

**Western Illinois University School of Agriculture
Organic Research Program**

**2015 Soybean Variety Trials-Yields Summary
Conventional WIU Farm Site**

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Variety	Group	Company/ Source	Yield (Bu/A)	Significance Groupings	Yield Rank	Plant Population	Significance Groupings
GH 389N	3.8	Great Harvest Organics	38.0	a	1	165,770	a
34A7	3.4	Blue River Hybrids	33.9	ab	2	147,620	ab
39C4	3.9	Blue River Hybrids	32.2	abc	3	160,930	ab
IA3051RA12	3.0	Albert Lea Seed	30.8	abc	4	158,510	ab
389F.Y	3.8	Blue River Hybrids	27.9	abcd	5	117,370	c
GH 349	3.4	Great Harvest Organics	27.3	abcd	6	142,780	abc
LVF 3507	3.5	Lakeview Farms	26.9	abcd	7	152,460	ab
e3553	3.5	Blue River Hybrids	22.4	bcd	8	136,730	bc
21F3	2.1	Blue River Hybrids	21.5	cd	9	152,460	ab
30C3	3.0	Blue River Hybrids	18.2	d	10	154,880	ab
			LSD =12.1			LSD = 28,712	

Least Significant Difference (LSD) = alpha at 0.05

Different letters in the significance groupings columns indicate significant yield differences among varieties, e.g., yield(s) associated with “a” are different than those associated with “bc”, but are not different than those associated with “ab” because they both contain an “a”

Note: We typically grow these varieties also at the Allison Organic Research Farm, but the field that was planned to have this trial in 2015 was not suitable because of excessively wet soils throughout a significant part of the growing season.

Research Site Description

The WIU conventional research farm is located ~ 2 miles north of Macomb, IL in central McDonough County. The variety trial was located in block 5, which is mapped as a Sable silty clay loam soil (poorly drained). The trial was arranged as a complete randomized block design with 5 replications. Two-row plots were planted on June 2, 2015 with a Kincaid JD71, 2-row plot planter at a rate of 160,000 seeds/a. Weed control included a herbicide application and moderate hand weeding to remove broadleaf weeds. The herbicide application consisted of Prefix at 2 pints/ac plus NIS (nonionic surfactant) at 0.25% v/v. This occurred on June 9, 2015 when the soybeans had just emerged. Conditions for the herbicide application were as follows: air temperature was 85° F, humidity was 51%, and soil was moist. Plots ranging from 15'-17' in length were harvested with an old Kincaid plot combine on October 8, 2015.

Discussion and Summary

Much of the first half of the 2015 growing season received extreme amounts of rainfall leading to standing water in the plots for extended periods of time. Statistics performed for this trial did not include reps 1 and 2 due to those reps receiving the most damage from standing water.

The top yielding variety, GH 389N, yielded 38 bu/ac, which is almost 20 bushels higher than the lowest yielding variety. According to Great Harvest Organics, this variety is known to produce high yields, is excellent against stress, and performs well across all soil types. It is also resistant to soybean cyst nematodes and Phytophthora. GH 389N is also a bushy variety that competes well with weeds.

Blue River Hybrids 34A7 and 39C4 varieties ranked 2nd and 3rd respectively for top yields at the WIU Farm site. Both of these varieties are known to have excellent yield potential and produce an exceptional canopy that competes well with weeds. A soybean variety trial was not implemented at the Allison Organic Research Farm site in 2015 due to very prolonged wet soils. However, these two varieties (34A7 and 39C4) were also grown in a no-till study at the organic farm resulting in high yielding plots. Many of these no-till plots yielded over 60 bu/ac, with one of the 39C4 no-till plots yielding over 73 bu/ac.

The shorter maturity varieties didn't yield well in this trial with the exception of IA3051RA12, which ranked relatively high with a yield of 30.8 bu/ac. This is a group 3.0 variety that is considered high protein and aphid resistant.

As mentioned previously, two of the varieties (34A7 and 39C4) in this trial were grown at the organic research farm, which is in a neighboring county. The field where they were grown at the organic farm received significant rainfall, but drained better than this conventional site. Also, their yields at the organic site were almost double the yields at the conventional site. Excessively wet soil conditions were likely the main factor for these large yield differences. Therefore, under more optimal soil conditions, the plots located at the conventional farm could have possibly yielded significantly higher than what they did in 2015.