

WEST
PLAINS
IPM
UPDATE

News about
Integrated Pest
Management in
Hockley,
Cochran, and
Lamb Counties
from
Kerry Siders

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Pest and Crop Update

Cotton ranges from 1/3 grown square to physiological cutout (5 nodes above white flower). Ideally, we would like to be around 6-7 nodes above white flower (NAWF) at this time. This allows us to take full advantage of effective bloom period and have that last bloom set before odds decrease dramatically for full maturity. The change in weather from +100-degree temperatures to the low 90's has allowed cotton to grow at a more normal pace rather than racing towards hard cutout. Irrigation water and some recent scattered rain showers have also allowed for more efficient water use conditions.

Insect pests continue to remain quiet, with an occasional Lygus or stinkbug being noted along weedy field margins.



My priorities this next several days are:

1. Keep up with crop water demands, we are at or near peak use in flowering cotton of 0.30" per day.
2. Wrap up all fertilizing in cotton, these later applications only delay maturity.
3. Keep close watch on aphids, Lygus, stinkbugs, cotton bollworms, and beet armyworms over the next month.
4. Maintain our good square set going into flowering on late cotton and maintain a good boll set with limited damage and losses.
5. Do not let cotton vegetative growth get out of hand. Our target of 5 NAWF should be reached around August 5th. This allows us to literally bloom out the top on our last effective bloom date of August 20.

Prevention and Management of Resistant Weeds

a. *Diversify crop production practices* Crop rotation is one of the most significant components of effective weed management in cotton. In addition to helping with nematode and disease management, crop rotations allow the use of additional herbicide mechanisms of action.

b. *Cultivation* Once a mainstay of weed management in cotton, cultivation has declined significantly with the commercialization of glyphosate and glufosinate tolerant cotton varieties. However, with the rise of glyphosate resistant weeds in cotton production, cultivation is once again a viable weed management tool in many operations.

c. *Use the recommended rate, timing of application, and spray volume* When applying any herbicide, be sure to use the full labeled rate of that product and apply at the proper time. Many postemergence herbicides are only effective when applied to very small weeds. If applied too late or at too low an application rate, weed escapes can be expected. The efficacy of non-systemic herbicides, such as glufosinate (Liberty), is highly dependent upon obtaining thorough spray coverage as is stated on the product label. Good spray coverage is achieved by applying the recommended carrier volume and using the appropriate spray nozzle.

d. *Avoid using a single mechanism of action in your herbicide program* Herbicide mechanism of action describes the way that a herbicide controls susceptible weed species. Currently, there are 12 herbicide mechanisms of action available for use in cotton. It is important to target problematic weed species with at least two different mechanisms of action, and to change herbicide programs from year to year. The Weed Science Society of America (WSSA) has devised a numbering system for classifying herbicide mechanisms of action into groups. Often, these group numbers can be found on product labels. All herbicide recommendations in this publication will include the WSSA group number(s) for each herbicide. Use of the WSSA numbering system should be a simpler approach for understanding the herbicide mechanism of action.



e. *Keep records of weed populations and herbicide application* Good record keeping helps to plan an effective prevention program for herbicide resistant weeds. It also helps to avoid using the same herbicide mechanism of action each year. If a herbicide program failed to control a weed or weeds, that program should be avoided in the field where the failure(s) were observed. Repeated applications of the same herbicide will only serve to increase herbicide resistant weeds.

f. *Scout herbicide failures following spraying* Weeds which survive a herbicide application may be the result of application errors and are not necessarily resistant weeds. Herbicide failure can be caused by poor spray coverage, incorrect timing of applications, “washing-off” of postemergence herbicides by rainfall, or adverse environmental conditions such as poor soil moisture, low humidity, or extreme temperatures. When weed control failures occur, check to see if spatial patterns exist in the field. If surviving weeds are present in “streaks” across the field, this may be the result of an application error. If the distribution of surviving weeds is scattered or “patchy”, this may indicate the presence of a herbicide resistant biotype. If resistant weeds are suspected, it can be confirmed by collecting seeds of the suspected resistant weeds and having a legitimate screening trial conducted on them to determine resistance. A few “red flags” of herbicide resistant weeds are: (1) if the same herbicide has been repeatedly applied in the same field, (2) the same weed species are repeatedly found surviving in the same location of the field, and (3) if dead (susceptible) plants can be found at the same location as the surviving weeds and these dead plants were at the same stage of growth at application.

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