

Supplementary material for “Evaluation of Hydroclimatic Variability and Prospective Implementation of Irrigation Strategies in the U.S. Corn Belt”

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SIII: Detailed evaluation of the optimal irrigation strategy for future climatic conditions in the different initial soil moisture conditions (ISM).

Table SIII.1 Optimal irrigation strategy in dry soil conditions (10 and 20 % ISM).





































































Site	Code	ISM 10 %			ISM 20 %		
		Optimal Strategy	Increase in Yield [%]	Water Savings [mm]	Optimal Strategy	Increase in Yield [%]	Water Savings [mm]
Marysville	E1	S5_ODT 	52	28.1	S5_ODT 	33	1.9
Toledo	E2	S5_ODT 	64	82.1	S6_ODTph 	43	90.9
Huntington	E3	S6_ODTph 	57	121.2	S5_ODT 	37	98.1
Baraboo	E4	S5_ODT 	48	72.6	S6_ODTph 	26	50.6
Dekalb	E5	S5_ODT 	67	16.4	S5_ODT 	39	8.8
Beloit	E6	S5_ODT 	54	66.6	S6_ODTph 	30	44.8
Rensselaer	E7	S3_DI 	64	-	S6_ODTph 	38	45
Tuscola	E8	S5_ODT 	77	31.7	S5_ODT 	54	25.4
Kirksville	W1	S3_DI 	83	-	S3_DI 	54	-
Topeka	W2	S3_DI 	85	-	S3_DI 	68	-
New Madrid	W3	S5_ODT 	79	63.8	S5_ODT 	57	2.6
Olivia	W4	S5_ODT 	66	23	S6_ODTph 	33	40.4
Brookings	W5	S5_ODT 	69	35.4	S6_ODTph 	43	15.4
Iowa City	W6	S5_ODT 	70	48.4	S5_ODT 	42	23.4
Grand Forks	W7	S6_ODTph 	60	168.6	S5_ODT 	35	69.8
Columbus	W8	S5_ODT 	85	103.2	S5_ODT 	54	137.5
Rochester	W9	S3_DI 	58	-	S3_DI 	31	-

Table SIII.2 Optimal irrigation strategy in wet soil conditions (30 and 40 % ISM).

Site	Code	ISM 30			ISM 40		
		Optimal Strategy	Increase in Yield [%]	Water Savings [mm]	Optimal Strategy	Increase in Yield [%]	Water Savings [mm]
Marysville	E1	S5_ODT 	19	21.5	S4_CFS 	5	46
Toledo	E2	S5_ODT 	20	114	S5_ODT 	3	97.03
Huntington	E3	S5_ODT 	18	107.8	S5_ODT 	2	81.78
Baraboo	E4	S6_ODTph 	7	103.58	S1_RF 	0	58.33
Dekalb	E5	S5_ODT 	16	38.7	S6_ODTph 	3	56.21
Beloit	E6	S5_ODT 	11	88.2	S1_RF 	0	26.77
Rensselaer	E7	S6_ODTph 	19	131.7	S5_ODT 	6	93.65
Tuscola	E8	S5_ODT 	31	104.4	S5_ODT 	12	71
Kirksville	W1	S3_DI 	22	-	S7_GO 	7	27.6
Topeka	W2	S5_ODT 	45	54.7	S5_ODT 	21	39
New Madrid	W3	S5_ODT 	35	7	S5_ODT 	16	48.7
Olivia	W4	S5_ODT 	14	66.5	S5_ODT 	1	9.12
Brookings	W5	S5_ODT 	18	67.5	S7_GO 	5	91.6
Iowa City	W6	S5_ODT 	22	92.5	S6_ODTph 	5	97.42
Grand Forks	W7	S6_ODTph 	16	37.1	S6_ODTph 	1	30.15
Columbus	W8	S5_ODT 	28	102.9	S7_GO 	7	114.8
Rochester	W9	S5_ODT 	14	-	S1_RF 	0	32.76