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Highlights of the 2020 McLean County Corn Yield Estimates Performed by First Mid Ag Services - Bloomington

1. **Scope of Project –** 1,600 samples from 160 locations; Samples taken on managed farms from every township in McLean County by nine First Mid Farm Managers.

2. **Estimated Average Yield – *211.7 bushels/acre*;** This count ranks as the ***fourth highest*** projected yield falling ***1% below the 5 year average*** actual McLean county Ag Stats yield. Sample yield estimates ranged from 110 bushels/acre to 273 bushels/acre. Compared to 78% in 2018 and 47% in 2019, ***70%*** of the locations returned a yield estimate ***over 200*** bushels per acre. Most of the samples used for this estimate were taken the third and fourth week of August. Rows around and ear length were found to be slightly above average, but ear ***populations were below average*** due to the planting conditions in the challenging spring. With the late planting and dry August conditions, ***test weight and kernel size*** will be a very large ***determining factor in final yield*** throughout the county in 2020.

3. First Mid Historical Statistics –

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ave. Planting Date:	4/18	5/9	4/19	5/14	4/26	4/25	4/21	4/22	4/29	5/22	5/5
Ave. Ear Population (x1,000):	31.25	31.53	26.19	32.65	32.43	32.67	32.23	31.64	32.66	32.38	30.30
Ave. Plant Population (x1,000):	32.25	32.98	32.5	33.23	33.4	33.51	33.12	32.58	33.63	33.48	31.74
Ave. # of Rows/Ear:	16.4	15.2	14.1	15.9	16.5	16.3	16.5	16.4	16.9	16.4	16.6
Ave Kernel Length/Ear:	30.5	29.5	24.3	32.0	34.8	31.1	34.9	32.2	32.4	31.8	33.6
Ave. Estimated Yield:	182.8	167.1	112.4	192.1	222.6	193.0	219.0	197.3	217.7	197.3	**211.7**
Sample Set Actual Yield:	174.9	178.7	115.2	199.0	235.2	195.1	230.5	232.4	233.6	212.8	-
McLean County Ag Stats. Yield:	169.5	159.6	109.5	188.6	217.0	199.0	218.1	223.9	229.3	198.8	-

4. The 2020 McLean County Yield Story –

Weather: 2020 turned out to be a challenging year to get crops planted. We had windows of planting in early and late April as well as early to late May. None of these windows gave us ideal conditions, just tolerable to get some planting done. April and May brought a combination of not only wet, but cold weather as well. The corn did not get off to a great start. We followed the planting season with a dry June and then several nice rains in July. Unfortunately, July also brought 2 significant wind events on July 11th and 15th. Each did damage to the corn either by blowing corn down or breaking off plants. The northern half of the county tended to have more wind damage than the south.

Planting Date: Planting dates for the samples taken ranged from April 8th through May 31st with an ***average planting date of May 5th.*** When comparing the April planted corn to the May planted corn, a roughly ***1 bushel difference*** was estimated.

Emergence: Very few farms were fit during planting and emergence was a challenge. Our final plant stands were less than ideal and many plants emerged late developing small or no ear with significant production. This was not only due to the excessive rain but the cold temperatures as well. ***Final ear populations of 30,300 ears per acre*** were recorded. This falls below the five-year average of 33,260 plants per acre and **our lowest since 2012**.

Corn on Corn: As rotations continue to trend more towards corn following soybeans, only **2.0%** ***of the samples were corn on corn*** which, again, we do not believe to be statistically significant. Corn on corn samples estimated a 23 bushel per acre lower yield compared to corn after soybeans.

Fungicide Application: Each year, we track samples sprayed with fungicide. ***Application typically occurs during the R1 timeframe*** between tassel and brown silk. This year, ***32% of samples received a fungicide***, significantly less than the ***59% sprayed last year.*** While pulling checks***, disease pressure*** seemed to be ***similar between sprayed and non-sprayed fields***. A one bushel advantage is estimated on farms that were sprayed. This yield increase can be skewed due to most individuals having sprayed the farms showing the most potential.

Nitrogen: Concerns about nitrogen were low in 2020. Anhydrous applications were able to be completed either last year or early this spring. Though we had a wet spring, few managers noted a lack of nitrogen as being a problem. Firing of lower leaves can be attributed to the long periods of minimal moisture more so than running out of nitrogen. No real issues were noted, though the "all up front" application systems likely lost some nitrogen during the wet spring.

Soil Insecticide Application: Over the past couple years, the use of non-rootworm traited hybrids has become a growing trend, and fewer soil applied insecticides are being used. This year ***12% of samples were planted with soil insecticide*** and 26% of the hybrids were non-rootworm traited. Insect pressure in the upper part of the canopy was very low in sampled fields as well.

Standability: Plant health was a non-issue throughout most of the season. Our ***average stalk quality rating is 7.77*** on a scale from 1-10. Many fields that were sampled had "goose-necked" corn. Fortunately most of our local area did not receive winds as intense as Iowa, which decimated a portion of their state's production. Even though some plants were lodged a little, the stalk quality wasn't completely compromised. Our lowest estimated yield was a severe wind-damaged field. As we move towards harvest, stalk qualities should be monitored because Anthracnose and other diseases could still have a negative effect on stalk quality. We attribute this to some farms being behind in maturity compared to our typical timing. With shorter days, cooler temperatures, and less sunlight, maturity could be delayed and draw out harvest. Therefore, as we move towards harvest, plant quality should be monitored because Anthracnose and other diseases could still be detrimental to stalk quality.

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Conclusion:

- Fourth highest estimate ever.
- 1% below the 5 year average actual McLean County Ag Stats yield.
- Each part of the growing season had challenges.
- Limited disease and insect pressure across the county.
- Weather until harvest will play a factor.
- Fields with even emergence and better ear populations will yield very well.
- Wind damaged corn will yield less and takes longer to harvest, plan on a long harvest.