EVALUATION OF SHARPEN HERBICIDE FOR HARVEST AID IN LOUISIANA COTTON PRODUCTION SYSTEMS

D.K. Miller, D.M. Dodds & M.S. Mathews
LSU AgCenter & Mississippi State University

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Introduction

Background:
One of the last, but most important, steps in producing a cotton crop is harvest preparation. Successful harvest preparation includes scheduling for defoliation and harvest operations, removal of foliage and facilitating boll opening. Successful defoliation has many benefits including increased picker efficiency, elimination of trash in harvested seedcotton, faster drying of dew thereby increasing picking hours per day, straightening of lodged plants and reduction of boll rot incidence.

Objective:
Our objective was to evaluate the effectiveness of Sharpen herbicide as a harvest aid in Louisiana and Mississippi cotton production systems.

Materials & Methods

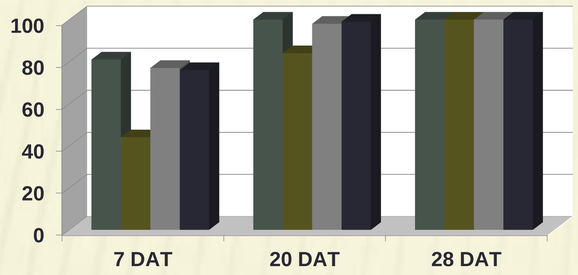
Experimental Procedure:

- Locations:
  -Northeast Research Station, St. Joseph, LA
  -Mississippi State University, Starkville, MS.
- RCB, 4 reps (both locations)
- Soils:
  -St. Joseph: Silt loam , pH 6.8
  -Starkville: Sandy loam, pH 8.0
- Cotton Planting date & Variety:
  -St. Joseph: 5/6/12, FM 1944 Glytol
  -Starkville: 5/3/12, PHY 499 WRF
- 60% OB Application:
  -St. Joseph: 9/4/12
  -Starkville: 9/12/12
- 2nd Shot Application:
  -St. Joseph: 9/13/12 (9 DAT)
  -Starkville: 9/27/12 (15 DAT)

Measurements:

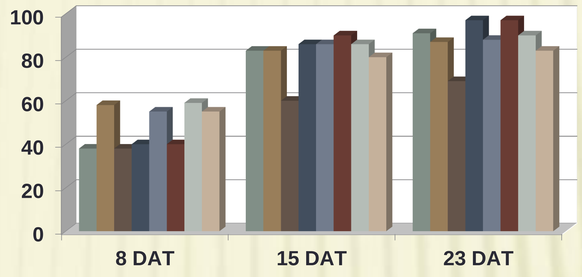
- % Defoliation & Desiccation:
  -St. Joseph: 7, 20 & 28 d after 60% OB
  -Starkville: 8, 16 & 23 d after 60% OB
- % Open Boll:
  -St. Joseph: 9, 16 & 21 d after 60% OB
  -Starkville: 8, 23 & 30 d after 60%OB

% Defoliation After the 60% Open Boll Application (St. Joseph)



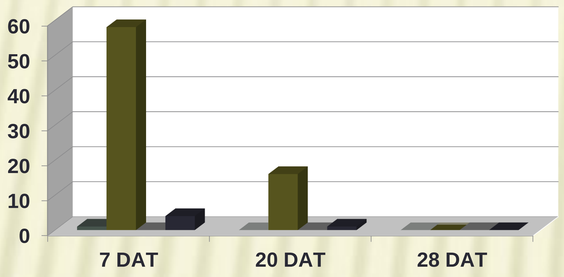
Key Results:
-At 7 DAT, the Dropp SC/Sharpen combination defoliated cotton only 44% while other treatments evaluated resulted in 76 to 81% defoliation.
-At 20 DAT, the Dropp SC/Sharpen combination resulted in 84% defoliation, which was lower than other treatments (98 to 100% defoliation).
-At 28 DAT, complete defoliation was achieved by all treatments evaluated.

% Defoliation After the 60% Open Boll Application (Starkville)



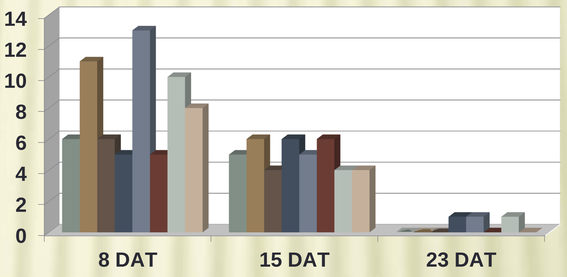
Key Results:
-AT 8 DAT, defoliation level was no greater than 59% and equal among all treatments.
-At 15 DAT, Dropp/Sharpen combination resulted in 83% defoliation which was greater than or equal to all other treatments. (60 to 90%)
-At 23 DAT, Dropp/Sharpen combination followed by Superboll resulted in 87% defoliation, which was less than that observed for Dropp followed by ET/Superboll (97%),

% Desiccation After the 60% Open Boll Application (St. Joseph)



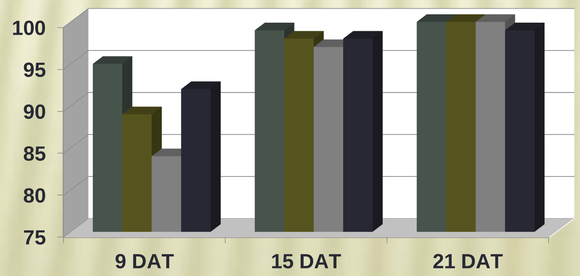
Key Results:
-At 7 DAT, the Dropp SC/Sharpen combination resulted in 58% desiccation, while other treatments resulted in desiccation levels no greater than 4%.
-At 20 DAT, the Dropp SC/Sharpen combination desiccation level had dropped to 16% compared to 1% or less for other treatments.
-At 28 DAT, leaf desiccation was not observed for any treatment.

% Desiccation After the 60% Open Boll Application (Starkville)



Key Results:
-At 8 DAT, Dropp in combination with Sharpen, Aim, or ET resulted in equivalent desiccation ranging from 10 to 13%. Other treatments resulted in desiccation ranging from 5 to 8%.
-At 15 DAT, equal desiccation ranging from 4 to 6% was observed for all treatments.
-at 23 DAT, desiccation levels were no greater than 1%.

% Open Boll After the 60% Open Boll Application (St. Joseph)

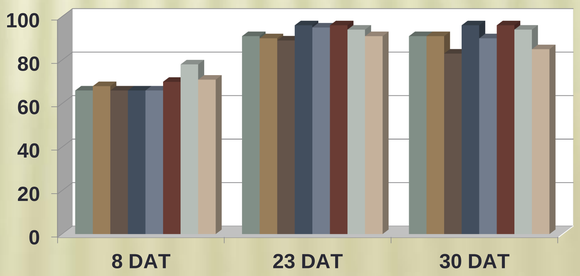


Key Results:
-At 9 DAT, all treatments resulted in equivalent open boll percentages ranging from 84 to 95%.

-At 15 DAT, open boll percentage was equivalent and at least 97%.

-At 21 DAT, bolls were completely opened by all treatments.

% Open Boll After the 60% Open Boll Application (Starkville)



Key Results:

-At 8 DAT, open boll percentage was equal for all treatments ranging from 66 to 78%.
-At 15 DAT, Dropp alone resulted in 81% open boll while other treatments resulted in open boll percentages ranging from 90 to 94%.
-at 23 DAT, all treatments resulted in equal open boll percentages ranging from 89 to 96%.

Treatments (St.Joseph)

- Dropp SC @ 2 oz/a 60% OB fb Boll'd @ 32 oz/a + Sharpen @ 1 oz/a 7 d after 60% OB application
- Dropp SC 2 oz/a + Sharpen 1 oz/a 60% OB fb Boll'd @ 32 oz/a 7 d after 60% OB application
- Dropp SC @ 2 oz/a 60% OB fb Boll'd @ 32 oz/a + Aim @ 1 oz/a 7 d after 60% OB application
- Dropp SC @ 2 oz/a + Aim @ 1 oz/a 60% OB fb Boll'd @ 32 oz/a 7 d after 60% OB application

Treatments (Starkville)

- Dropp @ 2.3 oz/a 60% OB fb Sharpen @ 1 oz/a + Super Boll @ 21.3 oz/a 15 d after 60% OB application
- Dropp @ 2.3 oz/a + Sharpen @ 1 oz/a 60% OB fb Super Boll @ 21.3 oz/a 15 d after 60% OB application
- Dropp @ 2.3 oz/a 60% OB
- Dropp @ 2.3 oz/a 60% OB fb Aim @ 1 oz/a + Super Boll @ 21.3 oz/a 15 d after 60% OB application
- Dropp @ 2.3 oz/a + Aim @ 1 oz/a 60% OB fb Super Boll @ 21.3 oz/a15 d after 60% OB application
- Dropp @ 2.3 oz.a 60% OB fb ET @ 1.5 oz/a + Super Boll @ 21.3 oz/a15 d after 60% OB application
- Dropp @ 2.3 oz/a + ET @ 1.5 oz/a 60% OB fb Super Boll @ 21.3 oz/a15 d after 60% OB application
- Dropp @ 2.3 oz/a + Folex @ 6.4 oz/a + Super Boll @ 21.3 oz/a 60% OB

Conclusions

•Sharpen in combination with Dropp resulted in good cotton defoliation

•In Louisiana, Sharpen in combination with Dropp SC resulted in significant desiccation at 7 DAT, however resulted in no desiccation by 28 DAT. In Mississippi, Sharpen in combination with Dropp resulted in equal desiccation to that observed with Aim and ET. Desiccation was not observed at 23 DAT however.

•Sharpen can be used as an effective defoliant in cotton production in Louisiana and Mississippi.