapam, etc.), Roundup, Gramoxone, and/or Aim. The combination of metam and herbicides offers the most success. For the best herbicide system, apply Roundup followed by Gramoxone 5 to 7 days later. Herbicides must be removed from mulch with 0.5 inch rain/irrigation in a single event prior to planting. Avoid Roundup applications within 5 d of planting if possible.

Step 2. Apply Reflex 8 oz/A alone or with the burndown followed by 0.5” irrigation to wash the mulch before poking new holes. Bed formation must allow Reflex to wash off the mulch while not concentrating in low areas on the mulch or in “old” holes. Also, if “new” holes end up in “old” holes then injury may occur from concentrated Reflex rates. Command can be applied pre-transplant but the label does not address mulch.

Step 3. About 7-10 d after transplanting when plants are growing normally, apply Dual Magnum topically at 8 to 12 oz/A. Delay Dual Magnum application or direct application if plants are stressed. Do not apply pre-transplant.

Step 4. Apply Select Max at 9 oz/A without adjuvant when grasses are 3 inches or less.

Row Middle: Prior to planting. Chateau 4 oz/A + Dual Magnum 1.33 pt/A can be applied to the row middle avoiding contact with surface of mulch; rates are provided as broadcast so adjust for banded application. Add Roundup or Gramoxone as needed. A rainfall is needed after application but before planting.

Row Middle: After transplanting. Use Sandea + surfactant to control nutsedge without contacting crop; the addition of Roundup will improve weed control but be extremely careful to not drift on the crop. Roundup, Gramoxone, and Aim are labeled for hooded treatment as row middle applications; avoid all contact with the crop which is often difficult. Additionally, Treflan can be included as long as the crop is at least 3 inches; rainfall will be needed within 24 hr.

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Circular #

DATE: Jan 1, 2019

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914,
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