

UGA Weed Control Programs for Yellow and Zucchini Summer Squash in 2023

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Crop rotation, tillage, and a sound herbicide program are all critical components for a successful production system. Maximizing weed control while minimizing crop injury will require knowledge of the herbicides used and how they are influenced by the production practice that is being implemented; seeding into bareground, transplanting into bareground, and transplanting into “old” mulch are discussed below.

A Liberty Herbicide label for summer squash is hopeful during 2023. The herbicide pattern will be very specific to avoid crop injury! Check with your local agent for the status of this label.

SEEDED BAREGROUND PRODUCTION:

Step 1. Control weeds prior to planting with tillage or herbicides. Apply Roundup at least 3 d before seeding at a max rate of 1.13 lb ae/A (RU PMAX 3 = 30 oz/A) while paraquat can be applied up until just before crop emergence.

Step 2. Place squash seed in moist soil.

Step 3. Apply Reflex 6-8 oz/A + Curbit 12-20 oz/A preemergence within 1 d of seeding (Fig 1). Command at 11-21 fl oz/A may be able to be included (refer to label for cultivar restrictions). Also, add paraquat if weeds have germinated.

Step 4. After the preemergence 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 5. When squash is 3” and growing normally, apply Dual Magnum overtop or directed at 8 to 12 oz/A. **DO NOT APPLY DUAL** at planting (Fig 2). If plowing, plow first followed by Dual Magnum and then irrigate for activation.

Step 6. Apply Select Max at 9 oz/A without adjuvant when grasses are 3”, goosegrass 1” or less. 14 d PHI.

Row Middle. 1) Dual Magnum rate can be increased to 1.33 pt/A. 2) Use Sandea 0.75 oz/A + surfactant for nutsedge and radish; 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, paraquat, and Aim can be applied under hoods; **drift is a serious concern.**

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

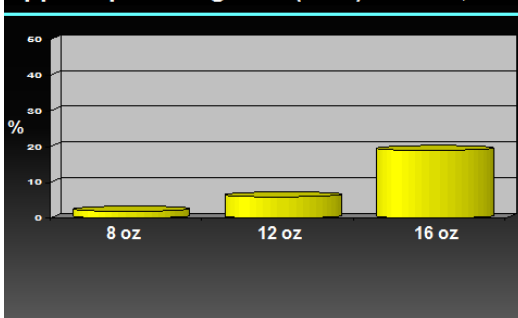
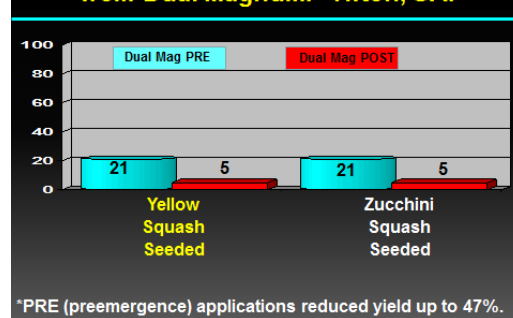


Fig 2. Yellow & Zucchini Visual Injury (%) from Dual Magnum. Tifton, GA.



Critical Thinking Points for All Production Systems!

1. The # 1 weed control mistake made by squash growers is applying the grass herbicide too late.
2. Obtain Dual Mag. & Reflex 3rd party labels at <https://www.syngenta-us.com/labels/indemnified-label-login>
3. Command and Reflex pose serious carryover risks, check labels closely before use.
4. **DO NOT** apply Dual Magnum at planting and **DO NOT** allow Reflex to contact squash foliage.
5. Plowing can be very effective; ideally plow, then apply residual herbicides back to row middles.
6. Use conservative herbicide rates on sandy soils with low organic matter and/or with intense irrigation.
7. Curbit has the same active ingredient as Sonalan; however, only Curbit is labeled for use.
8. Curbit is not labeled for pre-transplant applications or for use under mulch.
9. Always follow herbicide label recommendations and restrictions.

TRANSPLANT BAREGROUND PRODUCTION:

Step 1. Control weeds prior to planting with tillage or herbicides. Paraquat can be applied up until 24 hr before transplanting. For Roundup, apply at least 7 days prior to transplanting at a max rate of 1.13 lb ae/A (RU PMA3 = 30 oz/A) and irrigate with 0.5" after application and prior to transplanting.

Step 2. After preparing land for planting, apply Reflex 6-8 oz/A alone or with Command at 11-21 fl oz/A (see Command label to confirm its use on cultivar selected). Once the herbicide(s) is applied, lightly irrigate to activate the herbicide moving it into the soil avoiding "splash". After irrigation, prepare plant holes if desired and plant. DO NOT include Curbit preplant, it can only be banded as a row middle spray (2-3 pt/A).

Step 3. About 10 d after planting when crop is growing normally, apply Dual Magnum topically or directed at 8-12 oz/A. DO NOT apply before planting. If plowing, plow first followed by Dual Magnum and then irrigate for activation.

Step 4. Apply Select Max at 9 oz/A without adjuvant when grasses are 3", goosegrass is 1" or less. 14 d PHI.

Row Middle. 1) Dual Mag. rate can be increased to 1.33 pt/A. 2) Use Sandea 0.75 oz/A + surfactant for nutsedge and radish; 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, paraquat, and Aim can be applied under hoods; **drift is a serious concern.**

Fig 3. Residual activity of Roundup if plant lands in "old" hole vs. a "new" hole.*



*Mulch was washed after applying Roundup and before transplanting.



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TRANSPLANT MULCH PRODUCTION (2nd, 3rd crop etc.):

Step 1. Control previous crop and emerged weeds with metam sodium (Vapam, etc.), Roundup*, paraquat, and/or Aim. The combination of metam and herbicides offers the greatest potential control. The most effective herbicide burndown would include Roundup* followed by paraquat 5 to 7 days later. Reflex at 8 oz/A can be added with the burndown to provide residual control; Command is labeled pre-transplant for some cultivars but the label does not mention mulch.

*Roundup can be applied over mulch at 1.13 lb ae/A (RU PowerMax 3 = 30 oz/A) 3 or more days before transplanting or rates can be increased to 2.25 lb ae/A if applied 10 or more days prior to planting.

Step 2. All herbicides must be removed from mulch with 0.5 inch rain/irrigation in a single event prior to planting; do not punch transplant holes until after washing mulch. If "new" holes end up in "old" holes or within 6 inches of "old" holes then injury may occur from concentrated herbicide rates including Roundup (Figure 3).

Step 3. About 10 d after transplanting when crop is growing normally, apply Dual Magnum topically at 8-12 oz/A. Do not apply before transplanting.

Step 4. Apply Select Max at 9 oz/A without adjuvant when grasses are 3", goosegrass 1" or less. 14 d PHI.

Row Middle Prior to Planting: Chateau 51 WDG at 4-6 oz/A + Dual Mag. 1.33 pt/A is the ideal choice but spray must avoid contact with the mulch surface; rates are provided as broadcast so adjust for banded application. Add Roundup or paraquat as needed. A rainfall is needed after application but before planting to move the residual herbicides into the soil.

Row Middle After Transplanting: Sandea 0.75 oz/A + surfactant can be used to control nutsedge and radish. Treflan, up to 1.5 pt/A, also can be applied to row middles as long as the crop has at least 4 leaves, irrigation or rainfall needed within 24 hr. Roundup, paraquat, and Aim can be applied under hoods; **drift is a serious concern.**

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