Planting Corn in 60-in. Row-Widths for Interseeding Cover Crops

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Nathan Anderson, Cherokee, IA

Practical Farmers of Iowa
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Solar Corridor concept

• Corn rows spaced far enough apart to enable sunlight to reach the lower leaves for the entire growing season.

Ottman & Welch, 1989; Deichman, 2000
Cover crops interseeded to interrows

30-in. row-width

60-in. row-width
2018 – cover crops interseeded (June)

- Fred Abels, Holland
- Jack Boyer, Reinbeck
- Brian & Heather Kessel and Jim Johnson, Lamoni
- Chris Teachout, Shenandoah

<table>
<thead>
<tr>
<th></th>
<th>ABELS</th>
<th>BOYER</th>
<th>KESSEL/JOHNSON</th>
<th>TEACHOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cowpeas (24 lb/ac); Annual ryegrass (9 lb/ac); Buckwheat (15 lb/ac)</td>
<td>Cowpeas (10 lb/ac); Guar (10 lb/ac); Cereal rye (5 lb/ac); Annual ryegrass (5 lb/ac) Rapeseed (2 lb/ac) Buckwheat (5 lb/ac)</td>
<td>Cowpeas (25 lb/ac); Annual ryegrass (10 lb/ac); Buckwheat (15 lb/ac)</td>
<td>Cowpeas (8 lb/ac); Mung beans (1 lb/ac); Sunn hemp (1 lb/ac)</td>
</tr>
</tbody>
</table>
## 2018: 60- vs. 30-in. Corn Row-Widths for Interseeding

### Cover Crop Biomass and N

<table>
<thead>
<tr>
<th>Farm</th>
<th>Cover crop biomass (lb/ac)</th>
<th>Cover crop N (lb N/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30-in.</td>
<td>60-in.</td>
</tr>
<tr>
<td>Abels</td>
<td>3,681</td>
<td>4,225</td>
</tr>
<tr>
<td>Boyer</td>
<td>339</td>
<td>3,870</td>
</tr>
<tr>
<td>Kessel/Johnson</td>
<td>964</td>
<td>3,766</td>
</tr>
</tbody>
</table>

**MORE COVER CROP BIOMASS AND N AT 2 FARMS**
2018: 60- vs. 30-in. Corn Row-Widths for Interseeding

*Corn yield reduced at two farms
+Corn yield similar at two farms
2019 – cover crops interseeded (June)

- Fred Abels, Holland
- Robert Alexander, Remsen
- Nathan Anderson, Aurelia
- Jack Boyer, Reinbeck
- Jeremy Gustafson, Boone
- Mark Yoder, Leon

<table>
<thead>
<tr>
<th>ALEXANDER</th>
<th>ANDERSON</th>
<th>BOYER</th>
<th>YODER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buckwheat (5 lb/ac);</td>
<td>Annual ryegrass (8 lb/ac);</td>
<td>Buckwheat (6 lb/ac);</td>
<td>Cowpeas (25K seeds/ac)</td>
</tr>
<tr>
<td>Cereal rye (10 lb/ac);</td>
<td>Buckwheat (5 lb/ac);</td>
<td>Cereal rye (30 lb/ac);</td>
<td></td>
</tr>
<tr>
<td>Collards (2 lb/ac);</td>
<td>Common vetch (4 lb/ac);</td>
<td>Collards (2 lb/ac);</td>
<td></td>
</tr>
<tr>
<td>Cowpeas (7 lb/ac);</td>
<td>Crimson clover (4 lb/ac);</td>
<td>Cowpeas (3 lb/ac);</td>
<td></td>
</tr>
<tr>
<td>Crimson clover (3 lb/ac);</td>
<td>Flax (5 lb/ac);</td>
<td>Crimson clover (3 lb/ac);</td>
<td></td>
</tr>
<tr>
<td>Phacelia (1 lb/ac);</td>
<td>Rapeseed (1 lb/ac)</td>
<td>Phacelia (2 lb/ac);</td>
<td></td>
</tr>
<tr>
<td>Rapeseed (2 lb/ac);</td>
<td></td>
<td>Rapeseed (1 lb/ac)</td>
<td></td>
</tr>
<tr>
<td>Winter peas (7 lb/ac)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 2019: 60- vs. 30-in. Corn Row-Widths for Interseeding

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<tbody>
<tr>
<td></td>
<td>30-in.</td>
<td>60-in.</td>
</tr>
<tr>
<td>Alexander</td>
<td>1,620</td>
<td>1,808</td>
</tr>
<tr>
<td>Anderson</td>
<td>35</td>
<td>671</td>
</tr>
<tr>
<td>Boyer</td>
<td>424</td>
<td>2,207</td>
</tr>
<tr>
<td>Yoder</td>
<td>105</td>
<td>2,530</td>
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</tbody>
</table>

*More cover crop biomass and N at 3 farms*
2019: 60- VS. 30-IN. CORN ROW-WIDTHS FOR INTERSEEDING

*CORN YIELD REDUCED AT THREE FARMS
+CORN YIELD SIMILAR AT TWO FARMS
++Severe cutworm pressure
Weed control can be a challenge!
Hybrid selection?

Potential for:
– N for succeeding crops
– Forage to graze
<table>
<thead>
<tr>
<th>Feed Costs</th>
<th>Tons</th>
<th>Cost/ton</th>
<th>Total</th>
<th>$/hd</th>
<th>$/hd/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay</td>
<td>11.34</td>
<td>135</td>
<td>$1530.9</td>
<td>$43.74</td>
<td>$1.41</td>
</tr>
<tr>
<td>Cornstalks</td>
<td>7.81</td>
<td>70</td>
<td>$546.70</td>
<td>$15.62</td>
<td>$.50</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td><strong>$2,077.6</strong></td>
<td><strong>$59.36</strong></td>
<td><strong>$1.91</strong></td>
</tr>
</tbody>
</table>
241
226

13 bushel difference @ $3.75 = $48.75/acre
## Cover Crop Biomass and N

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636 lbs biomass @ $120/ton = $38.16/acre
Nitrogen value as feed protein?
Other questions I have:

Can I have better weed control with overwintering CC?
Can I raise better corn-on-corn with 60” rows vs 30”?
How can I increase interseeded CC biomass?

Basically:
How can I improve the economic return of this practice?
Questions & Reflection