

**WEED CONTROL IN LIBERTY-LINK COTTON IN LOUISIANA**  
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**Abstract**

Two experiments were initiated at the Macon Ridge Research Station at Winnsboro, LA to evaluate Ignite in a weed control system with commonly used residual herbicides. Treatments in each experiment were identical, but two varieties were used; FiberMax 958LL or FiberMax 832LL. Each variety was planted on May 29, 2003 in plots two rows wide by 40 feet long. PRE herbicides were applied immediately after planting. Early post treatments were applied when cotton was 2 leaf. Any Ignite treatment was applied at 0.375 lb ai/A. Treatments included a total post program of Ignite followed by (fb) Ignite; Prowl (0.75 lb ai/A) PRE, Ignite fb Ignite; Prowl + Cotoran (0.75 + 1.0 lb ai/A, respectively) PRE, Ignite fb Ignite; Prowl (0.75 lb/A) PRE, Ignite fb Ignite fb Ignite; Prowl (0.75 lb/A) PRE, Ignite fb Ignite fb Ignite + Direx (1.0 lb ai/A); and Prowl (0.75 lb/A) PRE, Ignite + AMS fb Ignite + AMS + Direx (1.0 lb/A). Pigweed (*Amaranthus* spp.) control was at least 80% with any system evaluated. Crabgrass (*Digitaria* spp.) control was at least 80% if Prowl was used, but not when a total post program was used. FiberMax 958LL seedcotton yield was 1500 lb/A or greater with any system evaluated. Seedcotton yield of FiberMax 832LL ranged from 1450 to 1610 lb/A with any system evaluated, with no differences between the systems.

A “two-pass” weed control program was evaluated at the Northeast Research Station near St. Joseph, Louisiana. Experimental design was a factorial arrangement of treatments in a randomized complete block with four replications. Factor A was herbicide combinations that included Ignite (0.375 lb/A) applied in combination with Prowl (1.0 lb/A), Envoke (0.0047 lb ai/A), Staple (0.063 lb ai/A), or Dual II Magnum (0.95 lb ai/A). Factor B was application timings that included 2 to 3, 6 to 8, or 10 to 12 leaf cotton. To exclude potential early season weed competition from the experiment, all plots received an application of Ignite at the 2 to 3 leaf stage. FiberMax 981LL was planted on May 1, 2003. Plot size was two rows 40 feet in length. Treatments were applied in 15 gpa using a CO<sub>2</sub>-powered backpack sprayer. Weeds present included redroot pigweed (*Amaranthus retroflexus*), goosegrass (*Eleusine indica*), and barnyardgrass (*Echinochloa crus-galli*). ANOVA was conducted and means separated at the 5% level of significance using Fisher’s Protected LSD. ANOVA indicated that application timing was the significant variable in this experiment, therefore data are averaged over the Ignite tank-mixes. Redroot pigweed control was at least 83% from 66 to 98 DAP. Goosegrass control was greater at 66 DAP with treatments applied at the 2 to 3 leaf stage compared to the later application timings. However, from 85 to 98 DAP, control was greater with the 2 to 3 or 6 to 8 leaf applications. Barnyardgrass control was greatest from 66 to 98 DAP when treatments were applied at the 2 to 3 leaf stage. Seedcotton yield was greatest (1150 lb/A) when treatments were applied at the 2 to 3 leaf stage, compared to 600 or 900 lb/A with the 6 to 8 or 10 to 12 leaf application timings, respectively.

An additional experiment was conducted at the Northeast Research Station near St. Joseph, Louisiana to evaluate Ignite tank-mixes applied early post (epost), and followed by one of two layby tank-mixes. Experimental design was a factorial arrangement of treatments in a randomized complete block with three replications. Factor A consisted of the epost treatments and included: Ignite (0.375 lb/A) alone or in combination with Dual II Magnum (0.95 lb/A), Staple (0.032 lb/A), Envoke (0.0047 lb/A), or no epost treatment. Factor B was the layby treatment and consisted of Caparol + MSMA (1 + 2 lb ai/A, respectively), Valor + MSMA (0.063 + 2 lb ai/A, respectively), or no layby. Epost treatments were applied at 3 to 4 leaf cotton and layby treatments applied to 10 to 12 leaf cotton. FiberMax 981LL was planted on May 1, 2003. Plot sizes were two rows, 40 feet long. Soil type was a silt loam. ANOVA was conducted and means separated using Fisher’s Protected LSD at the 5% level of significance. ANOVA indicated an interaction between the epost and layby treatments for weed control, but no interaction was observed for seed cotton yield, with the main effect of epost treatments being significant. Weeds present in this experiment included pitted morningglory (*Ipomoea lacunosa*), entireleaf morningglory (*Ipomoea herderacea* var. *integriuscula*), hemp sesbania (*Sesbania exaltata*), redroot pigweed, sicklepod (*Cassia obtusifolia*), crabgrass (*Digitaria* spp.), goosegrass, and barnyardgrass. Pitted or entireleaf morningglory, hemp sesbania, and crabgrass control was at least 80% with any treatment except the untreated through 66 DAP. Redroot pigweed control was greater with Valor + MSMA at layby if no residual was used epost or if no epost was applied. Sicklepod control was greatest if Caparol + MSMA was combined with any epost treatment, or if Ignite + Staple or Envoke was used in combination with Valor + MSMA at layby. Goosegrass control was very erratic at 52 DAP, but was 83% or greater by 98 DAP with any treatment except the untreated.