A Final Report to Syngenta
Concerning

An Evaluation of Lexar, Lumax and Expert Pre- and Post-Emergence Weed Control in RR Corn

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Dr. Steve Livingston
Professor and Extension Agronomist
Texas Cooperative Extension
Corpus Christi, Texas

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Background.

Lexar TM is a customized blend of three Syngentat herbicides (mesotrione, S-metolachor and atrazine) designed specifically for the soils and weed spectrum of the central and southern Corn Belt, providing season-long, annual broadleaf and grass control in one application. It is reported to provide additional control of weed species resistant or increasingly tolerant to triazine, ALS-inhibiting and glyphosate herbicides. It is also reported to provide excellent crop safety. In this experiment, the goal was to evaluated Lexar alone, and in comparison to other herbicides providing residual control of grass and broadleaves.

Expert is a pre-mix combination herbicide containing 2.14 lb atrazine, 1.74 lb S-metolachlor, and 1 lb glyphosate per gallon. To ensure a high level of crop safety in corn, the innovative formulation also includes benoxacor. Expert herbicide may be applied up to 30 days prior to, during, or after planting all types of corn.

Materials and Methods.

BH 8881RR corn was planted on 17 March 2005 in 38-inch rows. Herbicide materials (pre-emergence) were applied on 18 March 2005, using 12.4 GPA, 40 psi, 8003 XTR tips and at a rate of 5.0 mph ground speed. Treatment 4 was sprayed 7 April 2005 when the corn was 5 inches in height, and treatments 6 and 7 were sprayed 15 April 2005 when the corn was 8-12 inches in height. Treatment 6 and 7 were sprayed at 25 psi, with all other spray information being the same.

Evaluations were to be made at 14, 28, 42 and 56 DAT; however, these were not the responsibility of TCE. Our instructions were to plant, make herbicide applications, and to harvest the corn IAW protocol. No visual evaluations were made other than walk-throughs. The plots were very clean due to the pre-emergence grass control provided by the Dual II Magnum, atrazine and the post emergence control with glyphosate (contained in the Expert).

Treatments made included:

1.	Dual II Mag	1.3 pt/A	Pre
2.	Outlook	14 oz/A	Pre
3	Lexar	3.0 qt/A	Pre
4.	Lexar	3.0 qt.A	Post
5.	Kynax	2,5 qt.A	Pre
6	Expert	2.5 qt/A	Post
7	Expert	3.0 qt/A	Post
8	UTC		

Results and Conclusions.

In other tests with Lexar conducted on the TAM-CC Meaney Farm Annex, it was determined that Lexar would only control Texas panicum post-emergence, up to 2-inches in diameter. Beyond this growth stage, Texas panicum continued to grow and to produce seed. Lexar and Lumax were both observed to be excellent as pre-emergence weed control applications at the 3 qt/A and 2.5 qt/A rates, respectively. Corn yield data, reflects that these pre-emergence treatments (treatments 2 and 3) are superior to both the post-emergence application of 2 qt/A Lexar and the two expert applications containing glyphosate (treatments 6 and 7).

ARM data suggests that there were no significant differences in treatments when compared to an untreated check, with an LSD of 30.32 bushels per acre. When the check is omitted and ARM is conducted using only the seven herbicide treatments, the CV and LSD were lowered, but there was still no significant difference between treatments at the 5% level.

Outlook (Frontier) will not provide control of emerged weeds. Outlook 6EC is dimethenamid-p, which contains the resolved isomer of dimethenamid and is used at about the 55% of the Frontier use rate. Thus 28 fluid ounces of Frontier would equal abourt 16 ounces of Outlook. It appears that Lexar and Lumax per-emergence (treatments 3 and 5), provide similar or equal weed control to BASF Outlook.

Figure 1. Corn yields observed with four pre-emergence treatments and three post-emergence herbicide treatments applied to BH8881RR field corn, Texas Cooperative Extension, Texas A&M Research and Extension Center, Corpus Christi, Texas, 2005.