

Table 1. Experimental conditions and culture.

Conditions				Culture				
Location				Corn		Soybean		
42.8116667, -88.4875				Dates	2021	2022	2021	2022
Soil Test	2021	2022	2022	Planting	11-May	11-May	11-May	17-May
	All	Corn	Soybean	<i>Renk</i>	<i>RK710DGVT2P</i>		<i>G2550E</i>	
pH:	6.8	5.9	5.8	<i>Rate (seeds/acre)</i>	32,100		202,000	148,000
OM (%):	1.9	2.3	1.9	Emergence	20-May	17-May	20-May	1-Jun
P (ppm):	49	65	42	Stand Counts				
K (ppm):	99	81	91	3 Day	23-May	20-May	23-May	3-Jun
S (ppm):	2.5	5.2	3.4	6 Day	26-May	23-May		6-Jun
				30 Day (approximate)	19-Jun	11-Jun	19-Jun	1-Jul
Precipitation (in)				Shear test	19-Jun	11-Jun		
Month	2021	2022	Mean ⁽¹⁾	Tissue sampling	19-Jul	20-Jul	19-Jul	20-Jul
Apr.	1.15	4.99	3.39	Harvest	9-Oct	12-Nov	30-Sep	15-Oct
May	2.55	2.54	4.08	Applications				
June	2.68	1.53	4.94	Gypsum			at planting	
July	1.01	4.20	3.79	<i>Full rate (lb/a)</i>	70	70	55	69
Aug	2.77	4.65	3.54	<i>S (lb/a)</i>	11.2	11.2	8.8	11.0
Sept.	0.58	6.01	3.49	<i>Half rate (lb/a)</i>	35	35	28	35
Season total	10.74	23.92	23.23	<i>S (lb/a)</i>	5.6	5.6	4.5	5.6
% of long-term	46.2	103.0		Starter fertilizer			at planting	
				<i>Actual nutrient (lb/a)</i>			3.3 - 4 - 8 - 3.4	
GDD Accumulation⁽²⁾				Sulfur (tmt 4)	24-May	20-May	24-May	6-Jun
Month	2021	2022	Mean	<i>0-0-0-90, lb S/a</i>			50	
Apr.	102	36	74	Nitrogen	26-May	31-May		
May	274	336	274	<i>32-0-0, lb N/a</i>			127	
June	634	527	518	<i>46-0-0, lb N/a</i>			120	
July	643	635	670	Preemergence herbicide	17-May	19-May	17-May	19-May
Aug	719	601	621	<i>glyphosate</i>			<i>glyphosate</i>	
Sept.	455	378	402	<i>metalochlor</i>			<i>metalochlor</i>	
Season total	2,827	2,513	2,559	<i>atrazine</i>			<i>sulfentrazone</i>	
% of long-term	110.5	98.2		<i>mesotrione</i>			<i>2,4-D choline</i>	
30-day post-planting rainfall events (date/in)				Post emergence herbicide			2-Jul	29-Jun
Month	2021		2022				<i>glyphosate</i>	
May	15	0.22	18	0.37			<i>2,4-D choline</i>	
	18	0.23	20	0.09				
	19	0.02	24	0.02				
	21	0.37	25	0.92				
	22	0.04	26	0.28				
	27	0.35	27	0.02				
June	11	0.44	4	0.16				
			5	0.22				
			6	0.10				
			9	0.37				
			10	0.21				
			<i>soybean only</i>					
			11	0.03				
			15	0.24				

⁽¹⁾ 20-year mean, 2000-2019.

⁽²⁾ Growing Degree Day, Base 50, NOAA National Weather Service, Sullivan, WI.
<https://www.weather.gov/wrh/Climate?wfo=mkx> (accessed 1/24/2023).