

2012 CMDC

Row Configuration and Plant Populations for Corn and Soybeans

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Twin-Row Corn Response – Across States

	NE (3 yr)	IN (3 yr)	OH (1 yr)	IA (3 yr)	AL (2 Loc, 1 yr)	MO (4 yr)
	----- bu/a -----					
30-Inch	219.8	189.3	180.2	195.7	125.0	106.5
Twin	222.6	188.0	182.0	195.3	123.6	99.1
Change	2.8	-1.3	1.8	-0.4	-1.4	-7.4
% Change	1.3	-0.7	1.0	-0.2	-1.1	-6.9
Sign	NS	NS	NS	NS		

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Twin-Row Soybean Response – Across States

	NE (Furrow Irrigated, 3 yr)	NE (Monsanto Gothenburg 2011)	Ontario (3 Location, 3 yr)	MS (2 Location, 2 yr)
	----- bu/a -----			
30-Inch	44.2	49	44.9	61.2
Twin	45.1	51	48.4	64.4
Change	1.3	2	3.5	3.2
% Change	2.9	4.1	7.7	5.2
Sign	*	**	**	**

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Corn Row Spacing Response – 30 to 20 Inch Rows

Zone	% Yield Change
North of I-90	8.8
South of I-90 & North of I-80	4.4
South of I-80 & North of I-70	0.9
South of I-70 (IL and TN)	-8.7

Source. Paszkiewicz. 1997. American Seed Trade Assoc.

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Irrigated Corn Response Plant Population – NE (2009 – 11)

	Yield	Ears	100	Plant	Ear	Stalk	Lodging
	bu/a	per m ²	Kwt	ht	ht	Dia	%
28,000	210	6.5	34.4	7.60	3.69	24.1	6.9
33,000	221	7.9	33.2	7.65	3.81	22.5	13.6
38,000	227	8.5	33.0	7.83	3.95	21.8	15.5
43,000	227	9.7	32.3	7.73	3.99	10.9	21.1
Sign	Quad	Linear	Quad	Quad	Quad	Quad	Linear

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Twin-Row Irrigated Corn Response – NE (2009 – 11)

	Yield	Ears	100	Plant	Ear	Stalk	Lodging
	bu/a	per m ²	Kwt	ht	ht	Dia	%
			g	ft	ft	mm	
30-Inch	219.8	8.2	33.1	7.76	3.86	22.1	12.8
Twin	222.6	8.0	33.4	7.65	3.86	22.6	15.7
Change	2.8	-0.2	0.3	0.11	0	0.5	-2.9
% Change	1.3	-2.4	0.9	-1.4	0	2.3	22
Sign	NS	*	**	**	NS	**	*

No interactions with hybrid or plant population

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Soybean Row Spacing and Plant Population

Soybean Seeding Rate Recommendation:
120,000 viable seeds per acre based upon NE on-farm research

Soybean Row Spacing: Limited new research

- Iowa 2004 – 2006 – Increased yield from 65.4 to 69.1 bu/a (6% increase) by narrowing rows from 30 to 15 inches
- Elmore 1998 – 20 inch rows produced highest yields
- Is interception of solar radiation the limiting factor??

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