

FIELD EXPERIMENT HISTORY

Year: 2004
Title: Corn/Soybean/Wheat Rotation Study
Experiment: 2491
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Organization: UW Madison, Dept. of Agronomy
Location: Arlington Agricultural Research Station, Arlington, WI

FIELD INFORMATION

Field: ARS 335
 Soil Type: Plano Silt Loam
 Soil Test Results: Date:5/04 pH: 6.9 O.M.(%): 2.9 P(ppm): 32 K(ppm): 150
 Fertilizer Applied: Soybean: None
 Wheat: 120 lb/A N post-emergence
 Corn: 210 lb/A N pre-emerge
 Tillage Operations: No-till
 Previous Crop: Corn/Soybean/Wheat
 Previous Herbicide: Roundup
 Irrigation: None

EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split plot
 Replicates: 3
 Variables: Factors/Treatments:

	<u>System</u>	<u>Rotation</u>		
	Continuous	Corn, Soybean or Winter Wheat		
	Alternating	Corn/Soybean		
	Grain system I	Corn/Soybean(early)/Winter Wheat(red clover)		
	Grain system II	Corn(early)/Winter Wheat(red clover)/Soybean		
	Livestock system	Corn(silage)/Winter Wheat(straw removed)/Soybean		

	<u>Corn</u>	<u>Soybean</u>	<u>Wheat</u>
Area Planted:	60' x 60'	60' x 60'	60' x 60'
Area Harvested:	5' x 56'	5' x 56'	5' x 56'
Row Spacing:	30"	30"	7.5"
Seeding Rate:	32,500 seeds/acre	150,000 seeds/acre	150 lb/acre
Hybrid/Variety:	Trelay 7693 RR2	Kaltenberg KB192 RR	Kaskaskia
Planting Date:	5-May-04	17-May-04	26-Sept-03 and 10-Oct-03
Planting Equip:	Kinze 2000 Interplant planter	Kinze 2000 Interplant planter	JD 750 No-Till Drill
Harvesting Date:	20-Sept (S), 8-Oct (G), and 18-Oct (G)	6-Oct-04	6-Aug-04
Harvesting Equip:	707 silage harvester, Kinkaid plot combine	Almaco plot combine	Almaco plot combine
Seed Treatments:	Maxim XL Maxim + Apron XL Maxim + Azoxystrobin Captan + Apron XL	UTC SoyGard Rival/Alleg ApronMaxx	None

Herbicides:	<u>Material</u>	<u>Crop</u>	<u>Rate</u>	<u>Timing</u>	<u>Date</u>
	Gramoxone	Corn/Soybean	2.5 pt/A	preplant	3-May-04
	Dual	Corn	2.5 pt/A	pre-emerge	13-May-04
	Gramoxone and Sencor	Soybeans (clover)	2.5 pt/A and 6 oz/A	post-emerge	19-May-04
	Roundup	Corn/Soybean (clover)	2 qt/A	post-emerge	26-May-04
	Harmony GT	Wheat	0.45 oz/A	post-emerge	26-May-04
	Roundup	Soybean	24 oz/A	post-emerge	15-Jun-04
	Roundup	Soybean	1.4 qt/A	post-emerge	13-Jul-04
	Roundup	Wheat/clover	1 qt/A	post harvest	6-Oct-04
	2,4-D	Wheat/clover	1 qt/A	post harvest	6-Oct-04

Insecticides:	Force 3G	Corn	4.4 lbs/A	at planting	5-May-04
	Ambush	Corn	10 oz/A	post emerge	14-Jun-04

Results: Tables C-64, 65, 66, 67, and 68.

**Table C-64. Corn, Soybean, and Wheat Rotation.
Arlington, WI - 2004.**

Crop	Rotation	Fungicide	Residue cover	Grain								Ears Dropped	Harvest	
				Yield	Moisture	Test Weight	Grower Return	Lodged					plants/A	ears/A
								Total	Stalk	Root	Barren			
			%	bu/A	%	lbs/bu	\$/A	%	%	%	%	%		
Corn		Captan + Apron XL		198	25.3	51	329	0	0	0	1	0	33753	33255
Corn		Maxim + Apron XL		193	25.2	51	322	0	0	0	1	0	31363	31065
Corn		Maxim + Azoxystrobin		203	25.0	51	338	0	0	0	2	0	33581	33128
Corn		Maxim XL		208	23.2	52	354	1	1	0	2	0	31802	31334
Corn	Continuous		82	182	25.2	51	303	0	0	0	2	0	32525	31695
Corn	Alternating		73	204	23.0	53	347	0	0	0	2	0	34184	33437
Corn	Grain system I		94	228	23.9	52	386	0	0	0	1	0	29953	30036
Corn	Grain system II		51	192	25.8	49	318	1	1	0	1	0	33437	33189
Corn	Continuous	Captan + Apron XL		186	25.0	51	311	0	0	0	3	0	33852	32857
Corn	Continuous	Maxim + Apron XL		180	25.1	51	301	0	0	0	3	0	31197	30202
Corn	Continuous	Maxim + Azoxystrobin		180	26.8	51	294	0	0	0	1	0	31529	31197
Corn	Continuous	Maxim XL		182	23.9	52	308	0	0	0	3	0	33520	32525
Corn	Alternating	Captan + Apron XL		206	22.6	53	354	1	1	0	2	0	35512	34848
Corn	Alternating	Maxim + Apron XL		202	22.8	53	345	0	0	0	1	0	32193	31861
Corn	Alternating	Maxim + Azoxystrobin		203	23.2	52	345	0	0	0	2	0	33852	33189
Corn	Alternating	Maxim XL		203	23.1	52	346	0	0	0	4	0	35180	33852
Corn	Grain system I	Captan + Apron XL		224	28.4	51	360	0	0	0	0	0	32857	32857
Corn	Grain system I	Maxim + Apron XL		205	25.7	52	339	0	0	0	0	0	27878	27878
Corn	Grain system I	Maxim + Azoxystrobin		252	24.8	52	423	0	0	0	0	0	33852	34350
Corn	Grain system I	Maxim XL		225	22.9	52	386	0	0	0	1	0	28874	28874
Corn	Grain system II	Captan + Apron XL		193	27.2	49	313	0	0	0	0	0	32193	32193
Corn	Grain system II	Maxim + Apron XL		194	27.3	49	315	0	0	0	0	0	31861	32193
Corn	Grain system II	Maxim + Azoxystrobin		192	25.2	50	320	0	0	0	3	0	35180	34184
Corn	Grain system II	Maxim XL		191	23.5	49	324	3	3	0	1	0	34516	34184
Mean			75	201	24.5	51	339	0	0	0	2	0	32525	32089
Probability(%)														
Rotation (R)			0.0	0.6	30.2	1.0	0.4	23.1	23.1	-	6.3	-	37.5	55.7
Fungicide (F)			-	37.2	0.5	53.4	44.6	13.0	13.0	-	50.5	-	5.4	7.4
R x F			-	62.4	11.0	95.3	66.2	2.4	2.4	-	57.6	-	19.1	26.0
LSD (0.10)														
Rotation (R)			2	10	NS	1	17	NS	NS	-	1	-	NS	NS
Fungicide (F)			-	NS	1.0	NS	NS	NS	NS	-	NS	-	1515	1526
R x F			-	NS	NS	NS	NS	1	1	-	NS	-	NS	NS
CV(%)														
			3	7	6	2	8	344	344	-	132	-	7	7

**Table C-64b. Corn, Soybean, and Wheat Rotation. Corn Quality.
Arlington, WI - 2004.**

Crop	Rotation	Fungicide	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Corn		Captan + Allegiance	3.4	61.1	7.0	2.90	574
Corn		Maxim XL	3.4	60.9	7.1	2.90	555
Corn		Maxim XL + Apron XL	3.5	60.9	7.1	2.89	560
Corn		Maxim XL + Azoxystrobin	3.4	61.1	7.1	2.90	587
Corn	Continuous		3.4	61.4	6.7	2.91	530
Corn	Alternating		3.4	61.3	6.8	2.92	590
Corn	Grain system I		3.5	60.7	7.3	2.89	644
Corn	Grain system II		3.4	60.6	7.6	2.87	552
Corn	Continuous	Captan + Allegiance	3.4	61.4	6.7	2.90	542
Corn	Continuous	Maxim XL	3.4	61.5	6.5	2.92	532
Corn	Continuous	Maxim XL + Apron XL	3.4	61.3	6.7	2.91	525
Corn	Continuous	Maxim XL + Azoxystrobin	3.4	61.5	6.9	2.90	520
Corn	Alternating	Captan + Allegiance	3.4	61.3	6.6	2.92	603
Corn	Alternating	Maxim XL	3.3	61.1	7.0	2.90	573
Corn	Alternating	Maxim XL + Apron XL	3.4	61.4	6.8	2.91	589
Corn	Alternating	Maxim XL + Azoxystrobin	3.4	61.2	6.8	2.92	592
Corn	Grain system I	Captan + Allegiance	3.4	60.6	7.4	2.89	648
Corn	Grain system I	Maxim XL	3.5	60.7	7.0	2.90	585
Corn	Grain system I	Maxim XL + Apron XL	3.6	60.6	7.3	2.88	589
Corn	Grain system I	Maxim XL + Azoxystrobin	3.4	60.8	7.4	2.89	730
Corn	Grain system II	Captan + Allegiance	3.4	60.8	7.5	2.88	554
Corn	Grain system II	Maxim XL	3.4	60.3	7.9	2.86	546
Corn	Grain system II	Maxim XL + Apron XL	3.5	60.3	7.7	2.86	555
Corn	Grain system II	Maxim XL + Azoxystrobin	3.4	61.0	7.5	2.88	553
Mean			3.4	61.0	7.1	2.90	569
Probability(%)							
Rotation (R)			63.2	0.7	0.5	7.1	8.2
Fungicide (F)			34.3	49.8	73.1	71.6	20.4
R x F			95.3	52.8	54.2	67.2	33.1
LSD (0.10)							
Rotation (R)			NS	0.3	0.3	0.03	47
Fungicide (F)			NS	NS	NS	NS	NS
R x F			NS	NS	NS	NS	NS
CV(%)			3	1	5	1	6

**Table C-65. Corn, Soybean, and Wheat Rotation.
Arlington, WI - 2004.**

Crop	Fungicide	Dry Matter Yield	Whole Plant								Milk per		Plant population
			Moisture	Kernel Milk	Crude Protein	ADF	NDF	<i>In Vitro</i> Digest	NDFD	Starch	Ton	Acre	
		tons/A	%	%	%	%	%	%	%	%	lbs/T	lbs/T	plants/A
Corn Silage	Captan + Apron XL	8.9	63.3	51.7	6.8	22.9	45.7	80.3	56.8	33.0	3417	30523	30865
Corn Silage	Maxim + Apron XL	9.6	65.2	56.7	6.9	22.8	44.7	80.1	55.6	34.1	3392	32753	33852
Corn Silage	Maxim + Azoxystrobin	9.7	62.8	58.3	6.7	22.0	44.1	81.0	57.0	35.1	3448	33489	32525
Corn Silage	Maxim XL	9.5	62.5	56.7	6.7	23.0	45.9	80.3	57.1	33.2	3405	32279	32857
Mean		9.4	63.4	55.8	6.8	22.7	45.1	80.4	56.6	33.8	3415	32261	32525
<u>Probability(%)</u>													
Fungicide (F)		37.5	56.6	16.6	68.2	62.4	54.9	78.0	50.5	57.6	93.6	41.2	10.0
<u>LSD (0.10)</u>													
Fungicide (F)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1880
<u>CV(%)</u>													
		6	4	6	5	4	4	1	2	6	3	6	4

**Table C-66. Corn, Soybean, and Wheat Rotation.
Arlington, WI - 2004.**

Crop	Rotation	Fungicide	Residue		Grower			Seed Composition			Protein +			Fatty Acid Composition						
			cover	Yield	Moisture	return	Height	Lodging	Oil	Protein	Fiber	Protein	Oil	Oil	Palmitic	Stearic	Oleic	Linoleic	Linolenic	P/M ratio
			%	bu/A	%	\$/A	inches	1 to 5	%	%	%	lbs/A	lbs/A	lbs/A	%	%	%	%	%	
Soybean		ApronMaxx		50	8.8	255	36	1	18.2	34.9	4.9	1045	545	1590	12.1	2.3	20.8	56.4	8.4	3.1
Soybean		Rival/Alleg		50	9.0	255	35	1	18.2	34.7	4.9	1043	547	1590	12.2	2.3	20.8	56.4	8.4	3.1
Soybean		SoyGard		49	8.7	250	35	1	18.2	34.8	4.9	1026	537	1562	12.1	2.3	20.8	56.5	8.3	3.2
Soybean		Untreated		50	9.0	256	36	1	18.2	34.8	4.9	1046	546	1592	12.1	2.3	20.8	56.4	8.4	3.1
Soybean	Continuous		48	45	8.3	231	35	1	18.4	34.3	4.9	933	500	1433	12.1	2.3	21.1	56.2	8.4	3.1
Soybean	Alternating		72	48	8.2	247	34	1	18.3	34.9	4.9	1012	531	1543	12.0	2.4	20.8	56.6	8.3	3.1
Soybean	Grain system I		77	53	8.9	272	37	1	18.1	34.9	4.9	1118	581	1699	12.2	2.3	20.6	56.4	8.6	3.2
Soybean	Grain system II		93	50	9.5	257	36	2	18.1	34.9	4.9	1054	548	1602	12.2	2.3	20.6	56.7	8.2	3.2
Soybean	Livestock System		91	51	9.7	263	36	1	18.1	35.1	4.9	1083	558	1641	12.2	2.3	21.0	56.2	8.4	3.1
Soybean	Continuous	ApronMaxx		45	8.3	231	36	1	18.5	34.3	4.9	933	502	1435	12.0	2.3	21.3	56.1	8.3	3.0
Soybean	Continuous	Rival/Alleg		47	8.1	237	36	1	18.4	34.3	4.9	958	513	1471	12.1	2.3	20.9	56.2	8.5	3.1
Soybean	Continuous	SoyGard		45	8.3	228	36	1	18.4	34.3	4.9	921	493	1413	12.1	2.3	20.8	56.5	8.3	3.1
Soybean	Continuous	Untreated		45	8.4	227	35	1	18.4	34.4	4.9	921	491	1412	12.0	2.2	21.2	56.1	8.4	3.0
Soybean	Alternating	ApronMaxx		49	8.2	249	34	1	18.2	34.9	4.9	1022	533	1555	11.9	2.3	20.4	57.1	8.3	3.2
Soybean	Alternating	Rival/Alleg		48	8.1	247	33	1	18.3	34.9	4.9	1014	531	1545	11.9	2.4	21.5	56.0	8.2	3.0
Soybean	Alternating	SoyGard		48	8.2	245	34	1	18.2	35.1	4.9	1014	527	1541	12.2	2.4	20.4	56.8	8.2	3.2
Soybean	Alternating	Untreated		48	8.1	246	33	1	18.4	34.5	4.9	998	534	1532	11.9	2.3	20.9	56.5	8.4	3.1
Soybean	Grain system I	ApronMaxx		53	8.8	271	39	1	18.2	35.0	4.9	1116	579	1694	12.4	2.4	19.8	56.8	8.6	3.3
Soybean	Grain system I	Rival/Alleg		53	8.8	270	36	1	18.1	34.9	4.9	1109	576	1684	12.2	2.3	20.3	56.6	8.6	3.2
Soybean	Grain system I	SoyGard		54	8.7	274	35	1	18.1	34.7	4.9	1120	585	1705	11.9	2.3	22.3	55.0	8.4	3.0
Soybean	Grain system I	Untreated		54	9.2	275	39	1	18.0	34.9	4.9	1129	583	1712	12.2	2.3	19.9	57.0	8.6	3.3
Soybean	Grain system II	ApronMaxx		51	9.5	261	36	2	18.0	35.3	4.9	1085	552	1637	12.1	2.3	21.2	56.2	8.2	3.1
Soybean	Grain system II	Rival/Alleg		50	9.8	256	36	1	18.1	34.7	4.9	1045	546	1591	12.4	2.3	20.7	56.5	8.1	3.1
Soybean	Grain system II	SoyGard		48	9.2	247	37	2	18.3	34.6	4.9	1006	533	1539	12.1	2.2	19.5	57.8	8.3	3.4
Soybean	Grain system II	Untreated		52	9.4	263	37	2	18.1	34.9	4.9	1080	560	1640	12.2	2.2	20.9	56.4	8.3	3.1
Soybean	Livestock System	ApronMaxx		51	9.4	261	36	1	18.2	34.9	4.9	1071	558	1629	12.1	2.1	21.6	55.7	8.4	3.0
Soybean	Livestock System	Rival/Alleg		52	9.9	266	35	1	18.2	34.8	4.9	1089	569	1658	12.3	2.2	20.3	56.8	8.4	3.2
Soybean	Livestock System	SoyGard		50	9.3	257	35	1	18.0	35.3	4.9	1068	545	1613	12.1	2.4	20.9	56.4	8.2	3.1
Soybean	Livestock System	Untreated		52	10.1	266	36	1	17.9	35.2	4.9	1103	560	1663	12.2	2.3	21.2	55.9	8.4	3.1
Mean			76	50	8.9	254	36	1	18.2	34.8	4.9	1040	543	1584	12.1	2.3	20.8	56.4	8.4	3.1
Probability(%)																				
Rotation (R)			0.0	0.1	0.0	0.1	0.8	29.4	37.7	41.1	54.2	0.3	0.1	0.2	39.4	27.1	94.8	84.6	63.4	88.2
Fungicide (F)			-	35.0	41.0	35.0	42.5	10.6	77.8	69.4	50.8	45.5	43.8	42.9	82.6	40.3	99.9	99.5	66.2	97.8
R x F			-	74.3	79.9	74.3	35.0	38.7	49.8	22.2	32.2	64.5	88.7	76.0	40.9	52.9	58.3	66.4	97.8	64.1
LSD (0.10)																				
Rotation (R)			2	2	0.4	11	1	NS	NS	NS	NS	59	20	76	NS	NS	NS	NS	NS	NS
Fungicide (F)			-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
R x F			-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)			3	3	6	3	5	19	1	1	1	4	3	4	2	6	7	2	3	9

**Table C-67. Corn, Soybean, and Wheat Rotation.
Arlington, WI - 2004.**

Crop	Rotation	Planting Date	Residue		Yield	Moisture	Test Weight	Grower return	Weed Density	Tan Spot	Scab	Height	Lodging		
			cover	bu/A									%	lbs/bu	\$/A
			%	bu/A	%	lbs/bu	\$/A	weeds/m ²	%	%	inches	1 to 9	1 to 5	0.2 to 9.0	
Wheat		9/26/03	74	52	12.2	53	140	154	7.8	86.2	37	1	1	0.4	
Wheat		10/10/03	75	44	11.5	51	120	104	8.6	78.1	37	1	1	0.2	
Wheat	Continuous		90	47	11.8	53	128	330	17.1	84.8	36	1	1	0.3	
Wheat	Grain system I		78	51	12.0	53	139	81	5.0	81.4	38	2	1	0.4	
Wheat	Grain system II		93	42	11.9	52	115	62	5.3	81.0	38	1	1	0.2	
Wheat	Livestock System		37	51	11.8	52	138	42	5.6	81.4	37	1	1	0.2	
Wheat	Continuous	9/26/03	88	47	12.2	54	127	416	14.8	86.6	35	1	1	0.4	
Wheat	Continuous	10/10/03	93	48	11.4	51	130	243	19.3	83.0	37	1	1	0.2	
Wheat	Grain system I	9/26/03	82	58	12.4	54	157	82	5.0	86.6	37	2	1	0.7	
Wheat	Grain system I	10/10/03	75	44	11.5	52	121	80	5.0	76.2	38	1	1	0.2	
Wheat	Grain system II	9/26/03	91	47	12.0	53	127	91	5.3	86.5	38	1	1	0.2	
Wheat	Grain system II	10/10/03	96	38	11.8	51	103	33	5.2	75.5	38	1	1	0.2	
Wheat	Livestock System	9/26/03	35	55	12.2	54	150	26	6.2	85.0	37	1	1	0.2	
Wheat	Livestock System	10/10/03	38	46	11.4	51	125	58	5.0	77.8	37	1	1	0.2	
Mean			75	48	11.9	52	130	129	8.2	82.2	37	1	1	0.3	
Probability(%)															
	Rotation (R)		0.0	0.3	85.5	17.3	0.3	0.1	0.0	88.0	60.9	45.5	45.5	45.5	
	Planting Date (D)		69.4	3.4	0.4	0.3	3.4	6.7	36.5	0.2	42.4	24.2	19.5	22.6	
	R x D		63.8	42.3	51.3	92.1	42.3	6.5	14.9	50.5	44.9	52.8	59.6	54.8	
LSD (0.10)															
	Rotation (R)		4	2	NS	NS	4	42	1.2	NS	NS	NS	NS	NS	
	Planting Date (D)		NS	3	0.2	0	9	25	NS	2.0	NS	NS	NS	NS	
	R x D		NS	NS	NS	NS	NS	51	NS	NS	NS	NS	NS	NS	
CV(%)															
			13	15	3	2	15	45	25	5	5	55	27	110	

**Table C-68. Crop Rotation Influence on Corn Growth and Development.
Arlington, WI - 2004.**

Crop	Rotation	Fungicide	Observation	Leaf Development			Plant Height
			Day of Year	Leaf Collars	Hail Adjusters Method	Total Leaves	
				no./plant	no./plant	no./plant	inches
Corn			148	1.9	2.7	3.6	4.8
Corn			163	4.5	6.2	7.3	14.2
Corn			174	6.6	9.2	10.6	24.8
Corn			189	9.8	13.0	14.9	52.5
Corn			202	15.2	16.4	16.7	88.9
Corn			217	18.3	18.3	18.3	98.9
Corn		Maxim XL		9.4	11.2	11.9	47.4
Corn		Captan + Apron XL		9.3	10.7	11.9	47.3
Corn		Maxim XL	148	1.8	2.2	3.3	4.6
Corn		Maxim XL	163	4.6	6.2	7.4	14.1
Corn		Maxim XL	174	6.6	9.4	10.7	25.0
Corn		Maxim XL	189	9.8	13.0	14.9	53.1
Corn		Maxim XL	202	15.2	18.4	16.7	89.5
Corn		Maxim XL	217	18.1	18.1	18.1	98.3
Corn		Captan + Apron XL	148	1.9	3.1	3.8	5.0
Corn		Captan + Apron XL	163	4.4	6.2	7.2	14.3
Corn		Captan + Apron XL	174	6.5	9.1	10.5	24.6
Corn		Captan + Apron XL	189	9.8	13.0	14.9	51.9
Corn		Captan + Apron XL	202	15.1	14.4	16.7	88.3
Corn		Captan + Apron XL	217	18.4	18.4	18.4	99.4
Corn	Continuous			9.1	12.0	11.6	43.8
Corn	Alternating			9.5	10.8	12.1	50.0
Corn	Grain System I			8.9	10.0	11.3	43.5
Corn	Grain System II			9.7	10.9	12.2	49.5
Corn	Livestock System			9.5	10.9	12.1	50.0
Corn	Continuous		148	1.6	2.8	3.6	4.4
Corn	Continuous		163	4.4	6.0	7.1	13.7
Corn	Continuous		174	6.4	8.9	10.3	23.4
Corn	Continuous		189	9.4	12.7	14.4	47.1
Corn	Continuous		202	14.8	23.9	16.4	81.2
Corn	Continuous		217	17.9	17.9	17.9	92.9
Corn	Alternating		148	1.9	2.7	3.8	4.5
Corn	Alternating		163	4.4	6.6	7.5	15.2
Corn	Alternating		174	6.5	9.4	10.8	26.3
Corn	Alternating		189	9.9	13.0	15.1	56.0
Corn	Alternating		202	15.5	14.7	16.8	93.8
Corn	Alternating		217	18.5	18.5	18.5	104.3
Corn	Grain System I		148	1.8	2.5	3.3	6.3
Corn	Grain System I		163	4.2	5.2	6.4	12.3
Corn	Grain System I		174	6.3	8.4	9.5	21.9
Corn	Grain System I		189	9.3	12.3	14.3	45.2
Corn	Grain System I		202	14.1	13.9	16.4	81.4
Corn	Grain System I		217	18.0	18.0	18.0	94.1
Corn	Grain System II		148	2.0	2.6	3.5	4.5
Corn	Grain System II		163	4.8	6.3	7.7	14.5
Corn	Grain System II		174	6.8	9.6	11.2	25.5
Corn	Grain System II		189	10.3	13.7	15.3	56.4
Corn	Grain System II		202	15.8	14.8	17.1	93.8
Corn	Grain System II		217	18.7	18.7	18.7	102.1

(continued)

Table C-68. Crop Rotation Influence on Corn Growth and Development.
Arlington, WI - 2004.

(continued)

Crop	Rotation	Treatment	Observation	Leaf Development			Plant Height
			Day of Year	Leaf Collars	Hail Adjusters Method	Total Leaves	
				no./plant	no./plant	no./plant	inches
Corn	Livestock System		148	1.9	2.7	3.6	4.4
Corn	Livestock System		163	4.6	6.8	7.7	15.4
Corn	Livestock System		174	6.8	9.8	11.1	26.9
Corn	Livestock System		189	10.1	13.4	15.3	57.8
Corn	Livestock System		202	15.6	14.7	16.9	94.4
Corn	Livestock System		217	18.3	18.3	18.3	101.0
Corn	Continuous	Maxim XL		9.0	13.7	11.5	43.8
Corn	Continuous	Captan + Apron XL		9.2	10.4	11.7	43.8
Corn	Alternating	Maxim XL		9.5	10.8	12.1	50.3
Corn	Alternating	Captan + Apron XL		9.4	10.8	12.1	49.7
Corn	Grain System I	Maxim XL		8.8	9.9	11.3	43.5
Corn	Grain System I	Captan + Apron XL		9.1	10.2	11.4	43.5
Corn	Grain System II	Maxim XL		9.9	10.9	12.3	49.5
Corn	Grain System II	Captan + Apron XL		9.6	11.0	12.2	49.4
Corn	Livestock System	Maxim XL		9.6	10.8	12.1	50.0
Corn	Livestock System	Captan + Apron XL		9.4	11.0	12.2	49.9
Corn	Continuous	Maxim XL	148	1.5	2.7	3.3	4.0
Corn	Continuous	Maxim XL	163	4.3	5.8	7.0	12.7
Corn	Continuous	Maxim XL	174	6.3	9.0	10.3	23.7
Corn	Continuous	Maxim XL	189	9.3	12.7	14.3	48.0
Corn	Continuous	Maxim XL	202	14.5	34.0	16.3	81.3
Corn	Continuous	Maxim XL	217	17.8	17.8	17.8	93.0
Corn	Continuous	Captan + Apron XL	148	1.7	3.0	3.8	4.9
Corn	Continuous	Captan + Apron XL	163	4.5	6.2	7.2	14.8
Corn	Continuous	Captan + Apron XL	174	6.5	8.8	10.3	23.2
Corn	Continuous	Captan + Apron XL	189	9.5	12.7	14.5	46.2
Corn	Continuous	Captan + Apron XL	202	15.2	13.8	16.5	81.0
Corn	Continuous	Captan + Apron XL	217	18.0	18.0	18.0	92.8
Corn	Continuous	Maxim XL	148	2.0	2.5	3.7	4.3
Corn	Alternating	Maxim XL	163	4.5	6.7	7.5	15.9
Corn	Alternating	Maxim XL	174	6.5	9.7	11.0	25.8
Corn	Alternating	Maxim XL	189	10.0	12.8	15.0	57.0
Corn	Alternating	Maxim XL	202	15.7	14.7	16.8	94.2
Corn	Alternating	Maxim XL	217	18.3	18.3	18.3	104.7
Corn	Alternating	Captan + Apron XL	148	1.8	2.8	4.0	4.8
Corn	Alternating	Captan + Apron XL	163	4.3	6.5	7.5	14.5
Corn	Alternating	Captan + Apron XL	174	6.5	9.2	10.7	26.8
Corn	Alternating	Captan + Apron XL	189	9.8	13.2	15.2	55.0
Corn	Alternating	Captan + Apron XL	202	15.3	14.7	16.7	93.3
Corn	Alternating	Captan + Apron XL	217	18.7	18.7	18.7	104.0
Corn	Alternating	Maxim XL	148	1.7	1.8	3.0	6.1
Corn	Grain System I	Maxim XL	163	4.2	5.2	6.5	12.3
Corn	Grain System I	Maxim XL	174	6.2	8.7	9.7	22.2
Corn	Grain System I	Maxim XL	189	9.2	12.3	14.5	46.0
Corn	Grain System I	Maxim XL	202	14.0	13.5	16.3	81.5
Corn	Grain System I	Maxim XL	217	17.7	17.7	17.7	93.2

(continued)

Table C-68. Crop Rotation Influence on Corn Growth and Development.
Arlington, WI - 2004.

(continued)

Crop	Rotation	Treatment	Observation	Leaf Development			Plant Height
			Day of Year	Leaf Collars	Hail Adjusters Method	Total Leaves	
Corn	Grain System I	Captan + Apron XL	148	2.0	3.2	3.5	6.6
Corn	Grain System I	Captan + Apron XL	163	4.2	5.2	6.3	12.3
Corn	Grain System I	Captan + Apron XL	174	6.3	8.2	9.3	21.7
Corn	Grain System I	Captan + Apron XL	189	9.3	12.2	14.2	44.3
Corn	Grain System I	Captan + Apron XL	202	14.2	14.3	16.5	81.3
Corn	Grain System I	Captan + Apron XL	217	18.3	18.3	18.3	95.0
Corn	Grain System I	Maxim XL	148	2.0	2.0	3.2	4.5
Corn	Grain System II	Maxim XL	163	5.0	6.2	8.0	14.7
Corn	Grain System II	Maxim XL	174	7.0	9.7	11.3	26.2
Corn	Grain System II	Maxim XL	189	10.5	14.0	15.5	57.0
Corn	Grain System II	Maxim XL	202	16.2	15.2	17.2	94.3
Corn	Grain System II	Maxim XL	217	18.5	18.5	18.5	100.5
Corn	Grain System II	Captan + Apron XL	148	2.0	3.2	3.8	4.5
Corn	Grain System II	Captan + Apron XL	163	4.7	6.5	7.3	14.3
Corn	Grain System II	Captan + Apron XL	174	6.7	9.5	11.0	24.8
Corn	Grain System II	Captan + Apron XL	189	10.2	13.3	15.2	55.8
Corn	Grain System II	Captan + Apron XL	202	15.3	14.5	17.0	93.2
Corn	Grain System II	Captan + Apron XL	217	18.8	18.8	18.8	103.7
Corn	Grain System II	Maxim XL	148	2.0	2.2	3.3	4.3
Corn	Livestock System	Maxim XL	163	4.8	7.0	7.8	15.2
Corn	Livestock System	Maxim XL	174	6.8	9.8	11.2	27.2
Corn	Livestock System	Maxim XL	189	10.2	13.3	15.3	57.3
Corn	Livestock System	Maxim XL	202	15.8	14.5	16.8	96.0
Corn	Livestock System	Maxim XL	217	18.2	18.2	18.2	100.3
Corn	Livestock System	Captan + Apron XL	148	1.8	3.2	3.8	4.5
Corn	Livestock System	Captan + Apron XL	163	4.3	6.5	7.5	15.6
Corn	Livestock System	Captan + Apron XL	174	6.7	9.7	11.0	26.7
Corn	Livestock System	Captan + Apron XL	189	10.0	13.5	15.3	58.2
Corn	Livestock System	Captan + Apron XL	202	15.3	14.8	17.0	92.8
Corn	Livestock System	Captan + Apron XL	217	18.3	18.3	18.3	101.7
Mean				9.4	11.0	11.9	47.4
Probability(%)							
	Rotation (R)			0.0	43.7	0.0	0.0
	Fungicide (F)			86.7	43.8	34.8	67.9
	R x F			3.5	39.1	75.7	99.2
	DOY (D)			0.0	0.0	0.0	0.0
	R x D			0.5	48.2	0.0	0.0
	F x D			27.1	37.1	0.8	53.4
	R x F x D			99.3	44.2	99.4	99.8
LSD (0.10)							
	Rotation (R)			0.1	NS	0.1	1.0
	Fungicide (F)			NS	NS	NS	NS
	R x F			0.2	NS	NS	NS
	DOY (D)			0.2	2.1	0.2	1.6
	R x D			0.4	NS	0.3	2.4
	F x D			NS	NS	0.3	NS
	R x F x D			NS	NS	NS	NS
CV(%)							
				5	41	4	6