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Updated Planting Date Recommendations for Iowa

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Abstract
Note: *A full-length summary and publication on this data set will be available later this year. The statistical analysis and recommendations used and stated in this article may be changed slightly given further interpretation. The recommendations are not expected to be altered significantly though and are stated now to aid producers and agronomists this planting season.*

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Updated Planting Date Recommendations for Iowa

Lori Abendroth and Roger Elmore, Department of Agronomy

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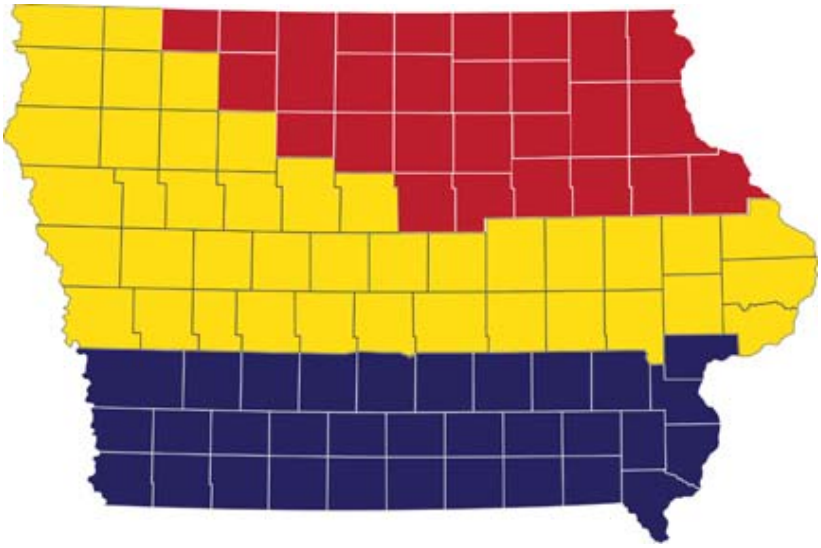
Our research group has been working to update corn planting date recommendations based on new field data (2006-2009). As corn growers and agronomists know, corn planting dates have increasingly become earlier over the years. This change is largely due to advancements in equipment, seed treatments, hybrid stress tolerance, tile drainage and reduced tillage. Combine these factors with a desire to maximize the length of the growing season and it is clear why we encourage earlier planting than before.

Our new recommendations are based on multi-year (2006, 2007 and 2009) and multi-location (seven research sites) data for a total of 21 site-years. Plots were planted on April 1, or as soon as possible, and the last planting date was June 1. Once all the data was pooled and analyzed, three distinctive patterns or "regions" emerged for Iowa.



Recommendations are developed based on achieving a percentage of the maximum yield possible in relation to planting date. Each region had a different response curve, or optimum window of time. These "windows" were developed for each region by identifying the date that optimized yield on average and then expanding the window from there. Recommendations are given for achieving 95+ percent or 98+ percent maximum yield. The window of time that producers can expect to reach 98 percent to 100 percent yield potential in relation to planting date is narrower than the 95 percent to 100

percent window.

Northeast region (red):
This has the narrowest planting window due to the need to maximize the length of the available growing season. Grain yields begin to drop off more significantly here than the rest of the state if plantings are too late. We recommend planting between April 12 and May 2 (95-100 percent yield window) or between April 12 and 30 (98-100 percent yield window). The dataset is limited for plantings before April 12 in this region, which limits our ability to make recommendations prior to this date.

Northwest and central region (yellow):
This has a flatter yield response to planting date than the other regions. In other words, planting date does not appear as important of a management practice here as in other parts of the state. We recommend planting between April 15 and May 18 (95-100 percent yield window) or between April 15 and May 9 (98-100 percent yield window). The dataset is limited for plantings before April 15 in this region, which limits our ability to make recommendations prior to this date.

Southern region (blue):
The yield response in this part of the state is presumably related more closely to rainfall patterns and soil moisture than the length of the growing season since this typically is not a limitation as it is in the northern part of the state. We recommend planting between April 11 and May 13 (95-100 percent yield window) or between April 17 and May 8 (98-100 percent yield window).

Conclusion
Although planting date impacts yield and is an important factor, it is clear that an approximate three- to four- week window exists for growers in each Iowa region to plant their crop and realize 95 percent or greater yield. In terms of planting date, growers should feel secure when planting within the windows cited above. It is interesting to note that the start date for all regions is approximately the same, approximately April 10-15. The difference among the recommendations primarily lies with the length of time each region has from that starting point and the yield reduction that occurs after the recommended window ends.

Thanks
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More information
An expanded article, with more detail specifically on the methods behind this project and the development of recommendations can be found on the ISU Corn Production website.

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