

**WEED MANAGEMENT IN STRIP-TILLAGE
ROUNDUP READY COTTON
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provided yields equivalent to the Roundup systems that used soil applied herbicides. It would appear that in reduced tillage systems, that some soil applied herbicide(s) should be used to reduce the potential of yield suppression from early season weed populations.

Abstract

An experiment was conducted in 1998 at Goldsboro, NC to evaluate weed control, cotton tolerance, and yield in strip tillage Paymaster 1220 RR/BG cotton. Cotton was planted in 38 inch rows. The rye cover crop was terminated with a Roundup treatment approximately 30 days before planting. A number of herbicide systems were evaluated which included total postemergence systems that used either Roundup Ultra as needed (ASN) alone or Roundup Ultra ASN followed by (fb) Caparol plus MSMA late post directed (LAYBY). Additional treatments evaluated included a weedy check, Prowl preemergence (PRE) broadcast or banded (19 inch band) fb 1) nothing, 2) Staple plus MSMA early postemergence (EPOST) alone or fb Caparol plus MSMA LAYBY, or 3) Roundup ASN alone or fb Caparol plus MSMA LAYBY; Prowl plus Cotoran PRE broadcast or banded (19 inch band) fb 1) nothing, 2) Staple plus MSMA EPOST alone or fb Caparol plus MSMA LAYBY, or 3) Roundup ASN alone or fb Caparol plus MSMA LAYBY. Roundup Ultra was applied to four leaf cotton or smaller, after the 4L growth stage Roundup was applied with a hooded sprayer to minimize Roundup contact with the cotton foliage. When soil applied herbicides were applied on a band in Staple systems, the Staple plus MSMA was applied POST on a 19 inch band on the drill while the weeds in the row middle received a hooded treatment of Gramoxone Extra.

As expected, banded soil applied herbicides failed to provide adequate control of any weed. Prowl plus Cotoran PRE broadcast controlled sicklepod 34%, smooth pigweed 38%, prickly sida 33%, and eclipta 48%. The addition of Staple plus MSMA fb the LAYBY and all Roundup Ultra systems controlled all weeds greater than 80%, regardless if soil applied herbicides were applied as a banded or broadcast treatment. The LAYBY treatment of Caparol plus MSMA was essential for season-long control of sicklepod in the Staple systems. Cotton lint yields were less with the total postemergence systems, which included Roundup ASN and Roundup ASN fb a LAYBY. These systems yielded less than Roundup Ultra systems, which used soil applied herbicides either on a banded or broadcast basis. The lower yields seen with the total postemergence Roundup systems may reflect early season interference of uncontrolled weeds. Staple systems, which used soil applied herbicides and a LAYBY of Caparol plus MSMA