Forage Sorghum Trials 2013

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• Objectives

• How well will bmr-sorghum fit in a double cropping system with a fall grain harvested for early spring forage?

• Will it be a cost effective crop with consistent performance, adequate yield on soils not ideally suited for corn/alfalfa rotation?
Brown midrib sorghum
Site: Birdsall

- Planting Date: June 5, 2013, noon
  - Air temp: 65°F at noon, 75°F at 2 pm
  - 2” soil depth: 64°F  1.5” soil depth: 70°F
  - Planting depth: 1”
- Planting Rate: 10 lbs/ac
- Variety: AF7201 (13,000 seeds/lb)
- Planting Tool: Great Plains 1006 no-till drill- 7” rows
- Production: Conventional
- Previous Crop: corn silage
- Location: Town of Scott, Cortland County, NY
- Field Size: 4.3 ac
Site: Birdsall

- Fertilizer: 100 lbs 19-19-19 pre-plant
  - No manure, Weather did not cooperate for sidedress
- Weed Control: concep treated seed
  - 1 qt Atrazine & oil, 2 or 4 oz Banvel (need to confirm)
  - Applied July 12
- Soil Type: Bath
- Soil Fertility: pH-5.8, P & K high ratings
- Location: Town of Scott, Cortland County, NY
Birdsall
Late June – prior to weed control
Birdsall
Mid-season– post weed control
Birdsall – Lodging at harvest
Harvest 10/5/2013 (Birdsall)
Site: Birdsall

- Yield: Sorghum – 3.7 tons/ac@35% DM
  Nearby Corn – 11.0 tons/ac@35% DM
- Moisture at Harvest: 76.1%
Site: Birdsall-nearby corn
Site: Dawson

- Planting Date: June 5, 2013  8:30 am
- Air temp: 51°F  2” soil depth: 58°F  4” soil depth: 52°F
- Planting depth: ¾-1” deep
- Variety: AF7201
- Planting Rate: 10 lbs/ac
- Planting Tool: Conservation drill on 28” rows
  - Followed by brillion cultipacker w/ teeth down
- Production: Conventional w/ concept treated seed
- Previous Crop: corn silage
- Tillage: Disked 3x and rolled
- Field Size: 5.3 ac
Dawson - early season - post planting
Aug. 29, 2013    Dawson

Thin stand in upper 1/2 of field

Wet area- poor establishment  
(This area never recovered from early flooding)

Good stand in lower 1/2 of field →
Sept. 17, 2013    Dawson
Severely lodged sorghum
View from the chopper - Dawson
One of the challenges of BMR sorghum. It can lodge before harvest and suffer significant field loss.
• Site: Dawson

• Harvest Date: September 17, 2013
• Yield: Sorghum – 2.2 tons/ac@35% DM
  Nearby Corn – 6.6 tons/ac@35% DM
• Moisture: 79%
Aug. 29, 2013    Dawson

Sorghum ↓    Corn→

Dawson.
Corn in neighboring field.
Similar soil conditions.
Dawson – Post Harvest.
Front field corn silage.
Back field – sorghum. Note weed pressure and harvest loss from downed sorghum.
Site: Stow

- Planting Date: June 25, 2013 noon
  - Air temp: 80°F
  - 2” soil depth: 64°F  1.5” soil depth: 70°F
  - Planting depth: 1 3/4”
- Variety: AF7101 (12,000 seeds/lb)
- Planting Rate: 100,080 seeds/ac
- Planting Tool: Cyclone 900 Case air planter
- Production: Conventional  Concep treated seed
- Previous Crop: forage sorghum
- Tillage: plowed and disked
- Location: Town of Breesport, Chemung County, NY
- Field Size: 20 ac
Site: Stow

- Fertilizer: 100 lbs/\text{ac} \text{ urea pre-plant}  
  - 300 lbs/\text{ac} \text{ 10-20-20 at planting}
- Weed Control: 1.5 \text{ qts} \text{ Prowl} & 1 \text{ qt atrazine}  
  - Timing: early post emergence
- Soil Type: Chenango channery silt loam
- Soil Fertility: NA
- Location: Town of Breesport, Chemung County, NY
Planting 6/25/2013 (Stow)
Change in varieties

Non-dwarf-AF7101

Brachytic dwarfs
(experimental varieties: XAF4452 & XAF4456)
Site: Stow

Harvest Date: October 30, 2013
Yield: Sorghum – 11.8 tons/ac@35% DM
Moisture: 67.2%
• Site: Tuning

• Planting Date: June 25, 2013
  – Air temp: 82°F, slightly overcast
  – 2” soil depth: 79°F  4” soil depth: 72°F
  – Planting depth: ½ - 3/4”

• Variety: AF7201(13,000 seeds/lb)

• Planting Rate: 15 lbs/ac

• Planting Tool: drill, 30” rows

• Production: Organic, non-organic untreated seed

• Previous Crop: sod

• Tillage: moldboard plow and disked 2x

• Fertilizer: 5 tons/ac cow manure

• Weed Control: tine weeder and cultivation
Site: Tuning

- Soil Type: Volusia
- Soil Fertility: pH 5.4 P low, K high
- Location: Town of Cincinnatus, Cortland County, NY
- Field Size: 3 ac
August 16, 2013  Tuning

↓ Corn →

← Sorghum ↓
Site: Tuning

- Harvest Date: October 5, 2013
- Yield: Sorghum – 2.7 tons/ac@35% DM
  Nearby Corn – 7.1 tons/ac@35% DM
- Moisture: 79%
## Yields

<table>
<thead>
<tr>
<th>Site</th>
<th>Sorghum T/Ac @ 35% DM</th>
<th>Corn Silage @35% DM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birdsall</td>
<td>6.1</td>
<td>10.0</td>
</tr>
<tr>
<td>Dawson</td>
<td>2.2</td>
<td>6.7</td>
</tr>
<tr>
<td>Tuning</td>
<td>2.7</td>
<td>11</td>
</tr>
<tr>
<td>Stow</td>
<td>11.8</td>
<td>NA</td>
</tr>
</tbody>
</table>
Table 3. Corn Harvest Summary

<table>
<thead>
<tr>
<th>Site</th>
<th>Silage Variety</th>
<th>Harvest Date</th>
<th>Harvested Area (ac)</th>
<th>Dry-matter at Harvest (%)</th>
<th>Equivalent Yield: T/Ac @ 35% Dry matter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning</td>
<td>Doeblers UT 242 (85 day)</td>
<td>10/5/2013</td>
<td>.74</td>
<td>32</td>
<td>7.1</td>
</tr>
<tr>
<td>Birdsall</td>
<td>Dekalb EB90RR2 (90 day blend)</td>
<td>10/5/2013</td>
<td>.20</td>
<td>39</td>
<td>11.0</td>
</tr>
<tr>
<td>Dawson</td>
<td>Pioneer 8906 RR (84 day)</td>
<td>9/17/2013</td>
<td>1.5</td>
<td>36</td>
<td>6.6</td>
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</tbody>
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