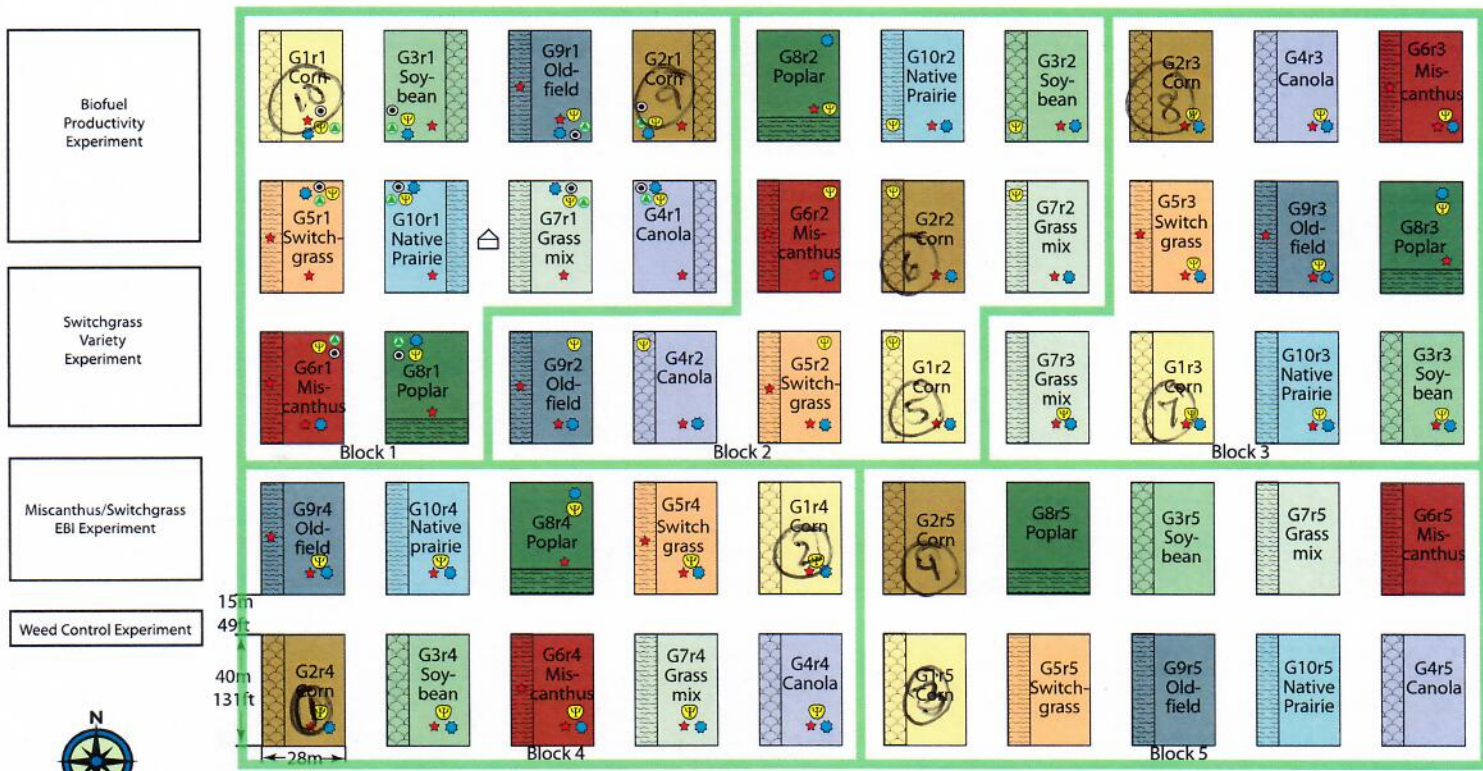


KBS GLBRC Intensive Field Site (2011)



Biofuel Productivity Experiment

Switchgrass Variety Experiment

Miscanthus/Switchgrass EBI Experiment

Weed Control Experiment

Treatment Legend

- | | |
|------------------------|---------------------|
| G1 Continuous corn | G6 Miscanthus |
| G2 Corn-Soybean-Canola | G7 Native Grass mix |
| G3 Soybean-Canola-Corn | G8 Poplar |
| G4 Canola-Corn-Soybean | G9 Old field |
| G5 Switchgrass | G10 Native prairie |

Plot Legend

- Trace gas flux chamber
- Low tension suction lysimeter
- Trace gas shed
- Time domain reflectometry (TDR)
- Automated gas chamber
- Trime TDR
- Unfertilized microplot (G10-fertilized)
- Stover non removal microplot

Switchgrass Nitrogen/Harvest Experiment

G1 & G2
 150 lbs total N/A
 29 lbs N/A @ start
 121 ~~121~~ lbs N/A sidedress => 41 gal/A gauge

C2 1550RPM
 4.5 mph
 90 psi on gauge

2011 KBS and Arlington GLBRC Agronomic Protocol

January 1, 2011

G2: Annual Grain: Corn-Soybean-Canola (corn entry point). Corn (2011) – Soybeans (2012) – Canola (2013)	
Site	Arlington
Planting	Plant Dekalb DKC52-59 in late April or early May. Variety DKC52-59 is a triple stack variety of corn Roundup Ready and Bt corn
Cover Crop	None
Tillage	No-till
Harvest	Harvest corn in October or November. After grain harvest remove plant stover (except not in 6 west or east rows, see microplots, below)
Fertilization	<p>Harvest (yield check) corn from the Corn Stover Retention micro-plots separately from main plot.</p> <p>Recommendations from MSU Soil and Plant Nutrient Laboratory</p> <ul style="list-style-type: none"> • 0.1 N:Corn price ratio • Medium Soil Productivity • Fertilizer recommendations based on corn silage (not corn grain). <p>Total nitrogen recommendations: 150 lb N ac⁻¹ (168 kg N ha⁻¹).</p> <p>Starter: 14 gals/A of 19-17-0 (29 lbs N acre⁻¹, 33 kg N ha⁻¹) (26 lbs P₂O₅ acre⁻¹, 29 kg P₂O₅ ha⁻¹)</p> <p>Sidedress: 41 gal/A 28% N solution is equal to (121 lbs N acre⁻¹, 136 kg N ha⁻¹).</p> <p>Phosphorus (P): No additional P other than starter fertilizer listed above.</p> <p>Potassium (K) applied pre-plant as 0-0-60: 335 lb ac⁻¹ (376 kg ha⁻¹) → [201 lb K₂O ac⁻¹ (226 kg K₂O ha⁻¹)]</p> <p>Apply the K to Reps 1, 2, 3, and 4. Rep 5 does not need any K applied.</p> <p>Fall Soil Sampling: 3 x 15cm cores are to be taken from main plot & stover retention micro-plot in Fall 2011</p>
Weed Control	<p>Apply appropriate herbicides to control annual weeds.</p> <p>Burn down: Roundup (22 oz/A) + 2,4-D ester (1 pt/A 7 days before planting) at label rates.</p> <p>Preemergence: Broadcast Lexar at 3 qts/A (Lexar is a premix of: Dual II Magnum (1.36 pt/A) + Callisto (5.34 oz/A) + atrazine 4L (1.3 lb/A)).</p> <p>Postemergence: Apply Roundup at label rates as needed to control weeds. Watch for volunteer canola.</p>
Micro-plots	<p>Corn Stover Retention. Leave stover on west 6 rows of each plot (except east 6 rows of Block 1 at KBS due to gas chambers).</p> <p>Harvest of micro-plots: Using a Kincaid plot combine harvest the middle 5' (2 rows) of the outer 15' (6 rows) on both the east and west of each plot for use as yield check for stover retention and stover removal micro-plots.</p>

This is a working protocol used for planning purposes. Due to potential changes in chemicals, fertilizer, varieties planted, planting dates etc... Please refer to the agronomic field log for actual field operations that take place during 2011.