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Cotton defoliation with Finish, Resource, and Aim.

Trial ID: C59-05

Study Dir.: Stanley Culpepper

Location: Ponder farm

Investigator: Stanley Culpepper

Reps: 4

Plots: 6 by 25 feet

Spray vol: 14.8 gal/ac

Mix size: 1 liters (min .77168)

| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Grow Unit | Appl Stg | Code | Amt Product to Measure | Plot No. By Rep | | | |
|---------|----------------|-----------|-----------|-------|-----------|----------|------|------------------------|-----------------|-----|-----|-----|
| | | | | | | | | | 1 | 2 | 3 | 4 |
| 1 | Finish | 6 | L | 1.5 | pt/a | def | A | 12.67 ml/mx | 101 | 205 | 304 | 406 |
| | Ginstar | | L | 4 | oz/a | def | A | 2.111 ml/mx | | | | |
| 2 | Finish | 6 | L | 1.5 | pt/a | def | A | 12.67 ml/mx | 102 | 204 | 303 | 401 |
| | Dropp SC | | L | 0.125 | pt/a | def | A | 1.056 ml/mx | | | | |
| | Def | | L | 4 | oz/a | def | A | 2.111 ml/mx | | | | |
| 3 | Non-treated | | | | | | | | 103 | 206 | 301 | 405 |
| 4 | Resource | 0.86 | EC | 6 | oz/a | def | A | 3.167 ml/mx | 104 | 203 | 302 | 403 |
| | Prep | | L | 1.3 | pt/a | def | A | 10.98 ml/mx | | | | |
| | COC | | L | 1 | pt/a | def | A | 8.445 ml/mx | | | | |
| 5 | Resource | 0.86 | EC | 4 | oz/a | def | A | 2.111 ml/mx | 105 | 201 | 306 | 402 |
| | Finish | | L | 1.3 | pt/a | def | A | 10.98 ml/mx | | | | |
| | COC | | L | 1 | pt/a | def | A | 8.445 ml/mx | | | | |
| 6 | Aim | 2 | EC | 1 | oz/a | def | A | 0.5279 ml/mx | 106 | 202 | 305 | 404 |
| | Finish | | L | 1.3 | pt/a | def | A | 10.98 ml/mx | | | | |
| | COC | | L | 1 | pt/a | def | A | 8.445 ml/mx | | | | |

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

| Amount* | Unit | Treatment Name | Lot Code |
|---------|------|------------------|----------|
| 59.115 | ml | Finish 6 L | |
| 2.639 | ml | Ginstar L | |
| 1.320 | ml | Dropp SC L | |
| 2.639 | ml | Def L | |
| 6.598 | ml | Resource 0.86 EC | |
| 13.723 | ml | Prep L | |
| 31.669 | ml | COC L | |
| 0.660 | ml | Aim 2 EC | |

* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

Trial Comments

OBJECTIVE: Compare several defoliation products on DP 555 B/RR.

Visual defoliation:

- At 5 d after treatment, all treatments caused 73 to 82% leaf defoliation.
- At 10 d after treatment, Finish plus Ginstar was the only treatment providing at least 90% defoliation. Statistically, Aim plus Finish and Finish plus Dropp plus Def provided a similar percent defoliation.
- By 21 d after treatment, Finish plus Ginstar provided 97% defoliation. Again statistically, Aim plus Finish and Finish plus Dropp plus Def provided a similar percent defoliation.

Percent open bolls:

- At time of defoliation, open boll percentage were similar in all plots ranging from 48.6 to 52% open.
- Cotton was rapidly maturing and no treatment increased the percent of open bolls compared to the non-treated.

Cotton regrowth:

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1. Regrowth was extremely variable.
2. There were no differences when comparing defoliant.
3. As usual, there was more regrowth on cotton treated with any defoliant when compared to the non-treated control which still had 35% of its leaves on the plant at this evaluation timing.

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Trial ID: C59-05

Study Dir.: Stanley Culpepper

Location: Ponder farm

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| Weed Code | visual cotton | visual cotton | visual cotton | cotton greenboll | cotton openboll | Totalbol cotton green/open | * cotton open boll | cotton greenboll | | |
|--------------------|---------------------------|----------------------------------|------------------|---------------------|--------------------|----------------------------------|--------------------------|---------------------|-------|-------|
| Rating Data Type | defoliation | defoliation | defoliation | # | # | # | percent | # | | |
| Rating Unit | percent | percent | percent | | | | | | | |
| Rating Date | Sep-23-05 | Sep-28-05 | Oct-08-05 | Sep-18-05 | Sep-18-05 | Sep-18-05 | Sep-18-05 | Sep-23-05 | | |
| Trt-Eval Interval | 5 DA-A | 10 DA-A | 20 DA-A | 0 DA-A | 0 DA-A | 0 DA-A | 0 DA-A | 5 DA-A | | |
| ARM Action Codes | | | | | | T1 | T2 | | | |
| # Subsamples, Dec. | | | | | | | 1 | | | |
| Trt No. | Treatment Name | Rate | Rate | Rate | Rate | Rate | Rate | Rate | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | |
| 1 | Finish Ginstar | 1.5 pt/a 4 oz/a | 78 | 90 | 97 | 71 | 77 | 148 | 52.0 | 57 |
| 2 | Finish Dropp SC Def | 1.5 pt/a 0.125 pt/a 4 oz/a | 73 | 84 | 91 | 68 | 64 | 132 | 48.6 | 64 |
| 3 | Non-treated | | 23 | 18 | 65 | 77 | 74 | 151 | 49.0 | 69 |
| 4 | Resource Prep COC | 6 oz/a 1.3 pt/a 1 pt/a | 73 | 79 | 83 | 73 | 77 | 150 | 51.4 | 69 |
| 5 | Resource Finish COC | 4 oz/a 1.3 pt/a 1 pt/a | 78 | 79 | 78 | 68 | 70 | 138 | 50.6 | 49 |
| 6 | Aim Finish COC | 1 oz/a 1.3 pt/a 1 pt/a | 82 | 82 | 90 | 63 | 68 | 131 | 51.6 | 54 |
| LSD (P=.05) | | | 11.3 | 9.8 | 11.2 | 21.8 | 19.0 | 19.8 | 11.96 | 18.2 |
| Standard Deviation | | | 7.5 | 6.5 | 7.5 | 14.5 | 12.6 | 13.1 | 7.94 | 12.1 |
| CV | | | 11.12 | 9.08 | 8.9 | 20.7 | 17.59 | 9.28 | 15.71 | 20.12 |

Means followed by same letter do not significantly differ (P=.05, LSD)

Column 6: T1 = [C4]+[C5]

Column 7: T2 = (([C6]-[C4])/[C6])*100

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| | | | | | | |
|--------------------|------------|-----------|-----------|-----------|-----------|-----------|
| Weed Code | * | | * | | * | |
| Crop Code | cotton | cotton | cotton | cotton | cotton | cotton |
| Rating Data Type | open boll | greenboll | open boll | greenboll | open boll | regrowth |
| Rating Unit | percent | # | percent | # | percent | percent |
| Rating Date | Sep-23-05 | Sep-28-05 | Sep-23-05 | Oct-08-05 | Sep-23-05 | Oct-08-05 |
| Trt-Eval Interval | 5 DA-A | 10 DA-A | 5 DA-A | 20 DA-A | 5 DA-A | 20 DA-A |
| ARM Action Codes | T3 | | T4 | | T5 | |
| # Subsamples, Dec. | 1 | | 1 | | 1 | |
| Trt Treatment | Rate | | | | | |
| No. Name | Rate Unit | 9 | 10 | 11 | 12 | 13 |
| 1 Finish | 1.5 pt/a | 61.3 | 39 | 73.8 | 22 | 85.3 |
| Ginstar | 4 oz/a | | | | | 13 |
| 2 Finish | 1.5 pt/a | 51.7 | 42 | 68.3 | 17 | 86.6 |
| Dropp SC | 0.125 pt/a | | | | | 14 |
| Def | 4 oz/a | | | | | |
| 3 Non-treated | | 54.8 | 52 | 66.0 | 21 | 85.5 |
| | | | | | | 3 |
| 4 Resource | 6 oz/a | 53.6 | 42 | 71.7 | 19 | 87.2 |
| Prep | 1.3 pt/a | | | | | 14 |
| COC | 1 pt/a | | | | | |
| 5 Resource | 4 oz/a | 64.6 | 34 | 75.7 | 14 | 89.9 |
| Finish | 1.3 pt/a | | | | | 18 |
| COC | 1 pt/a | | | | | |
| 6 Aim | 1 oz/a | 58.7 | 30 | 77.1 | 13 | 90.6 |
| Finish | 1.3 pt/a | | | | | 22 |
| COC | 1 pt/a | | | | | |
| LSD (P=.05) | | 12.51 | 17.8 | 11.92 | 11.1 | 8.85 |
| Standard Deviation | | 8.30 | 11.8 | 7.91 | 7.3 | 5.88 |
| CV | | 14.45 | 29.77 | 10.97 | 42.03 | 6.72 |
| | | | | | | 46.84 |

Means followed by same letter do not significantly differ (P=.05, LSD)

Column 9: T3 = $(([C6]-[C8])/[C6])*100$

Column 11: T4 = $(([C6]-[C10])/[C6])*100$

Column 13: T5 = $(([C6]-[C12])/[C6])*100$

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| No. | Date | Maintenance Treatment Name | Form Conc | Form Unit | Form Type | Rate | Rate Unit |
|-----|------|----------------------------|-----------|-----------|-----------|------|-----------|
| 1. | | | | | | | |

SOIL DESCRIPTION

% Sand: 94 % OM: 1.1 Texture: sand
 % Silt: 2 pH: 6.0 Soil Name: Tifton sandy loam
 % Clay: 4 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

| Element | Quantity | Unit |
|---------|----------|------|
| | | |

MOISTURE CONDITIONS

| No. | Date | Time | Amount | Unit | Type | Interval | Unit |
|-----|------|------|--------|------|------|----------|------|
| 1. | | | | | | | |

Overall Moisture Conditions: dry

Closest Weather Station: _____ Distance: _____ Unit: __

APPLICATION DESCRIPTION

| | A |
|----------------------|-----------|
| Application Date: | Sep-18-05 |
| Time of Day: | 9 am |
| Application Method: | broadcast |
| Application Timing: | defoliati |
| Applic. Placement: | overtop |
| Air Temp., Unit: | 81 F |
| % Relative Humidity: | 64 |
| Wind Velocity, Unit: | 0 mph |
| Dew Presence (Y/N): | y |
| Water Hardness: | |
| Soil Temp., Unit: | 81 F |
| Soil Moisture: | dry |
| % Cloud Cover: | 0 |

CROP STAGE AT EACH APPLICATION

| | A |
|---------------------|-----------|
| Crop 1 Code, Stage: | GOSHI def |
| Stage Scale: | see data |
| Height, Unit: | 44 inch |

WEED STAGE AT EACH APPLICATION

| | A |
|---------------------|---|
| Weed 1 Code, Stage: | . |
| Stage Scale: | . |
| Density, Unit: | . |

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APPLICATION EQUIPMENT

| | |
|------------------------------|----------|
| | A |
| Appl. Equipment: | backpack |
| Operating Pressure: | 23 |
| Nozzle Type: | flat fan |
| Nozzle Size: | 11002 |
| Nozzle Spacing, Unit: | 18 inch |
| Nozzles/Row: | 2 |
| Band Width, Unit: | |
| Boom Length, Unit: | 4.5 feet |
| Boom Height, Unit: | 15 inch |
| Ground Speed, Unit: | 3 mph |
| Incorporation Equip.: | |
| Hours to Incorp.: | |
| Incorp. Depth, Unit: | |
| Carrier: | water |
| Spray Volume, Unit: | 14.8 GPA |
| Spray pH: | |
| Propellant: | CO2 |
| Tank Mix (Y/N): | Y |

| Trt No | Treatment Application Comment |
|--------|-------------------------------|
| | |