# University of Georgia

**Squash and watermelon response to Sandea applied over mulch prior to planting.**

Trial ID: Veg6-14 Study Dir.: Stanley Culpepper
Location: Ponder Farm 5160 Investigator: Stanley Culpepper

Use 1.5 liters(s) per treatment mixture to spray 14.8 gal/ac
Plots: 6 by 30 feet

| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | Appl Code | Amt Product to Measure | Plot No. By Rep 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sandea | 75 | DF | 3 | oz/a | 23DBP | A | 2.277 g/mx | 101 | 204 | 303 | 401 |
| | NIS | | L | 0.25 | % v/v | 23DBP | A | 3.75 ml/mx | | | | |
| 2 | Sandea | 75 | DF | 1.5 | oz/a | 23DBP | A | 1.139 g/mx | 102 | 205 | 306 | 402 |
| | NIS | | L | 0.25 | % v/v | 23DBP | A | 3.75 ml/mx | | | | |
| 3 | Sandea | 75 | DF | 1.5 | oz/a | 14DBP | B | 1.139 g/mx | 103 | 202 | 304 | 403 |
| | NIS | | L | 0.25 | % v/v | 14DBP | B | 3.75 ml/mx | | | | |
| 4 | Sandea | 75 | DF | 1.5 | oz/a | 7DBP | C | 1.139 g/mx | 104 | 201 | 305 | 404 |
| | NIS | | L | 0.25 | % v/v | 7DBP | C | 3.75 ml/mx | | | | |
| 5 | Sandea | 75 | DF | 1.5 | oz/a | 0DBP | D | 1.139 g/mx | 105 | 206 | 302 | 405 |
| | NIS | | L | 0.25 | % v/v | 0DBP | D | 3.75 ml/mx | | | | |
| 6 | None | | | | | | | | 106 | 203 | 301 | 406 |

Sort Order: Treatment

Trial Comments

**OBJECTIVE:** Develop a Sandea label for preplant applications over plasticulture.

**APPLICATION DATES:**
1. 23 DBP March 19
2. 14 DBP March 28
3. 7 DBP April 4
4. 1 DBP April 10

**RAINFALL:**
***Before transplant:***
1. March 28 = 1.07 inch
2. March 29 = 0.23 inch
3. April 5 = 0.05 inch
4. April 6 = 1.32 inch
5. April 7 = 2.39 inch

***First week after transplant:***
April 15: 1.25 inch
April 18: 2.98 inch

**WATERMELON:**

***VISUAL INJURY:***
1. Watermelon injury, primarily stunting, was up to 10% but only when Sandea was applied 1 d prior to transplant.

***RUNNER LENGTHS:***
1. Runner lengths were taken 3 times during the season.
2. Shorter runner lengths were noted at two of the three later evaluations with Sandea but only when applied 1 d prior to transplant.

***BIOMASS:***
1. Biomass of 6 plants was taken 27 days after transplanting.
2. Compared to the control, only the Sandea application 1 d prior to transplanting reduced biomass.

**SQUASH:**

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***VISUAL INJURY:***
1. Squash was injured, primarily stunting, up to 16% but only when Sandea was applied 1 d prior to planting.

***HEIGHTS:***
1. Heights were taken 3 times during the season.
2. Shorter heights were noted at two of the three later evaluations with Sandea but only when applied 1 d prior to transplant.

***BIOMASS:***
1. Biomass was taken 27 and 43 d after transplant.
2. At 27 d, lower biomass values werenoted with Sandea applied 1 d before transplant. An obvious and similar trend was noted at 43 d.

***YIELD:***
1. Squash was harvested 8 times for marketable fruit.
2. When compared to the control:
   A. Early harvests (1-4) noted fewer fruit number and weights with Sandea applied 1 d prior to transplant when compared to the control.
   B. No yield differences were noted when including all 8 harvests; although there was still a trend for less fruit when Sandea was applied 1 d prior to transplant.

**GENERAL COMMENTS:**
1. Over 3.5 inches of rain fell on applications made at 7, 14, and 23 d prior to transplant. The first rain that occurred for the 1 d preplant application actually occurred 4 d after transplanting.

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Trial ID: Veg6-14 Study Dir.: Stanley Culpepper
Location: Ponder Farm 5160 Investigator: Stanley Culpepper

| Trt No. | Treatment Name | Rate | Rate Unit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Weed Code | | | CITLA | CITLA | CITLA | CITLA | CITLA | | CUUPE | CUUPE | CUUPE | CUUPE |
| | Crop Code | | | INJURY | INJURY | INJURY | INJURY | INJURY | | INJURY | INJURY | INJURY | INJURY |
| | Rating Data Type | | | % | % | % | % | % | | % | % | % | % |
| | Rating Unit | | | 4/17/2014 | 4/24/2014 | 5/1/2014 | 5/8/2014 | 5/15/2014 | | 4/17/2014 | 4/24/2014 | 5/1/2014 | 5/8/2014 |
| | Rating Date | | | | | | | | | | | | |
| | Crop Stage | | | SC | SC | SC | SC | SC | | SC | SC | SC | SC |
| | Assessed By | | | 7 DA-D | 14 DA-D | 21 DA-D | 28 DA-D | 35 DA-D | | 29 DA-A | 14 DA-D | 21 DA-D | 28 DA-D |
| | Trt-Eval Interval | | | | | | | | | | | | |
| | ARM Action Codes | | | | | | | | | | | | |
| | # Subsamples, Dec. | | | | | | | | | | | | |
| 1 | Sandea | 3 | oz/a | 0.0 a | 0.0 b | 0.0 b | 0.0 b | 0.0 a | | 0.0 a | 0.0 b | 0.0 b | 0.0 b |
| | NIS | 0.25 | % v/v | | | | | | | | | | |
| 2 | Sandea | 1.5 | oz/a | 0.0 a | 0.0 b | 0.0 b | 0.0 b | 0.0 a | | 0.0 a | 0.0 b | 0.0 b | 0.0 b |
| | NIS | 0.25 | % v/v | | | | | | | | | | |
| 3 | Sandea | 1.5 | oz/a | 0.0 a | 0.0 b | 0.0 b | 0.0 b | 0.0 a | | 0.0 a | 0.0 b | 0.0 b | 0.0 b |
| | NIS | 0.25 | % v/v | | | | | | | | | | |
| 4 | Sandea | 1.5 | oz/a | 0.0 a | 0.0 b | 0.0 b | 0.0 b | 0.0 a | | 0.0 a | 0.0 b | 0.0 b | 0.0 b |
| | NIS | 0.25 | % v/v | | | | | | | | | | |
| 5 | Sandea | 1.5 | oz/a | 0.0 a | 3.8 a | 7.5 a | 10.0 a | 0.0 a | | 0.0 a | 12.5 a | 16.3 a | 6.3 a |
| | NIS | 0.25 | % v/v | | | | | | | | | | |
| 6 | None | | | 0.0 a | 0.0 b | 0.0 b | 0.0 b | 0.0 a | | 0.0 a | 0.0 b | 0.0 b | 0.0 b |
| | LSD (P=.05) | | | 0.00 | 0.92 | 1.78 | 0.00 | 0.00 | . | 0.00 | 3.08 | 1.54 | 1.54 |
| | Standard Deviation | | | 0.00 | 0.61 | 1.18 | 0.00 | 0.00 | . | 0.00 | 2.04 | 1.02 | 1.02 |
| | CV | | | 0.0 | 97.98 | 94.28 | 0.0 | 0.0 | . | 0.0 | 97.98 | 37.68 | 97.98 |
| | Bartlett's X2 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | . | 0.0 | 0.0 | 0.0 | 0.0 |
| | P(Bartlett's X2) | | | . | . | . | . | . | . | . | . | . | . |
| | Replicate F | | | 0.000 | 1.000 | 1.000 | 0.000 | 0.000 | | 0.000 | 1.000 | 1.000 | 1.000 |
| | Replicate Prob(F) | | | 1.0000 | 0.4199 | 0.4199 | 1.0000 | 1.0000 | | 1.0000 | 0.4199 | 0.4199 | 0.4199 |
| | Treatment F | | | 0.000 | 25.000 | 27.000 | 0.000 | 0.000 | | 0.000 | 25.000 | 169.000 | 25.000 |
| | Treatment Prob(F) | | | 1.0000 | 0.0001 | 0.0001 | 1.0000 | 1.0000 | | 1.0000 | 0.0001 | 0.0001 | 0.0001 |

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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| Weed Code | | | | CUUPE | AVG10PLA | AVG10PLA | AVG6PLAN | BIOMASS | AVG10PLA | AVG10PLA | AVG10PLA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Code | | | | CITLA | CITLA | CITLA | CITLA | CITLA | CUUPE | CUUPE | CUUPE |
| Rating Data Type | | | | INJURY | HEIGHTS | HEIGHTS | HEIGHTS | BIOMASS | HEIGHTS | HEIGHTS | HEIGHTS |
| Rating Unit | | | | % | CM | CM | CM | LBS/PLOT | CM | CM | CM |
| Rating Date | | | | 5/15/2014 | 4/15/2014 | 5/5/2014 | 5/12/2014 | 5/7/2014 | 4/15/2014 | 5/5/2014 | 5/12/2014 |
| Crop Stage | | | | | AVERAGE | AVERAGE | AVERAGE | 6 PLANTS | AVERAGE | AVERAGE | AVERAGE |
| Assessed By | | | | SC | | | | | | | |
| Trt-Eval Interval | | | | 35 DA-D | 5 DA-D | 25 DA-D | 32 DA-D | 27 DA-D | 5 DA-D | 25 DA-D | 32 DA-D |
| ARM Action Codes | | | | | | T1 | T2 | | | | |
| # Subsamples, Dec. | | | | | 1 | 1 | 1 | | 1 | 1 | 1 |
| Trt No. | Treatment Name | Rate | Rate Unit | 11 | 23 | 36 | 45 | 48 | 61 | 74 | 83 |
| 1 | Sandea | 3 | oz/a | 0.0 b | 16.2 a | 48.7 ab | 108.1 a | 1.23 a | 7.3 a | 21.4 a | 38.0 a |
| | NIS | 0.25 | % v/v | | | | | | | | |
| 2 | Sandea | 1.5 | oz/a | 0.0 b | 15.3 a | 48.8 a | 112.8 a | 1.13 a | 6.7 a | 21.3 a | 37.3 a |
| | NIS | 0.25 | % v/v | | | | | | | | |
| 3 | Sandea | 1.5 | oz/a | 0.0 b | 18.6 a | 45.1 c | 110.0 a | 1.13 a | 7.0 a | 21.9 a | 36.0 a |
| | NIS | 0.25 | % v/v | | | | | | | | |
| 4 | Sandea | 1.5 | oz/a | 0.0 b | 16.0 a | 48.5 ab | 110.5 a | 1.15 a | 6.6 a | 20.5 a | 36.4 a |
| | NIS | 0.25 | % v/v | | | | | | | | |
| 5 | Sandea | 1.5 | oz/a | 3.5 a | 14.8 a | 41.3 d | 86.9 b | 0.75 b | 6.2 a | 16.7 b | 31.5 b |
| | NIS | 0.25 | % v/v | | | | | | | | |
| 6 | None | | | 0.0 b | 14.9 a | 45.5 bc | 108.8 a | 1.20 a | 7.2 a | 20.7 a | 35.9 a |
| LSD (P=.05) | | | | 0.62 | 5.44 | 3.23 | 15.06 | 0.195 | 0.79 | 1.51 | 3.44 |
| Standard Deviation | | | | 0.41 | 3.61 | 2.14 | 9.99 | 0.129 | 0.52 | 1.00 | 2.28 |
| CV | | | | 69.99 | 22.66 | 4.63 | 9.41 | 11.81 | 7.66 | 4.92 | 6.37 |
| Bartlett's X2 | | | | 0.0 | 24.523 | 1.651 | 11.78 | 9.246 | 1.165 | 3.405 | 4.279 |
| P(Bartlett's X2) | | | | . | 0.001* | 0.895 | 0.038* | 0.10 | 0.948 | 0.638 | 0.51 |
| Replicate F | | | | 1.000 | 0.251 | 15.063 | 3.594 | 2.612 | 9.292 | 9.558 | 9.762 |
| Replicate Prob(F) | | | | 0.4199 | 0.8596 | 0.0001 | 0.0389 | 0.0896 | 0.0010 | 0.0009 | 0.0008 |
| Treatment F | | | | 49.000 | 0.610 | 7.632 | 3.670 | 7.249 | 2.291 | 14.001 | 3.958 |
| Treatment Prob(F) | | | | 0.0001 | 0.6941 | 0.0010 | 0.0228 | 0.0012 | 0.0979 | 0.0001 | 0.0173 |

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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| | | | | BIOMASS1 | | BIOMASS2 | | HAR 1-4 | | HAR 1-4 | | HAR 1-8 | | HAR 1-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weed Code | | | | CUUPE | | CUUPE | | CUUPE | | CUUPE | | CUUPE | | CUUPE | |
| Crop Code | | | | BIOMASS | | BIOMASS | | HARVEST | | HARVEST | | HARVEST | | HARVEST | |
| Rating Data Type | | | | LBS/PLOT | | LBS/PLOT | | #/PLOT | | LB/PLOT | | #/PLOT | | LB/PLOT | |
| Rating Unit | | | | 5/7/2014 | | 5/23/2014 | | | | | | | | | |
| Rating Date | | | | 6 PLANTS | | 6 PLANTS | | HAR 1-4 | | HAR 1-4 | | TOTALS | | TOTALS | |
| Crop Stage | | | | | | | | | | | | | | | |
| Assessed By | | | | | | | | | | | | | | | |
| Trt-Eval Interval | | | | 27 DA-D | | 43 DA-D | | | | | | | | | |
| ARM Action Codes | | | | | | | | T3 | | T4 | | | | T5 | |
| # Subsamples, Dec. | | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Rate | Rate Unit | 86 | | 88 | | 110 | | 111 | | 113 | | 114 | |
| 1 | Sandea | 3 | oz/a | 3.93 | a | 22.75 | a | 36.5 | ab | 5.90 | a | 44.3 | a | 8.15 | a |
| | NIS | 0.25 | % v/v | | | | | | | | | | | | |
| 2 | Sandea | 1.5 | oz/a | 3.50 | a | 21.23 | a | 31.5 | bc | 5.03 | a | 46.3 | a | 8.60 | a |
| | NIS | 0.25 | % v/v | | | | | | | | | | | | |
| 3 | Sandea | 1.5 | oz/a | 3.88 | a | 23.13 | a | 37.3 | a | 5.53 | a | 45.5 | a | 7.68 | a |
| | NIS | 0.25 | % v/v | | | | | | | | | | | | |
| 4 | Sandea | 1.5 | oz/a | 3.55 | a | 22.43 | a | 30.3 | c | 4.68 | a | 43.8 | a | 7.55 | a |
| | NIS | 0.25 | % v/v | | | | | | | | | | | | |
| 5 | Sandea | 1.5 | oz/a | 2.23 | b | 16.10 | b | 22.0 | d | 3.23 | b | 36.0 | a | 6.25 | a |
| | NIS | 0.25 | % v/v | | | | | | | | | | | | |
| 6 | None | | | 3.65 | a | 19.40 | ab | 32.0 | abc | 5.48 | a | 41.0 | a | 7.58 | a |
| LSD (P=.05) | | | | 0.666 | | 3.860 | | 5.73 | | 1.276 | | 7.21 | | 1.575 | |
| Standard Deviation | | | | 0.442 | | 2.562 | | 3.80 | | 0.847 | | 4.79 | | 1.045 | |
| CV | | | | 12.79 | | 12.29 | | 12.04 | | 17.04 | | 11.18 | | 13.7 | |
| Bartlett's X2 | | | | 6.112 | | 8.128 | | 1.856 | | 6.533 | | 7.467 | | 5.206 | |
| P(Bartlett's X2) | | | | 0.295 | | 0.149 | | 0.869 | | 0.258 | | 0.188 | | 0.391 | |
| Replicate F | | | | 11.945 | | 2.323 | | 7.200 | | 5.021 | | 0.492 | | 0.332 | |
| Replicate Prob(F) | | | | 0.0003 | | 0.1164 | | 0.0032 | | 0.0132 | | 0.6932 | | 0.8021 | |
| Treatment F | | | | 8.030 | | 4.397 | | 8.300 | | 5.091 | | 2.504 | | 2.289 | |
| Treatment Prob(F) | | | | 0.0007 | | 0.0115 | | 0.0006 | | 0.0063 | | 0.0771 | | 0.0982 | |

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# University of Georgia

**Squash and watermelon response to Sandea applied over mulch prior to planting.**

Trial ID: Veg6-14 Study Dir.: Stanley Culpepper
Location: Ponder Farm 5160 Investigator: Stanley Culpepper

## GENERAL TRIAL INFORMATION

**Study Director:** Stanley Culpepper **Title:** EXT. WEED SCIENCE
**Affiliation:** University of Georgia
**Postal Code:** 31794
**Investigator:** Stanley Culpepper **Title:** EXT. WEED SCIENCE
**Affiliation:** University of Georgia
**Postal Code:** 31794

## TRIAL LOCATION

**City:** TYTY **Trial Status:** COMPLETED
**State/Prov.:** GEORGIA **Trial Reliability:** GOOD
**Postal Code:** 31795 **Initiation Date:** 3/19/2014
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Crop 1:** CITLA WATERMELON **Variety:** FASCINATION
**Planting Date:** 4/11/2014 **Planting Method:** TRANSPLANT
**Rate:** 1 2 ft
**Row Spacing:** 6 FT **Spacing Within Row:** 24 IN **Seed Bed:** plastic
**Soil Temperature:** 76 F **Soil Moisture:** MOIST

**Crop 2:** CUUPE SQUASH **Variety:** GENTRY
**Planting Date:** 4/11/2014 **Planting Method:** TRANSPLANT
**Rate:** 1 ft
**Row Spacing:** 6 FT **Spacing Within Row:** 12 IN **Seed Bed:** plastic
**Soil Temperature:** 76 F **Soil Moisture:** MOIST

## SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 30 FT **Reps:** 4
**Site Type:** UGA PONDER RESEARCH FARM
**Tillage Type:** PLASTICULTURE **Study Design:** RANDOMIZED COMPLETE BLOCK

## SOIL DESCRIPTION

**% Sand:** 87.60 **% OM:** 0.52 **Texture:** SAND
**% Silt:** 10.00 **pH:** 6.7
**% Clay:** 2.40 **CEC:** 4.2

**Overall Moisture Conditions:** MOIST
**Closest Weather Station:** www.griffin.uga.edu/aemn/ **Distance:** 100 **Unit:** yd

## APPLICATION DESCRIPTION

| | A | B | C | D |
|---|---|---|---|---|
| **Application Date:** | 3/19/2014 | 3/28/2014 | 4/4/2014 | 4/10/2014 |
| **Time of Day:** | 11:45 AM | 11 AM | 2 PM | 3 PM |
| **Application Method:** | BROADCAST | BROADCAST | BROADCAST | BROADCAST |
| **Application Timing:** | 22 DBP | 13 DBP | 6 DBP | 1 DPB |
| **Applic. Placement:** | ON MULCH | ON MULCH | ON MULCH | ON MULCH |
| **Air Temp., Unit:** | 55 F | 64 F | 80 F | 77 F |
| **% Relative Humidity:** | 85 | 75 | 48 | 43 |
| **Wind Velocity, Unit:** | 1 MPH | 1 MPH | 1 MPH | 3 MPH |
| **Dew Presence (Y/N):** | N | N | N | N |
| **Soil Temp., Unit:** | 60 F | 66 F | 76 F | 76 F |
| **Soil Moisture:** | MOIST | MOIST | MOIST | MOIST |
| **% Cloud Cover:** | 100 | 0 | 0 | 0 |

## CROP STAGE AT EACH APPLICATION

| | A | B | C | D |
|---|---|---|---|---|
| **Crop 1 Code, Stage:** | CITLA | CITLA | CITLA | CITLA |
| **Stage Scale:** | preplant | preplant | preplant | preplant |
| **Height, Unit:** | 0 inch | 0 inch | 0 inch | 0 inch |
| **Crop 2 Code, Stage:** | CUUPE | CUUPE | CUUPE | CUUPE |
| **Stage Scale:** | preplant | preplant | preplant | preplant |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Height, Unit:** | 0 | inch | 0 | inch | 0 | inch | 0 | inch |

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**APPLICATION EQUIPMENT**

| | A | B | C | D |
|---|---|---|---|---|
| **Appl. Equipment:** | BACKPACK | BACKPACK | BACKPACK | BACKPACK |
| **Operating Pressure:** | 26 | 26 | 26 | 26 |
| **Nozzle Type:** | AIXR | AIXR | AIXR | AIXR |
| **Nozzle Size:** | 11002 | 11002 | 11002 | 11002 |
| **Nozzle Spacing, Unit:** | 18 IN | 18 IN | 18 IN | 18 IN |
| **Nozzles/Row:** | 4 | 4 | 4 | 4 |
| **Boom Length, Unit:** | 4.5 FT | 4.5 FT | 4.5 FT | 4.5 FT |
| **Boom Height, Unit:** | 16 IN | 16 IN | 16 IN | 16 IN |
| **Ground Speed, Unit:** | 3 MPH | 3 MPH | 3 MPH | 3 MPH |
| **Carrier:** | WATER | WATER | WATER | WATER |
| **Spray Volume, Unit:** | 15 GPA. | 15 GPA. | 15 GPA. | 15 GPA. |
| **Propellant:** | CO2 | CO2 | CO2 | CO2 |
| **Tank Mix (Y/N):** | Y | Y | Y | Y |