

# Agronomy Advice

<http://corn.agronomy.wisc.edu>

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Field Crops 28.33-38

## UW Organic Corn Hybrid/Variety Trial Results – 2005

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In 2005, the UW Corn Agronomy program conducted an organic hybrid/variety trial for corn to give producers information on performance and characteristics of corn in a certified organic production system. The trials were conducted using approved organic production practices at two sites certified for organic production. Seed used for the trials was either produced organically or was untreated.

Organic production is defined as “a production system that is managed, in accordance with the Organic Food Production Act and Regulations (October 2002), to respond to site-specific conditions by integrating cultural, biological and mechanical practices that foster cycling of resources, promote ecological balance and conserve biodiversity.”

The organic system is “a plan of management of an organic production operation that has been agreed to by the producer and the certifying agent and includes written plans concerning all aspects of agricultural production or handling described in the act and the regulations.”

### Materials and Methods

Trials were conducted at the UW Arlington ARS (ARL) and the Michael Fields Institute (MFS) at East Troy.

#### Site: **Arlington Research Station**

Cooperator: Dwight Mueller

Experimental design: RCB, 4 reps

Plot size: 10' x 22'

Soil: Plano silt loam, pH:6.8, OM:3.9, P:55 ppm, K:107 ppm

Previous Crop: Alfalfa

Tillage: Fall Chisel Plow, Field Cultivator (3x)

Planting Date: 5/17/05

Row spacing: 30 inches

Seeding depth: 1.5 inches

Rotary Hoe: (5/24/05), Tine Weed (2x): (6/2/05, 6/5/05)

Cultivation (3x): 6/9/05, 6/20/05, 6/27/05

Harvest date: 10/20/05

Harvested plot size: 5' x 22'

Harvest Population: 28017 plants/Acre

#### Site: **Michael Fields Institute**

Cooperator: John Hall

Experimental design: RCB, 4 reps

Plot size: 10' x 22'

Soil: Warsaw silt loam, pH:5.7, OM:2.5, P:94 ppm, K:114 ppm

Previous Crop: Wheat

Manure: 18 ton dairy (5.4-9.0-14.9)

Tillage: Spring Chisel Plow, Field Cultivator (2x)

Planting Date: 5/17/05

Row spacing: 30 inches

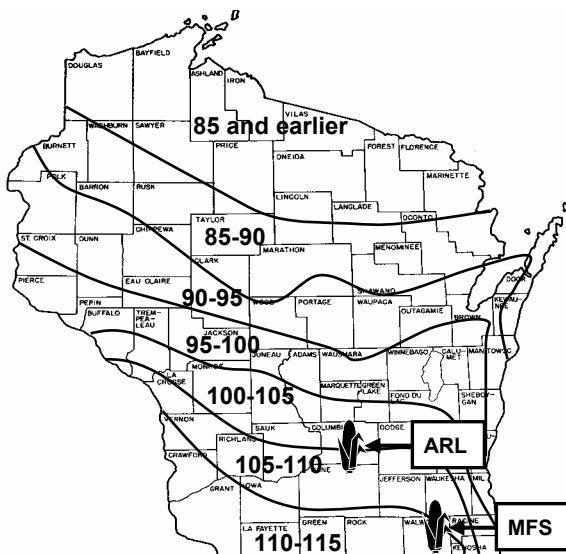
Seeding depth: 1.5 inches

Rotary Hoe, Tine Weed, Cultivation (2x)

Harvest date: 10/20/05

Harvested plot size: 5' x 22'

Harvest Population: 25027 plants/Acre



## UW Organic Corn Hybrid/Variety Trial Results – 2005 (continued).

**Table 1. Seed Companies with hybrids in the 2005 UW Organic Corn Hybrid/Variety Trials.**

Brand	Company	Address	City	State	Zip	Phone
Brown	Brown Seed, Inc.	N1279 530th Street, P.O. Box 7	Bay City	WI	54723	888-712-7696
Brunner	Brunner Seed Farm	W3850 U.S. Hwy 10	Durand	WI	54736	800-298-5373
Cornelius	Cornelius	14760 317th Avenue	Bellevue	IL	52031	800-218-1862
Foundation Seeds	Foundation Direct Seed	634 13th Avenue	Onalaska	WI	54650	608-781-4076
NC+	NC+ Organics	207 18th Street North	Grand Junction	IA	50107	800-370-7979
Prairie Hybrids	Prairie Hybrid Seeds	27445 Hurd Road	Deer Grove	IL	61243	800-368-0124
Viking	Albert Lea Seed House	1414 W. Main, P.O.Box 127	Albert Lea	MN	56007	800-352-5247

**Table 2. Performance of corn hybrids grown in organically certified production fields - 2005.**

Brand	Hybrid	RM	Yield bu/A	P.I. #	Test			**Grower Return		Location	
					Moisture %	Weight lbs/bu	Lodging %	1.87/bu \$/A	4.00/bu \$/A	ARL bu/A	MFS bu/A
Brunner	OR8702	87	163	98	16.1	58	3	265	613	174	153
Prairie Hybrids	0371	92	177	101	16.5	60	4	286	663	183	171 *
NC+	26K21	88	150	94	16.6	60	1	243	563	154	147
NC+	42A32	98	179	102 *	16.6	58	2	288	669	188	170 *
Brunner	OR9004	90	168	99	17.0	60	2	269	626	182	154
Viking	O.7292	96	166	98	17.8	58	5	264	617	173	159
Foundation Seeds	8800-O	95	185 *	103 *	18.2	58	3	292	685	200 *	169 *
Prairie Hybrids	1673	102	201 *	107 *	19.3	56	4	313	741	218 *	184 *
Cornelius	ORG494	108	189 *	103 *	19.8	55	3	292	694	219 *	159
Check	Weeded	103	194 *	104 *	20.0	58	2	299	711	222 *	165
Brunner	OR1053	105	194 *	104 *	20.1	55	5	300	713	208 *	180 *
Cornelius	ORG35	102	203 *	107 *	20.4	56	4	313	745	219 *	187 *
Check	UTC	103	200 *	106 *	20.4	58	2	308	734	217 *	183 *
Brunner	OR1004	100	198 *	106 *	20.5	56	3	305	728	209 *	187 *
Viking	O.5305	103	196 *	105 *	20.9	57	3	301	719	210 *	183 *
Cornelius	ORG65	112	162	94	23.5	56	3	240	584	166	157
Brown	EX16905	108	100	69	26.9	51	41	140	352	114	86
Mean			178	100	19.4	57	5	277	656	192	164
LSD(0.10)*			18	5	2.5	1	7	27	65	26	18

# P.I. = Performance Index, evaluates hybrids by combining yield, moisture, and lodged % at a 50(yield) : 35(moisture) : 15(lodged) ratio.

\* Hybrids that performed statistically similar to the highest hybrid in the trial.

Shaded results provide the best estimate of relative hybrid performance.

**\*\* Grower return = (Yield x Price) – Costs**

**Costs**

- Handling (\$0.02 per bushel)
- Hauling (\$0.04 per bushel)
- Trucking (\$0.11 per bushel for 100 miles)
- Drying (on-farm rate = \$0.02 per bushel-point > 15.5%)
- Storage (on-farm rate = \$0.02 per 30 day)

**Price** = \$4.00 = Minimum-Maximum prices reported by elevators was \$3.75-\$6.50 per bushel (personal communication, John Hall, Michael Fields Institute)

**Price** = \$1.87 = Weighted Price per bushel =  
 50% Mid-November Average Cash price  
 + 25% March CBOT Futures (\$0.15 basis)  
 + 25% July CBOT Futures (\$0.10 basis)

Marketing plan: 50% sold at harvest, 25% at 4 months, and 25% at 8 months.

Mid-November Average Cash price derived from WI Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.

For more information on organic corn production see:

UW Corn Agronomy Program: <http://corn.agronomy.wisc.edu>

National Organic Program, USDA: <http://www.ams.usda.gov/nop>