Revised Corn Yield Forecasts

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Revised Corn Yield Forecasts

Abstract
With corn pollination complete and grain fill well underway, estimates of corn yield are being made across Iowa. On July 20, Corn Yield Predictions was written to provide an insight into corn yields forecasts based on the weather and management through pollination. This article is discussing a revised corn yield forecast now that grain fill is underway. The aforementioned article gives the background on the collaborative team, management/location assumptions and Hybrid-Maize model.

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Revised Corn Yield Forecasts

August 21, 2014

By Mark Licht, Department of Agronomy

With corn pollination complete and grain fill well underway, estimates of corn yield are being made across Iowa. On July 20, Corn Yield Predictions was written to provide an insight into corn yields forecasts based on the weather and management through pollination. This article is discussing a revised corn yield forecast now that grain fill is underway. The aforementioned article gives the background on the collaborative team, management/location assumptions and Hybrid-Maize model.

The revised yield forecasted is based off current weather up to August 15 and historical weather thereafter. For Iowa, the median forecasted yields of the six locations ranged from -4% to 42% of the long-term average yield potential (Table 1). The biggest deviation from the long-term average was the Lewis location where the yield projections indicate a 75% probability that yields near Lewis will be 27% or more above the normal
yield. This represents the largest change from the July 20 article.

<table>
<thead>
<tr>
<th>Location</th>
<th>Long-term average Yp (bu/ac)</th>
<th>2014 forecast Yp (bu/ac)</th>
<th>2014 forecast Yp (% of long-term average Yp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutherland</td>
<td>232</td>
<td>245</td>
<td>222</td>
</tr>
<tr>
<td>Ames</td>
<td>228</td>
<td>237</td>
<td>222</td>
</tr>
<tr>
<td>Crawfordsville</td>
<td>230</td>
<td>237</td>
<td>258</td>
</tr>
<tr>
<td>Nashua</td>
<td>245</td>
<td>250</td>
<td>237</td>
</tr>
<tr>
<td>Lewis</td>
<td>172</td>
<td>237</td>
<td>245</td>
</tr>
<tr>
<td>Kanawha</td>
<td>219</td>
<td>237</td>
<td>222</td>
</tr>
<tr>
<td>6-location average</td>
<td>221</td>
<td>268</td>
<td>249</td>
</tr>
</tbody>
</table>

*Long-term average yield is simulated for each location parameters given and historical weather records. 2014 forecasted yield is based on the 2014 planting date. 25% probability of obtaining a yield equal to or higher than the shown value. ** 75% probability of obtaining a yield equal to or higher than the shown value.

Table 1. In-season yield potential forecasts for the 2014 growing season in Iowa. Yield predictions are made using the Hybrid-Maize model with current weather parameters prior to August 15, 2014 followed by historical weather records for the remainder of the growing season. Download revised corn yield forecast chart.

Yield projections at the Sutherland location were revised lower with a 50% probability of yields 6% to -13%. Likewise, reductions in yield projections occurred at Kanawha and Nashua. These reductions in forecasted yields across the northern Iowa locations come from cooler weather and increased risk of a killing frost before maturity is reached. The full version of the July 20 simulation for all Corn Belt locations forecasted can be found at; 2014 Forecasted Corn Yields Based on July 20 Hybrid Maize Model Simulations.

The best determination of yield potential for your farm will be by determining (or estimating) the yield components for your fields. The most common yield calculations include; ears per acre, kernels per ear (rows per ear time kernels per row), and kernels per bushel (often as 90,000 kernels per bushels). Better estimates are achieved when conducting estimates based on 10 ears per stop and 10 stops per field with adjustments adjustment made to kernels per bushel for kernel weight and/or size.

Acknowledgements: The data presented here is part of larger yield forecasting project coordinated by Patricio Grassini, Haishun Yang, Roger Elmore and Kenneth Cassman from the Department of Agronomy and Horticulture, University of Nebraska-Lincoln and the Robert B. Dougherty Water for Food Institute.

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Category: Crop Production

Crop:
Corn

Tags: Corn  corn yield  corn yield prediction  revised corn yield forecasts

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