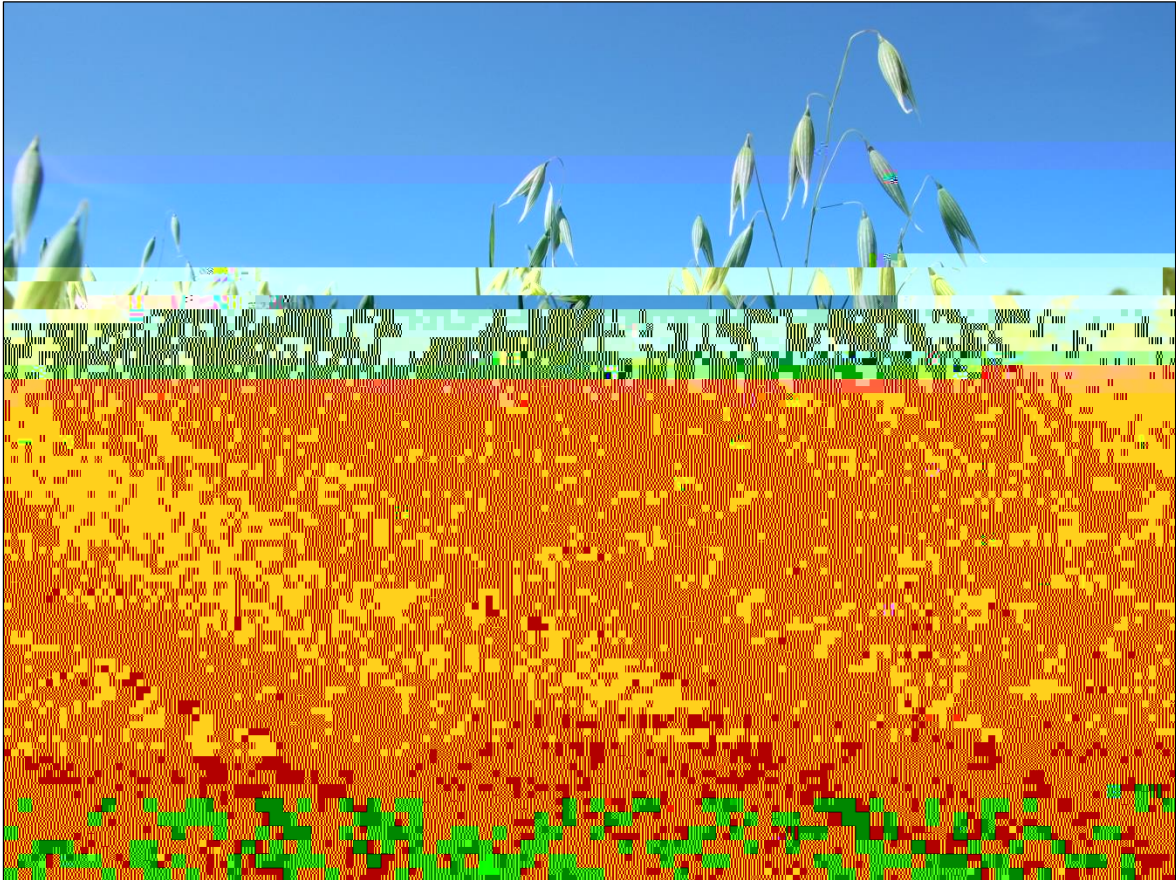


2022 Oat Variety Trial



Dr. Heather Darby, UVM Extension Agronomist
Laura Sullivan, Anna Brown, Hillary Emick, and Sophia Wilcox Warren
UVM Extension Crops and Soils Technicians
(802) 524-6501

Visit us on the web: <http://www.uvm.edu/nwcrops>

Pringles Progress	VT heirloom oat
Reims	Albert Lea Seed
Richmond	Seedway
Rushmore	Albert Lee Seed
Saddle	Albert Lea Seed
Shelby 427	Albert Lea Seed
Streaker (hulless)	Albert Lea Seed
Sumo	Albert Lea Seed
VNS (lot# 18-6034)	Seedway

The trial was planted at Borderview Research Farm in Alburgh, VT on a Benson rocky silt loam, over shaly limestone, 8 to 15% slope (Table 2). The experimental design was a randomized complete block with four replications. The previous crop was milkweed. The research plots were 70" z" 420" cpf" vjg" uggfdgf" ycu" prepared by conventional tillage methods including spring plow, disc and spike tooth harrow. The oats were planted on 25-Apr ykvj"8ö"tqy"urcekpi"cv"ctevg"qh"125 lbs ac⁻¹.

Table 2. Agronomic practices for the 2022 oat variety trial, Alburgh, VT.

Location	Borderview Research Farm, Alburgh VT
Soil type	Benson rocky silt loam, over shaly limestone,

All data were analyzed using a mixed model analysis where replicates were considered random effects. The Least Significant Difference (LSD) procedure was used to separate cultivar means when the F-test was significant ($P < 0.10$).

Variations in yield and quality can occur because of variations in genetics, soil, weather, and other growing conditions. Statistical analysis makes it possible to determine whether a difference among varieties is real or whether it might have occurred due to other variations in the field. At the bottom of each table a LSD value is presented for each variable (e.g. yield). LSD at the 10% level of probability are shown. Where the difference between two varieties within a column is equal to or greater than the LSD value at the bottom of the column, you can be sure in 9 out of 10 chances that there is a real difference between the two varieties. In the example, variety A is significantly different from variety C, but not from variety B. The difference between A and B is equal to 725, which is less than the LSD value of 889. This means that these varieties did not differ in yield. The difference between A and C is equal to 1454, which is greater than the LSD value of 889. This means that the yields of these varieties were significantly different from one another. The asterisk indicates that variety B was not significantly lower than the top yielding variety shown in bold.

Variety	Yield
A	3161
B	3886*
C	4615*
LSD	889

RESULTS

Weather data was recorded with a Davis Instrument Vantage Pro2 weather station, equipped with a WeatherLink data logger at Borderview Research Farm in Alburgh, VT (Table 3). Temperatures in May were slightly warmer than normal, resulting in 65 more Growing Degree Days (GDDs) than the 30-year average. Unfortunately, June was quite cool, averaging about 2.81 degrees below the 30-year average and resulting in 64 less growing days than normal. Despite generally cooler temperatures, a total of 3510 GDDs (base 32° F) were accumulated April through July. This was 36 GDDs less than the 30-year normal. 20.1 inches of rain fell from April through July; overall this amounted to 4.97 more inches of rain than normal.

Table 3. Temperature and precipitation summary for Alburgh, VT, 2022.

	2021			
Alburgh, VT	April	May	June	July
Average temperature (°F)	44.8	60.5	65.3	71.9
Departure from normal	-0.81	2.09	-2.81	-0.54
Precipitation (inches)	5.57	3.36	8.19	3.00
Departure from normal	2.50	-0.40	3.93	-1.06
Growing Degree Days (32-95°F)	391	883	1000	1236
Departure from normal	-20.0	65.0	-64.0	-17.0

Based on weather data from a Davis Instruments Vantage Pro2 with WeatherLink data logger.

Historical averages are for 30 years of NOAA data (1981-2010) from Burlington, VT.

Heights and lodging were assessed prior to harvest (Table 4). Oat varieties were not significantly different in terms of height or lodging. The average height was 109 cm and ranged from 96.6 cm (*MS-19071*) to 122

cm (*Marin*). The average percent lodging was 33.7% and ranged from 01.67% (*AC Gehl*) to 61.7% (*Streaker*). *Streaker* also had the greatest percent lodging in the year prior. No varieties in the trial displayed 0.0% lodging.

Table 4. Height and lo 12a

21.4% (*Jim*) with an average harvest moisture of 14.7%. The average test weight was 32.0 lbs bu⁻¹ and ranged from 23.7 lbs bu⁻¹ (*VNS*) to 38.9 lbs bu⁻¹ (*Streaker*). *Streaker*, a hulless oat, had a test weight that was statistically similar to 2 other varieties - *Hayden* and *Sumo*. Sixteen of the twenty-eight varieties had

DISCUSSION