

WHEAT AND GRAIN PROJECT REPORT 2006 REPORT

Title: Development of a Seed-producing Sunn Hemp Cultivar for Alabama

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Objectives: To screen sunn hemp germplasm for ability to produce seed and to select plants capable of producing seed in Alabama while maintaining good agronomic characteristics

Research plan:

1. Plant selection blocks with several thousand plants where the plants with best agronomic traits that can produce seed will be selected..
2. Establish isolation plots for seed increase of selected populations that have good potential based on field observations.
3. Study the effect of ground sunn hemp seed inclusion in broiler starter diets on live performance attributes.

Results:

Seed from plants selected in previous years for ability to produced good quality seed in Alabama, shorter height and early maturity was used to plant two large breeding blocks were planted in May 2006. The stands suffered major losses due to the drought that affected the state despite frequent irrigations. At the Plant Breeding Unit (planted 4 May), emergence was more even and plant growth in breeding block indicated progress due to selection in the previous year. Plant growth in breeding block at the Field Crop Unit (planted 19 May) was more affected by the drought, emergence was erratic and plant evaluation was thus limited. About 600 plants were selected and individually harvested from both locations. A herbicide test indicated that sunn hemp is sensitive to Roundup but tolerant to Prowl and Pursuit. Another experiment was used to observe that sunn hemp can out compete weeds.

The study of the effect of ground sunn hemp seed inclusion in broiler starter diets on live performance attributes was conducted in cooperation with Dr. J. Hess from the Poultry Dept. to determine if indeed the seeds were not toxic to chickens. Results from this experiment indicated that for 21-day-old broiler percent mortality was the same for the control and the two feeding levels (0.5% and 2%) that included ground sunnhemp seed. Ground sunn hemp Seeds reduced body weight, feed consumption and feed conversion rate at 2%, but not at 0.5%. After conducting a study in which we analyzed and quantified toxins sunn hemp seeds, and two studies in which whole and ground seeds were fed to broilers, we can conclude that seeds of sunnhemp are non-toxic to chickens. If it is included accidentally in the diet at a 0.5% level (contamination) it will not cause problems to broilers. However, sunn hemp seed should not be considered feed stuff either.