Date of planting and hybrid relative maturity study

May • June 2018
Emmet, Palo Alto and Kossuth counties

The following data is from one year of a date of planting study from the ISU Northern Farm at Kanawha – and should be considered a very general overview of the effects of delayed planting.

**The three corn hybrids are 95 day, 104 day and 109 day.**

<table>
<thead>
<tr>
<th>Plant date</th>
<th>P9526 yield</th>
<th>H2O%</th>
<th>P0407 yield</th>
<th>H2O%</th>
<th>P0987 yield</th>
<th>H2O%</th>
<th>average yield</th>
<th>H2O%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/13/15</td>
<td>179</td>
<td>14.5</td>
<td>169</td>
<td>15.0</td>
<td>196</td>
<td>16.7</td>
<td>181</td>
<td>15.4</td>
</tr>
<tr>
<td>6/5/15</td>
<td>169</td>
<td>19.1</td>
<td>139</td>
<td>20.8</td>
<td>161</td>
<td>20.2</td>
<td>156</td>
<td>20.2</td>
</tr>
</tbody>
</table>

**The effect of an early June corn planting date compared to mid- May corn planting date:**
- Corn yields decreased about 1.0 bu/acre/day or 25 bu/a.
- Corn grain moisture increased 4.8 points, or 0.2 point/day.
- The cost of drying 200 bushel per acre corn is about $7.00 per acre per point.
- A later maturity hybrid needs to yield an additional 2 bu/a to offset extra drying costs – based on $3.50 bushel corn.

**A study with the same hybrids at the ISU Northwest Research Farm near Sutherland showed:**
- more of a yield advantage for the 109 day hybrid at all planting dates.
- that the yield penalty for delaying the planting date from mid-May to early June was about 50 bu/a in 2014, 20 bu/a in 2015 and 10 bu/a in 2016.

**Additional discussion – from PM 1851.**
- corn planted May 25 to June 5 yields about 30 % less.
- It is advised to use a 100 day RM hybrid through June 1.
- It is advised to change from corn to soybean after June 5 – because of reduced corn yield potential and the potential high moisture grain at harvest.

**CRW**
Damage from corn rootworm is *usually* less with June planted corn. There are 235 soil growing degree days (GDDs) (base 52, 1/1/18, Sutherland) and 50% egg hatch occurs at 684 to 767 soil GDDS. Saturated soil conditions reduce larval survival.
**Soybean planting date**

<table>
<thead>
<tr>
<th>Planting date</th>
<th>NWRF - 2014</th>
<th>NWRF - 2016</th>
<th>ISU PM 1851</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 24-28</td>
<td>69</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>May 8-13</td>
<td>62</td>
<td>79</td>
<td>96</td>
</tr>
<tr>
<td>May 21-25</td>
<td>-</td>
<td>-</td>
<td>99</td>
</tr>
<tr>
<td>June 5-10</td>
<td>55</td>
<td>72</td>
<td>81</td>
</tr>
<tr>
<td>June 20-24</td>
<td>-</td>
<td>-</td>
<td>61</td>
</tr>
<tr>
<td>July 1-3</td>
<td>30</td>
<td>75</td>
<td>33</td>
</tr>
</tbody>
</table>

**Soybean planting discussion.**

- Expect a 20 percent yield reduction with June 10 planted soybean.
- Actual soybean yields may to be 45 to 55 bu/a when planted ~June 10.
- Use an early group II variety until June 15 -20.
- Use a late group I variety from June 15 to July 1.
- Early frost may reduce the yield potential of the later maturing varieties.

**Herbicide issues**

- The labels of the products listed below are not labeled for soybean in the year of application. Crop injury may occur if soybean is replanted following the application of these products.
  - Harness/Surpass/Keystone
  - Low rates of atrazine
  - Lumax, Lexar, Acuron – high risk because of the relative high rate of Callisto.
  - SureStart/TripleFLEX, Resicore – are high risk – because soybean is very sensitive to the Stinger component.
  - Balance Flexx, Corvus, Prequel – high risk.
- Outlook, Dual II Magnum, generic Dual, the low rate of Verdict, Zidua – are labeled for soybean and corn.

**Fallow syndrome**

- Cover crops are recommended when prevented planting occurs. Populations of soil micro-organisms that are necessary for nutrient uptake may be reduced. Fallow syndrome affects corn more than soybean.

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