UGA Weed Control Programs for Watermelon in 2015

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Crop rotation, tillage, and a sound herbicide program are all often critical components for long-term success. This circular focuses on developing sound herbicide programs while minimizing crop injury when 1) transplanting into small-bed flat mulch, 2) transplanting into bareground, and 3) seeding into bareground. Large raised-bed mulch production is not addressed but that information can be found on the methyl bromide alternatives circular found at gaweed.com or at your local Extension office. It is critical for growers to understand that their specific production practices may alter weed and crop responses; thus, ***growers must evaluate these programs on limited acres until gaining experience.***

TRANSPLANT SMALL-BED MULCH PRODUCTION:

Step 1. If significant weed infestations are expected, the addition of metam sodium (Vapam, others) for the control of small-seeded grass and broadleaf weeds (≥ 50 GPA broadcast rate) and nutsedge (75 GPA broadcast rate) will be, by far, the most effective option under the mulch. Telone II may also be needed for nematodes.

Step 2. After laying mulch over a bed that facilitates herbicidal removal with washing and before punching transplant holes (Figures 1 and 2), broadcast Reflex (12 oz/A), Sinbar (3-4 oz/A), and/or Curbit (1.5-2 pt/A) over the mulch and bare soil. Include Gramoxone or Roundup to control emerged weeds, if needed.

Step 3. All herbicides must be removed from mulch prior to transplanting with a single 0.5" rain/irrigation event. All herbicides, except glyphosate, can be applied any time prior to planting; do not apply glyphosate within 7 d of planting.

Step 4. Apply Select Max at 9-10 oz/A without adjuvant when grasses are ≤ 3"; do not apply within 14 d of harvest.

Step 5. Dual Magnum (12-16 oz/A), Sandea (0.75 oz/A) and/or Treflan (1-1.5 pt/A) can be applied to row middles for additional residual control and emerged nutsedge control; residual will likely be beneficial after plowing.

NOTE FOR UNDER MULCH APPLICATIONS: *Reflex, Sinbar, and/or Sandea can be applied under mulch as long as the treated bed is not disturbed during the plastic laying process. Herbicides under mulch are not as effective as on bare soil. If using Sandea, delay planting at least 7 d after application; no planting interval is needed with Reflex or Sinbar.*

Figure 1. Mulch must be free of holes and beds must be formed allowing irrigation/rain to wash herbicides off mulch.

Figure 2. Bed formation allowing herbicides to puddle can result in injury; holes allowing herbicide under mulch is problematic.

TRANSPLANT BAREGROUND PRODUCTION:

Step 1. Prepare land for transplanting, but do not poke transplant holes. Broadcast Sinbar (3-4 oz/A) and/or Reflex (12 oz/A) plus Gramaxone at any time prior to planting. Roundup can be used instead of Gramoxone as long as it is applied at least 3 d prior to planting. Sandea (0.67 oz/A) may be included but application must be 7 d prior to planting.

Step 2. Irrigate to activate herbicides and to move them into the soil, thereby reducing injury potential.

Step 3. Poke hole and transplant.

Step 4. After planting, irrigate to maintain a perfect stand but limit irrigations to as few as possible during first 2 wks.

Step 5. Apply Select Max at 9-10 oz/A without adjuvant when grasses are ≤ 3"; do not apply within 14 d of harvest.

Step 6. Dual Magnum (12-16 oz/A), Sandea (0.75 oz/A) and/or Treflan (1-1.5 pt/A) can be applied to row middles for additional residual control and emerged nutsedge control; residual herbicide will likely be beneficial after plowing.

Note: *Curbit is only labeled for use between watermelon rows in bareground transplant production.*

SEEDED BAREGROUND PRODUCTION:

Step 1. After seeding watermelon into a weed-free environment with excellent moisture, apply Sinbar (3-4 oz/A), Reflex (12 oz/A), and/or Curbit (12-20 oz/A); include Gramoxone if weeds are emerged.

Step 2. Lightly irrigate at least 36 hours prior to watermelon emergence; this will activate herbicides while preventing their movement down around the seed. Avoid irrigation during emergence as injury from splash can be severe.

Step 3. After planting, irrigate to maintain a perfect stand but limit irrigations to as few as possible during first 2 wks.

Step 4. Apply Select Max at 9-10 oz/A without adjuvant when grasses are ≤ 3"; do not apply within 14 d of harvest.

Step 5. Dual Magnum (12-16 oz/A), Sandea (0.75 oz/A) and/or Treflan (1-1.5 pt/A) can be applied to row middles for additional residual control and emerged nutsedge control; residual herbicide will likely be beneficial after plowing.

OTHER CRITICAL THINKING POINTS!

1. Dual Magnum and Reflex have third party registrations and labels must be obtained from www.farmassist.com

2. Reflex poses very serious carryover concerns to certain crops; Sinbar also poses some carryover concerns. When applied under mulch, carryover of these herbicides is greatly increased (Figure 3).

3. Use conservative herbicide rates when planting on sandy soils with low organic matter and/or intense irrigation.

4. Dual Magnum should not be applied within 6" of the transplant root ball or seed; do not apply within 60 d of harvest.

5. Neither Sandea nor Reflex should ever contact emerged watermelon foliage.

6. Treflan should be directed or applied in row middles after the crop has 3 to 4 true leaves.

7. Metam sodium (Vapam, etc.) requires a fumigant management plan (FMP).

8. Always follow label restrictions of each product used; read label for potential injury or carryover concerns.

Figure 3. Carryover risk with Reflex under mulch greatly increased.

Figure 4. Watermelon/Cotton Intercropping.

WATERMELON/COTTON INTERCROPPING (Figure 4):

1) Do not use Sinbar as it will kill cotton.
2) Sandea is not labeled for cotton and cotton stunting may occur.
3) An effective system might include the following: Treflan + Reflex preplant, wash mulch, transplant melons, plow row middles (if needed), plant cotton into weed-free melon row middles just prior to melon vines leaving mulch top, and apply Treflan as a banded PRE application to cotton while directing spray to melons. If cotton emerges prior to melon vines reaching row middles, one can apply Dual Magnum as a banded overtop application to emerged cotton without directly contacting melon vines. Select Max may be applied topically to melons and cotton.

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