

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1446 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /10/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/18 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 20' x 5' **Harvest Plant Density:** 30400 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Agripro AP9401
Croplan 562IMI
Dekalb DK525
Dekalb DK539

GH H8049IMI
Garst 8640
Garst 8707
Kaltenberg K5404

Results: Table E-23.

**Table E-23. Plot Size Effects on Maize.
Arlington, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		220	20.6	56.3	1.7	100
4 row		238	20.3	57.1	1.6	103
	Agripro AP9401	222	19.9	56.5	1.7	96
	Croplan 562IMI	223	24.2	56.9	1.4	95
	Dekalb DK525	236	19.8	58.7	2.6	105
	Dekalb DK539	243	20.4	58.1	0.5	102
	GH H8049IMI	220	20.6	55.8	0.7	93
	Garst 8640	231	19.0	55.5	1.2	105
	Garst 8707	234	18.6	55.8	1.0	109
	Kaltenberg K5404	223	19.9	57.6	2.4	106
	Pioneer 35R57	239	21.5	56.1	1.9	105
	Pioneer 36D14	232	20.8	56.2	2.1	97
	Renk RK641	231	20.3	55.7	1.7	102
	Renk RK648	211	20.6	57.1	2.4	105
2 row	Agripro AP9401	215	19.6	56.7	2.9	95
4 row	Agripro AP9401	229	20.2	56.4	0.5	96
2 row	Croplan 562IMI	218	24.4	56.8	1.9	91
4 row	Croplan 562IMI	227	24.1	57.0	1.0	99
2 row	Dekalb DK525	220	19.9	58.2	1.4	102
4 row	Dekalb DK525	253	19.7	59.2	3.8	109
2 row	Dekalb DK539	244	20.5	58.0	1.0	104
4 row	Dekalb DK539	243	20.2	58.3	0.0	100
2 row	GH H8049IMI	202	20.4	55.1	1.4	92
4 row	GH H8049IMI	238	20.7	56.5	0.0	93
2 row	Garst 8640	223	19.6	55.2	0.5	103
4 row	Garst 8640	239	18.4	55.8	1.9	107
2 row	Garst 8707	221	18.8	55.3	1.0	107
4 row	Garst 8707	248	18.5	56.4	1.0	111
2 row	Kaltenberg K5404	218	19.9	57.3	2.4	104
4 row	Kaltenberg K5404	228	19.9	57.9	2.4	108
2 row	Pioneer 35R57	235	21.2	55.8	2.4	103
4 row	Pioneer 35R57	243	21.8	56.4	1.4	106
2 row	Pioneer 36D14	223	20.8	55.8	1.9	93
4 row	Pioneer 36D14	241	20.7	56.7	2.4	100
2 row	Renk RK641	222	20.7	55.4	1.0	101
4 row	Renk RK641	240	19.9	56.0	2.4	102
2 row	Renk RK648	198	21.1	56.1	2.9	104
4 row	Renk RK648	225	20.1	58.2	1.9	105
Mean		229	20.5	56.7	1.6	101
Probability (%)						
Size (S)		0.3	57.8	37.2	78.4	0.8
Hybrid (H)		0.0	0.0	0.0	75.6	0.0
S x H		1.6	60.2	30.7	76.2	0.3
LSD(0.10)						
Size (S)		6	NS	NS	NS	2
Hybrid (H)		8	0.8	0.7	NS	2
S x H		12	NS	NS	NS	3
CV(%)						
		4	4	2	128	2

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1445 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Janesville, WI **County:** Rock
Supported By: Hatch

Site Information

Field: R-5D **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.6 **OM (%)** 3.4 **P (ppm)** 74 **K (ppm)** 215

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator 1 Cultivation
Fertilizer: **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 160 A **Date:** 4 /25/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /30/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Harness @ 2.75pt/A **Insecticide:** none
Hornet @ 4.5 oz/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 4/30/99 **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/8/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 28000 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Hybrids

Agripro AP9401	GH H8049IMI	Pioneer 35R57
Croplan 562IMI	Garst 8640	Pioneer 36D14
Dekalb DK525	Garst 8707	Renk RK641
Dekalb DK539	Kaltenberg K5404	Renk RK648

Results: Table E-24.

**Table E-24. Plot Size Effects on Maize.
Janesville, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		236	19.4	59.2	0.5	101
4 row		241	19.2	59.2	0.5	100
	Agripro AP9401	251	19.4	59.3	0.2	95
	Croplan 562IMI	246	20.6	59.1	0.5	95
	Dekalb DK525	233	18.8	61.8	0.3	103
	Dekalb DK539	245	19.4	61.1	0.2	103
	GH H8049IMI	204	20.1	58.9	0.5	91
	Garst 8640	236	17.9	57.9	0.7	105
	Garst 8707	239	18.3	58.4	0.3	105
	Kaltenberg K5404	232	18.1	59.9	1.0	105
	Pioneer 35R57	263	20.9	57.6	0.2	104
	Pioneer 36D14	247	20.1	59.0	0.7	98
	Renk RK641	242	18.7	58.1	0.7	100
	Renk RK648	228	18.9	60.2	0.5	105
2 row	Agripro AP9401	249	19.2	59.9	0.3	95
4 row	Agripro AP9401	252	19.6	58.9	0.0	95
2 row	Croplan 562IMI	232	20.7	59.4	0.7	96
4 row	Croplan 562IMI	260	20.6	58.9	0.3	94
2 row	Dekalb DK525	238	19.0	62.1	0.3	102
4 row	Dekalb DK525	231	18.7	61.7	0.3	103
2 row	Dekalb DK539	238	19.3	61.1	0.3	103
4 row	Dekalb DK539	250	19.5	61.1	0.0	102
2 row	GH H8049IMI	183	20.1	58.9	1.0	92
4 row	GH H8049IMI	224	20.0	59.0	0.0	90
2 row	Garst 8640	242	18.0	57.9	0.3	105
4 row	Garst 8640	231	17.9	57.9	1.0	105
2 row	Garst 8707	244	18.4	58.1	0.3	106
4 row	Garst 8707	234	18.1	58.6	0.3	104
2 row	Kaltenberg K5404	234	18.6	60.3	0.7	105
4 row	Kaltenberg K5404	230	17.8	59.7	1.3	105
2 row	Pioneer 35R57	270	21.2	57.6	0.0	104
4 row	Pioneer 35R57	258	20.8	57.6	0.3	103
2 row	Pioneer 36D14	247	20.3	59.0	0.3	99
4 row	Pioneer 36D14	248	19.9	59.0	1.0	96
2 row	Renk RK641	239	18.9	58.0	0.3	100
4 row	Renk RK641	245	18.6	58.3	1.0	100
2 row	Renk RK648	228	19.1	60.1	1.0	105
4 row	Renk RK648	228	18.8	60.2	0.0	105
Mean		238	19.3	59.2	0.5	101
Probability (%)						
Size (S)		40.9	35.0	54.0	100	48.7
Hybrid (H)		0.0	0.0	0.0	68.8	0.0
S x H		3.0	75.6	88.7	37.9	95.3
LSD(0.10)						
Size (S)		NS	NS	NS	NS	NS
Hybrid (H)		12	0.4	0.6	NS	2
S x H		22	NS	NS	NS	NS
CV(%)						
		6	2	1	153	2

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1444 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Lancaster, WI **County:** Grant
Supported By: Hatch

Site Information

Field: R1-B **Previous Crop:** Corn **Soil Type:** Fayette
Soil Test: **Date:** N/A **pH** 7.0 **OM (%)** 2.7 **P (ppm)** 65 **K (ppm)** 165

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 82-0-0 **Rate lbs/A:** 180 A **Date:** 4 /28/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /3 /99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Aatrex 4L @ .5qt/A **Insecticide:** Lorsban 7lbs/A
Buctril @ 1.5 pt/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/5/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 20' x 5' **Harvest Plant Density:** 30400 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Hybrids

Agripro AP9401	GH H8049IMI	Pioneer 35R57
Croplan 562IMI	Garst 8640	Pioneer 36D14
Dekalb DK525	Garst 8707	Renk RK641
Dekalb DK539	Kaltenberg K5404	Renk RK648

Results: Table E-25.

**Table E-25. Plot Size Effects on Maize.
Lancaster, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		201	21.0	57.4	2.9	89
4 row		207	21.2	57.4	3.3	90
	Agripro AP9401	210	21.7	57.1	2.1	84
	Croplan 562IMI	202	24.4	56.6	2.4	85
	Dekalb DK525	205	19.5	60.1	4.5	94
	Dekalb DK539	206	21.4	59.3	1.9	89
	GH H8049IMI	204	22.2	57.5	1.4	80
	Garst 8640	207	20.4	53.9	2.6	92
	Garst 8707	215	19.8	56.7	3.6	93
	Kaltenberg K5404	183	19.7	58.4	4.1	92
	Pioneer 35R57	210	22.3	56.9	2.6	89
	Pioneer 36D14	210	21.4	57.1	2.9	85
	Renk RK641	204	20.3	56.8	5.7	92
	Renk RK648	189	20.6	58.1	3.3	94
2 row	Agripro AP9401	211	21.7	57.2	1.9	84
4 row	Agripro AP9401	210	21.7	57.1	2.4	85
2 row	Croplan 562IMI	206	23.6	57.2	2.9	85
4 row	Croplan 562IMI	199	25.2	56.0	1.9	84
2 row	Dekalb DK525	201	19.5	60.1	4.3	95
4 row	Dekalb DK525	208	19.6	60.2	4.8	93
2 row	Dekalb DK539	207	21.1	59.8	1.4	88
4 row	Dekalb DK539	205	21.6	58.8	2.4	89
2 row	GH H8049IMI	202	21.9	58.3	1.0	80
4 row	GH H8049IMI	205	22.5	56.7	1.9	81
2 row	Garst 8640	194	19.9	52.1	1.4	90
4 row	Garst 8640	220	20.8	55.7	3.8	95
2 row	Garst 8707	211	20.1	56.6	3.3	90
4 row	Garst 8707	218	19.5	56.8	3.8	96
2 row	Kaltenberg K5404	175	19.4	58.4	2.9	91
4 row	Kaltenberg K5404	191	19.9	58.4	5.3	93
2 row	Pioneer 35R57	211	22.1	57.1	4.3	89
4 row	Pioneer 35R57	208	22.6	56.6	1.0	89
2 row	Pioneer 36D14	202	21.6	57.0	2.9	86
4 row	Pioneer 36D14	218	21.2	57.3	2.9	85
2 row	Renk RK641	209	19.9	56.9	5.3	92
4 row	Renk RK641	200	20.6	56.6	6.2	92
2 row	Renk RK648	181	21.8	57.5	3.3	95
4 row	Renk RK648	197	19.5	58.7	3.3	93
Mean		204	21.1	57.4	3.1	89
Probability (%)						
Size (S)		12.8	69.9	92.7	36.2	22.5
Hybrid (H)		0.0	0.0	0.0	7.8	0.0
S x H		14.6	15.6	33.8	73.1	35.7
LSD(0.10)						
Size (S)		NS	NS	NS	NS	NS
Hybrid (H)		10	0.9	1.5	1.5	1
S x H		NS	NS	NS	NS	NS
CV(%)						
		5	5	3	70	3