

GROWERS' PERCEPTIONS FOLLOWING STAPLE'S FIRST YEAR

J. D. Smith, E. C. Murdock, and A. Keeton
Clemson University
Clemson, SC

Abstract

South Carolina, North Carolina, and Virginia cotton growers were surveyed in the fall of 1996 to determine their perception of Staple's performance during its first year of commercialization. Staple was used banded as well as broadcast treatment. The majority of growers in SC and NC used Staple as a replacement treatment as opposed to an additional treatment in their weed control program. Some growers tank-mixed Staple with another herbicide; most commonly MSMA or DSMA. In SC, the top five weeds targeted were Palmer amaranth (*Amaranthus palmeri*), morningglory species (*Ipomoea* spp.), sicklepod (*Senna obtusifolia*), common cocklebur (*Xanthium strumarium*), and nutsedge species (*Cyperus* spp.). In NC, the top five weeds targeted were pigweed species (*Amaranthus* spp.) morningglory species, common cocklebur, sicklepod, and smartweed species (*Polygonum* spp.). In VA, the top five weeds targeted were cocklebur, jimsonweed (*Datura stramonium*), morningglory species, pigweed species, and nutsedge species. In SC, growers reported acceptable control of Palmer amaranth, morningglory species, and common cocklebur. In contrast, SC growers reported unacceptable control of sicklepod and nutsedge species. In NC, growers reported acceptable control of morningglory species, pigweed species, and common cocklebur, while reporting unacceptable control of sicklepod and nutsedge species. In VA, growers reported acceptable control of jimsonweed, cocklebur, morningglory species, pigweed species, and nutsedge species. Growers in SC, NC, and VA reported fair to good control of smartweed species. Some cotton injury following application of Staple was observed in VA, SC, and NC; however, few growers felt the injury was not in an acceptable range. In SC and NC, no grower observed differences in tolerance to Staple using the cotton varieties planted. In VA, one grower felt that DP 20 was more susceptible to Staple injury. The majority of the growers who responded felt Staple was a cost-effective addition to their cotton weed management programs.

Introduction

Staple (pyrithiobac) was first introduced commercially in 1996. Staple is a selective postemergence (POST) herbicide that allows growers a POST option in contrast to heavy reliance on post-directed treatments. Staple controls many broadleaf weeds, but does not control grasses. Staple generally provides unacceptable control of sicklepod, tropic

croton, nutsedge, and tall morningglory. Surveys can provide useful information in the form of grower feedback to determine if the herbicide performed adequately under field conditions. Also, surveys can be useful for self-evaluation of applied research programs.

Materials and Methods

A survey was mailed to 405 SC, NC, and VA growers in the fall of 1996. Thirty-three percent (132) of the growers who responded had used Staple. Growers were asked to rate Staple's performance on the most troublesome weeds of their respective states, and to evaluate crop injury and the cost-effectiveness of Staple.

Results and Discussion

Responses were received from 132 (33%) growers who used Staple in 1996. These growers used Staple on 47,052 acres. Ninety-four, 84, and 50% of the growers applied Staple on a band in SC, NC, and VA, respectively; average band width in these states was 14.1, 13.5, and 12.3 inches. In SC, 57% of the growers used Staple as a replacement treatment in their weed control program, whereas 37% used Staple as an addition to their standard program. In NC, 62 and 35% of the growers used Staple as a replacement and additional treatment, respectively. Twenty-two percent of SC growers, 21% of NC growers, and 17% of VA growers tank-mixed Staple with another herbicide, primarily DSMA or MSMA. In SC, 79, 74, and 80% of the growers reported acceptable control of Palmer amaranth, morningglory species, and common cocklebur, respectively. In contrast, 67% of the growers reported unacceptable control of sicklepod, while 57% of the growers reported unacceptable control of nutsedge species. In NC, 89, 74, and 92% of the growers reported acceptable control of pigweed species, morningglory species, and common cocklebur, respectively; whereas 62 and 65% of the growers reported unacceptable control of sicklepod and nutsedge species, respectively. Seventy-seven, 85, and 67% of the growers reported acceptable control of smartweed species in SC, NC, and VA, respectively. Cotton injury was observed following the application of Staple by 50% of VA growers, 38% of SC growers, and 18%, of NC growers. However, only 11 and 25% of growers in SC and NC, respectively, felt the injury was not in an acceptable range. Sixty-two, 64, and 88% of the growers felt Staple was a cost-effective addition to their weed management program in SC, NC, and VA, respectively.