Fertilizing Tobacco to Meet Today’s Needs
Cover Crops
A Disk or a Compaction Tool?
Compaction Created with a Disk
Soil Penetration Resistance
Eden Shale Farm 1985

Compaction
Noncompaction
No Deep Roots for Dry Periods
Fertilization
A Good Burley Crop
3000 lb/a
Removes

- 200 lbs of N
- 35 lbs of P$_2$O$_5$
- 240 lbs of K$_2$O
N Deficiency or Drought?
Irrigation Started Late
## Recommended N Rates

<table>
<thead>
<tr>
<th>Soil Level of N</th>
<th>Lbs. N/ac</th>
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</thead>
<tbody>
<tr>
<td>High</td>
<td>150-200</td>
</tr>
<tr>
<td>Medium</td>
<td>200-250</td>
</tr>
<tr>
<td>Low</td>
<td>250-300</td>
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</tbody>
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Effects of Nitrogen Rates on Burley Tobacco at Spindletop Farm

![Graph showing the effects of nitrogen rates on tobacco yield. The graph plots yield (lb/a) against nitrogen rate (lb/a) for the years 1991 and 1992. The yield increases with nitrogen rate up to a certain point and then plateaus.]

- 1991 yield:
  - N rate: 0 lb/a, Yield: 2500 lb/a
  - N rate: 200 lb/a, Yield: 3500 lb/a
  - N rate: 300 lb/a, Yield: 4000 lb/a

- 1992 yield:
  - N rate: 0 lb/a, Yield: 2500 lb/a
  - N rate: 200 lb/a, Yield: 3000 lb/a
  - N rate: 300 lb/a, Yield: 3500 lb/a
Equivalent Acidity or Basicity of Fertilizers

- Ammonium Sulfate
- Urea
- Ammonium Nitrate
- Potassium Nitrate
- Soda-Potash
- Sodium Nitrate

Lbs of Calcium Carbonate per 100 lbs product
Nitrogen Sources as a Sidedressing on Burley Tobacco
Laurel Co. - Dean Cornett Farm

Yield lb/a

450AN+(625SN)  450AN+(300AN)  750AN  2000(5-10-15) + (300AN+300AN)

2869  2713  2531  2832

BROADCAST + (SIDEDRESS) LSD 0.05 = 92 429 420 808
Cost & Returns From Different Sources of Nitrogen
Laurel Co. - Dean Cornett Farm

<table>
<thead>
<tr>
<th>Source</th>
<th>FERT. COST</th>
<th>RETURNS - FERT. COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>450AN+(625SN)</td>
<td>159.68</td>
<td>5348.8</td>
</tr>
<tr>
<td>450AN+(300AN)</td>
<td>84.38</td>
<td>5124.58</td>
</tr>
<tr>
<td>750AN</td>
<td>84.38</td>
<td>4775.14</td>
</tr>
<tr>
<td>2000(5-10-15)+(300AN+300AN)</td>
<td>246.5</td>
<td>5190.94</td>
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</tbody>
</table>
Effects of Nitrogen Application on Soil pH

All plots received 150 lbs P$_2$O$_5$ and 250 lbs K$_2$O
Effect of Liming an Acid Soil Prior to Use of Urea and Sodium Nitrate Sources of Nitrogen

Both N sources applied at 225 lb N/A pre-plant.
Effect of Liming an Acid Soil Prior to Use of Urea and Sodium Nitrate Sources of Nitrogen

Both N sources applied at 225 lb N/A pre-plant. Soil pH (water) measured at midseason of each year. Soil pH before liming was 5.4.
Manganese Toxicity
Agricultural Lime
Rank Green Tobacco at Harvest
Fat Stem Cause Poor Curing
Foliar Feeding Trial
CLAY CO. - BOBBY REID FARM

Yield lb/a

CK=CHECK, NL=NUTRA LEAF, GG=GRO-GREEN FOLIAR FERTILIZER APPLIED 2 LB ACTUAL N/ ACRE AT 4 AND 10 WEEKS LSD 0.05 = 144 276 171 395
Phosphorus Deficiency
Potassium Deficiency
Potassium-Nitrogen Interactions

Yield lb/a

N applied (lb/a)

Evanylo & Sims (1987)
Boron Deficiency
Calcium Deficiency