

**2003 Roundup Ready Corn - Continuously Cropped No-till Hettinger, North Dakota**

Brand	Hybrid	GDU's to BL*	RM	Trait	Days to silk	Silage moist.	Silage Yield	Ear height	Test Weigh †	Grain Yield
			days	**		%	Tons/ac	inches	lbs/bu	bu/ac
Dekalb	DKC 35-50	2250	85		87			26	55.1	21.0
Dekalb	DKC 35-51	2250	85	Bt	88			24	54.1	25.7
Dekalb	DKC 39-48	2300	89	Bt	92			27	53.6	17.4
Dekalb	DKC 40-63	2315	90		90			27	53.8	28.4
IS / Garst	8905RR	2110	87		89	62	3.85	25	54.3	27.9
IS / Garst	8961RR		87		89	57	3.29	23	55.5	25.8
Kaystar	KX-2795RR		79		89			23	58.4	29.1
Kaystar	KX-285RR		85		87			23	56.2	25.9
Legend	LR 9282RB		82	Bt	89			26	54.8	27.9
Legend	LR 9385RR		85		89			25	56.1	24.5
Proseed	RRB1S83	2000	83	Bt	88			26	55.8	21.2
Proseed	RRT82		82		89			22	58.0	32.0
Proseed	RRXES86		86		92			25	54.0	23.6
Trial Mean					89		3.57	25	55.1	25.2
C.V. %					2.3		16.3	8.0	2.7	14.9
LSD .05					NS		NS	3	2.5	6.3
LSD .01					NS		NS	4	3.4	8.5

\* Growing Degree Units to Black Layer.

\*\* Trait: Bt = Yield Guard Corn Borer.

NS = no statistical difference between hybrids.

Planting date: May 2, 2003

Seeding rate: 26,500 seeds/acre, thinned to 24,000 plants/acre.

Row spacing: 28"

Harvest date: Silage - September 9

Grain - October 13

Previous crop: soybean

Note: Silage yields are adjusted to 0% moisture.

Grain yields are adjusted to 13.5% moisture.

## “Twin Row” Corn Production at Hettinger, North Dakota 2003

Corn production trials conducted at the Hettinger Research Extension Center during the 1998, 1999 and 2001 growing seasons showed increased yields with plant populations of at least 24,000 plants per acre (vs. 12,000 or 18,000) and row spacings no narrower than 28 inches. As plant population and row spacing increase, the distance between plants within a row decreases. The “twin row” or “paired row” concept spaces seed between two narrowly planted rows (twin rows) with a wider row spacing between twin rows. This concept provides more distance between plants within a row at higher plant populations. The concept has been used successfully in peanut production but has had inconsistent results with corn. Yield increases of 10% or more above conventionally planted corn have been reported however, there are just as many reports of no yield advantage. It is speculated that this inconsistency may be due to different genetic responses to row spacing, row orientation, row configuration and to plant population.

The Hettinger trial utilized two 85 day RM hybrids with genetically different backgrounds and were seeded at two different plant populations (20,000 and 30,000 plants / acre) on May 2, 2003, into three different row configurations; 7 inch twin row spacing with 28 inches between sets of twin rows (7"x28"), 14 inch twin row spacing with 28 inches between sets of twin rows (14"x28"), and conventional 28" single row spacing (28"). There was almost no sub-surface soil moisture and the trial sustained severe moisture stress late in the growing season. The trial was harvested on October 13, 2003.

Row Configuration	Twin Row Corn		
Row Spacing	Days to Silk	Test Weight	Grain Yield
	days	lbs/bu	bu/ac
7" x 28"	89	54.6	24.8
14" x 28"	89	54.2	21.0
28"	89	53.8	21.4
LSD 5%	NS	NS	2.2

NS = no statistical difference

### Summary

Days to silk and test weight were essentially unaffected by row configuration. The 7" x 28" twin row configuration yielded more than the 14" x 28" twin row configuration and the 28" conventional single row spacing. There was no significant difference in yield between plant populations although there was a significant difference between hybrids (data not shown). This trial will be continued next year.