Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY

- Soil sample taken March 2014
- Soil test K = 212 (medium-low)
- 190 lbs K₂O/A recommended
- PD7309LC set June 19
  - 40” x 32” = 4900 plants/A
- Plots 4-rows, 40 ft. long
- 4 replications
- Broadcast applications made prior to transplanting on June 18
- Band applications made after transplanting on June 27
  - 2 bands per row, 6-8” from row
- Tobacco harvested late September
- Fire-cured

<table>
<thead>
<tr>
<th>Trt</th>
<th>K₂O timing</th>
<th>K₂O rate (lbs/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 untreated (no K₂O)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 Broadcast</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>3 Broadcast</td>
<td></td>
<td>190</td>
</tr>
<tr>
<td>4 Broadcast</td>
<td></td>
<td>285</td>
</tr>
<tr>
<td>5 Band</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>6 Band</td>
<td></td>
<td>190</td>
</tr>
<tr>
<td>7 Band</td>
<td></td>
<td>285</td>
</tr>
</tbody>
</table>

N and P₂O₅ applied to all plots according to soil test:
- 275 lbs N/A (150 urea pretransplant, 125 UAN sidedress)
- 100 lbs P₂O₅ pretransplant
Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY - Yield

**Total Yield (lbs/A):**

- 2975 (0 K2O)
- 3062 (95 K2O BC)
- 3158 (190 K2O BC)
- 3118 (285 K2O BC)
- 3108 (95 K2O BAND)
- 3022 (190 K2O BAND)
- 3156 (285 K2O BAND)

**LSD (0.10) =**

- 55
- 115
- 234 (total)

**Yield (lbs/A):**

- 0 K2O
  - Lug: 767
  - Second: 334
  - Leaf: 310
- 95 K2O BC
  - Lug: 1958
  - Second: 771
  - Leaf: 323
- 190 K2O BC
  - Lug: 2055
  - Second: 780
  - Leaf: 323
- 285 K2O BC
  - Lug: 1987
  - Second: 768
  - Leaf: 363
- 95 K2O BAND
  - Lug: 2015
  - Second: 772
  - Leaf: 321
- 190 K2O BAND
  - Lug: 1923
  - Second: 788
  - Leaf: 310
- 285 K2O BAND
  - Lug: 2144
  - Second: 698
  - Leaf: 314
Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY
Main Effect of K application timing on total yield (averaged over K rate)
Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY
Main Effect of K application rate on total yield (averaged over K timing)

Yield (lbs/A)

- 95 lbs K2O/A: 3085
- 190 lbs K2O/A: 3090
- 285 lbs K2O/A: 3137
Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY – Quality Grade Index

Quality Grade Index (0-100)
LSD (0.10) = 4.6

Quality Grade Index

<table>
<thead>
<tr>
<th>K2O</th>
<th>Quality Grade Index</th>
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</thead>
<tbody>
<tr>
<td>0 K2O BC</td>
<td>66.7</td>
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<tr>
<td>95 K2O BC</td>
<td>75.6</td>
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<tr>
<td>190 K2O BC</td>
<td>77</td>
</tr>
<tr>
<td>285 K2O BC</td>
<td>70.2</td>
</tr>
<tr>
<td>95 K2O BAND</td>
<td>73.7</td>
</tr>
<tr>
<td>190 K2O BAND</td>
<td>76.6</td>
</tr>
<tr>
<td>285 K2O BAND</td>
<td>70.8</td>
</tr>
</tbody>
</table>
Dark Tobacco Response to Potassium
2014 – MSU West Farm, Murray KY
Main Effect of K application timing on quality
(averaged over K rate)

Quality Grade Index

<table>
<thead>
<tr>
<th>Application Method</th>
<th>Quality Grade Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-TRANSPLANT BROADCAST</td>
<td>74.3</td>
</tr>
<tr>
<td>POST-TRANSPLANT BAND</td>
<td>73.7</td>
</tr>
</tbody>
</table>
Dark Tobacco Response to Potassium

2014 – MSU West Farm, Murray KY

Main Effect of K application rate on quality
(averaged over K timing)

Quality Grade Index (0-100)

95 lbs K2O/A  190 lbs K2O/A  285 lbs K2O/A

74.7  76.8  70.5

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