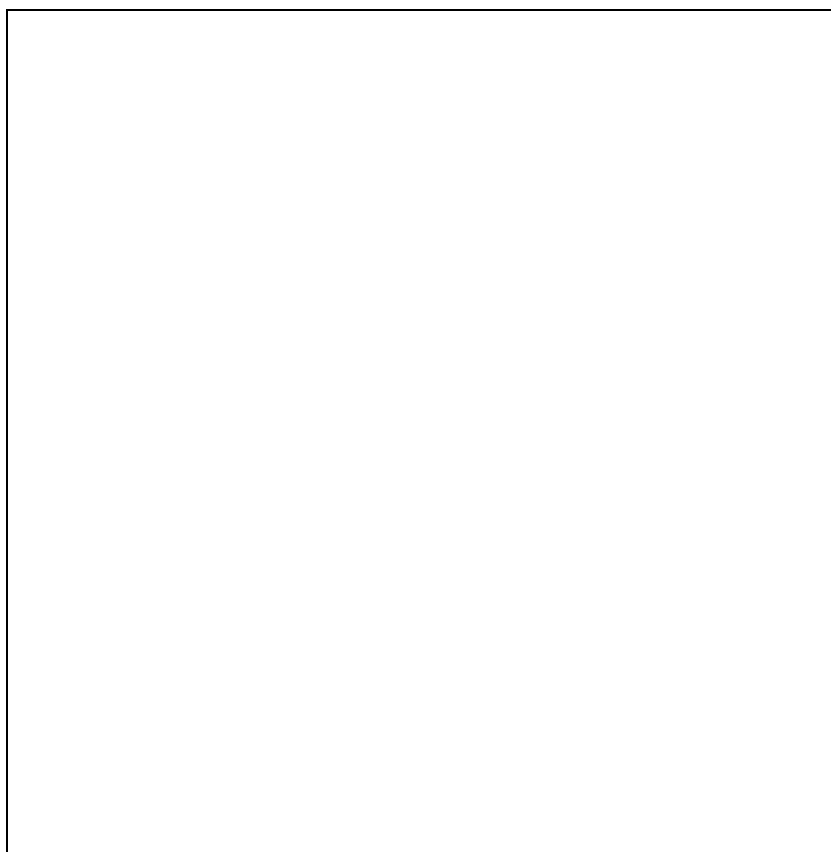


# 2012 Organic Soybean Variety Trial



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**2012 ORGANIC SOYBEAN VARIETY TRIAL**  
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Since 2009, the University of Vermont Extension has conducted soybean variety trials to provide yield comparisons of food- and feed-grade Varietal selection is one of the most important aspects of crop production and significantly influences yield potential. It is important to remember however, that the data presented are from replicated research trials from only one location in Vermont and represent only one season. Crop performance data from additional tests in different locations and over several years should be compared before making final varietal selections.

## MATERIALS AND METHODS

In 2012, an organic soybean variety performance trial was conducted at Borderview Research Farm in Alburgh, VT. Several seed companies submitted varieties for evaluation (Table 1). The soybean varieties were considered early maturing, with maturity groupings between 0.6 and 1.9. Both dark hilum and light or clear hilum varieties were included in the study (Figure 1). Light hilum varieties are typically grown for foodgrade uses, since the dark hilum can stain food and oil products and render yields unmarketable. Both types can be used for livestock feed, and food-grade soybeans that do not meet standards often become feed.

**Table 1. Seed varieties and grouping followed by company.**

Variety	Seed company	Maturity group
06F8	Blue River Hybrids	0.6
Dares		0.8
12A2	Blue River Hybrids	1.2
O.1544AT	Viking	1.4
1F44	Blue River Hybrids	1.4
17C2		

The trial was planted at Borderview Research Farm in Alburgh, VT on a Benson rocky silt loam (Table 2). Treatments were ten soybean varieties which were grown organically and evaluated for yield and oil content. The experimental design was a randomized complete block with four replications. The research

The previous crop was corn silage and the seedbed was plowed and disked. The

significant. At the bottom of each table, a LSD value is presented for each variable (e.g. yield). Least

**Table 4. Soybean plant stand characteristics data by variety, 2012.**

Variety	Population plants ac <sup>-1</sup>	Height Inches	Pods/plant #	Lodging %
06F8	184543*	42.3	27.1	<b>65.0*</b>
O.1544AT	102229	32.9	32.1	3.50
O.1706N	<b>245614*</b>	35.7	34.5	44.8*
O.1955AT	189189*	37.9	27.9	38.8
12A2	176577*	36.3	39.1	8.80
17C2	119488	34.1	42.6	21.8
19AR1	217734*	36.4	30.8	31.3
1F44	165956	42.5	29.1	7.50
Boyd	185206*	<b>53.9*</b>	40.2	18.8
Dares	70365	42.7	32.4	5.00
LSD(0.10)	76508	2	NS	21.3
Trial Mean	165690	39.5	33.6	24.5

\*Treatments that did not perform significantly lower than the top-performing treatment in a particular column are indicated with an asterisk.

NS- Treatments were not significantly different from one another.

Treatments shown in **bold** are top-performing.

Average harvest moisture was 14.3%, with no signifi

**Table 5. Soybean harvest and oil content data by variety**

Variety	Harvest moisture %	Yield @ 13% moisture			Test weight lbs bu <sup>-1</sup>	Pressing moisture %	Oil content %	Oil yield	
		lbs ac <sup>-1</sup>	bu ac <sup>-1</sup>	ton ac <sup>-1</sup>				lbs ac <sup>-1</sup>	gal ac <sup>-1</sup>
06F8	14.3	2957	52.9	1.48	56.0	10.9	8.20*	249	32.5
0.154AT	14.4	3153	55.7	1.58	56.6	11.0	6.65	215	28.2
0.1706N	14.1	4092*	72.8*	2.05*	56.3	10.9	7.21	302*	39.6*
0.1955AT	14.2								

## DISCUSSION

The average 2012 soybean yield was 3,295 lbs or 58.3 bushels per acre. Yields in previous years have been due to pest damage, including weed pressure and defoliation by turkeys and deer; this was not a problem in 2012. These high yields were partly due to our aggressive weed control methods, including tinweeding twice, cultivating once, and also hand-weeding the soybeans.

Oil content was significantly different by variety. The average oil content for this variety trial was 7.59%. The highest oil content was in 19AR1 (8.35%). The oil yield did differ statistically by variety. The highest oil yield was in 12A2 (339 lbs or 44.4 gallons per acre). The trial average for oil yield was 33.8 gallons per acre. It is important to note here that a higher soybean yield is not necessarily correlated with a higher oil yield due to varying oil contents. For example, the variety 0.1706N had the highest soybean yield but was outperformed in oil yield by one other variety because of its low oil content (7.21%).

Variety selection should involve both high seed-yielding varieties and those with high oil content, if growing soybeans for oil. Varieties must be selected based on the goals of the grower, and it should be recognized that these results are only from one location and one season. Growers should consider varietal performances from multiple seasons and locations before making decisions about which varieties will work for them.

## ACKNOWLEDGEMENTS

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