

Colorado Soybean Performance Data

Growing demand for soybean production information gave rise to soybean variety testing on a statewide basis in 2001. Colorado State University began this testing effort to provide unbiased and reliable variety information to Colorado soybean producers to help them make better variety decisions.

2002 was the second year of testing soybean varieties at Yuma. The 2001 trial was severely compromised by hail. Our second attempt at soybean variety testing at Yuma was more successful, without hail and with vigorous vegetative growth, but yields were depressed by high temperatures and mediocre seed set. This sprinkler irrigated trial included only Roundup Resistant varieties. Yuma has a relatively long growing season (average 2615 corn growing degree days) and appropriate for Group 2 maturity varieties.

Rocky Ford, site of soybean variety trials for several years, has a longer growing season (2837 corn growing degree days) and can produce late Group 3 or early Group 4 maturity soybeans. We are extremely pleased with the high yields in this trial at the Arkansas Valley Research Center at Rocky Ford. This may be a record high yield for soybeans in Colorado and gives a rare glance at variety performance under high yield conditions. The trial was furrow irrigated and both conventional and Roundup Resistant varieties were included where conventional herbicides were used. Plots in both trials consisted of four rows, each 36 ft long. Yields are expressed at 13% grain moisture as bu/ac (60 lbs per bushel).

Soybean cultural conditions in 2002.

	Rocky Ford	Yuma
Soil Type	silty clay loam	Manter loamy sand
Previous Crop	Corn	Corn
Fertilization		
N lb acre ⁻¹	0	9
P ₂ O ₅ lb acre ⁻¹	16	23
K ₂ O lb acre ⁻¹	75	6
S	0	6
Zn	0	.5
Herbicide	Basagran, Blazer, Poast	Touchdown
Insecticide	None	None
Irrigation	Furrow	Sprinkler

Soybean performance at Rocky Ford¹ in 2002

Variety ²	Yield bu/ac	Moist. %	Test Wt. lb/bu	Plant Ht. in	Leaf Drop ³ date	Maturity rating
DG 3399+RR	89	8.5	54.4	39	272	3.3
Syngenta S39-Q4	88	10.8	53.5	39	276	3.9
Garst 3135(RR)	84	8.4	55.6	32	262	3.1
Triumph TR3752RR	81	8.8	55.6	41	271	3.7
Pioneer brand 93B85	80	8.6	55.1	36	267	3.8
DG 3390 N RR	78	8.7	54.9	38	272	3.3
US Seeds US S4002(RR)	77	8.7	55.2	36	273	4.0
Pioneer brand 93B68	76	8.5	56.6	33	264	3.6
Pioneer brand 93B72	75	9.1	55.0	37	266	3.7
US Seeds US S3902(RR)	74	9.9	55.1	39	273	3.9
AG3701 + Myconate + DG 3388RR	72	8.6	56.3	34	268	3.7
Garst 355(RR)	69	8.4	56.6	35	263	3.5
AG3701 + Myconate - Garst 3083(RR)	66	8.7	56.3	38	269	3.7
	63	8.7	55.4	30	260	3.0
Average	76	8.9	55.4	37	269	
LSD _(0.30)	5					

¹Trial conducted on the Arkansas Valley Research Center; seeded 5/16 and harvested 10/7.

²Myconate® is a new agricultural product developed by researchers at Michigan State University. Myconate® is a signal compound put out by plant roots in times of stress that encourages beneficial fungus (mycorrhizae) to colonize them. The fungus extends the plants root system and helps it take up nutrients and water, and fight off disease. Previous research has shown significant yield increases on a number of crops in a variety of locations. This simple compound is non-toxic, is quickly broken down in the soil, and is effective in very small quantities. It is water soluble and easy to apply to seeds or soil. Myconate® is a trademark product of VAMTech, L.L.C., commercially available for enhancing mycorrhizal colonization.

³Julian date.

2-Yr average soybean performance at Rocky Ford in 2001-02.

Variety	Yield bu/ac	Moist. %
DG 3399+RR	81	7.9
Pioneer brand 93B85	76	7.8
Pioneer brand 93B72	72	8.0
Garst 355(RR)	70	7.6
DG 3388RR	69	7.9
Average	74	7.8

Soybean performance at Yuma¹ in 2002.

Variety	Yield bu/ac	Moist. %	Test	Plant	Shatter rating ²	Maturity rating
			Wt. lb/bu	Ht. in		
ASGROW AG3003	47	8.0	55.6	33	1.0	3.0
DGX 432 RR	43	7.7	53.4	34	1.0	4.3
ASGROW AG2703	42	8.2	53.8	34	1.0	2.7
DEKALB DKB26-51	42	8.2	56.4	32	1.0	2.6
DG 3270 RR	42	8.6	56.1	39	1.0	3.2
DG 3287 RR	41	7.7	56.2	31	1.0	3.2
Syngenta S29-C9	41	7.8	54.1	36	1.0	2.9
DEKALB DKB24-51	41	7.8	56.6	28	1.0	2.4
US Seeds US S2503(RR)	40	7.6	55.4	32	1.7	2.5
Garst 2677 (RR)	39	7.5	56.6	31	1.0	2.6
US Seeds US S2703(RR)	37	8.3	53.8	35	1.0	2.7
Pioneer 91B91+Myconate +	37	7.8	51.3	30	1.0	1.7
Garst 2332 (RR)	33	7.7	56.9	29	1.0	2.3
DEKALB DKB23-51	33	7.6	57.6	30	1.0	2.3
Pioneer 91B91+Myconate -	30	8.0	55.4	28	1.0	1.7
Garst 2603(RR)	30	7.9	51.5	33	1.0	2.6
Average	39	7.9	55.0	32	1.0	
LSD _(0,30)	5					

2-Yr average soybean performance at Yuma in 2001-02.

Variety	Yield bu/ac	Moist. %
DG 3270RR	45	11.0
Syngenta S29-C9	43	9.5
ASGROW AG2703	42	10.9
DEKALB DKB26-51	36	9.9
DEKALB DKB23-51	31	10.3
Garst 2603(RR)	27	10.7
Average	37	10.4

¹Trial conducted on the Rod Hahn farm; seeded 5/14 and harvested 10/1.

² Rating scale 0-10.