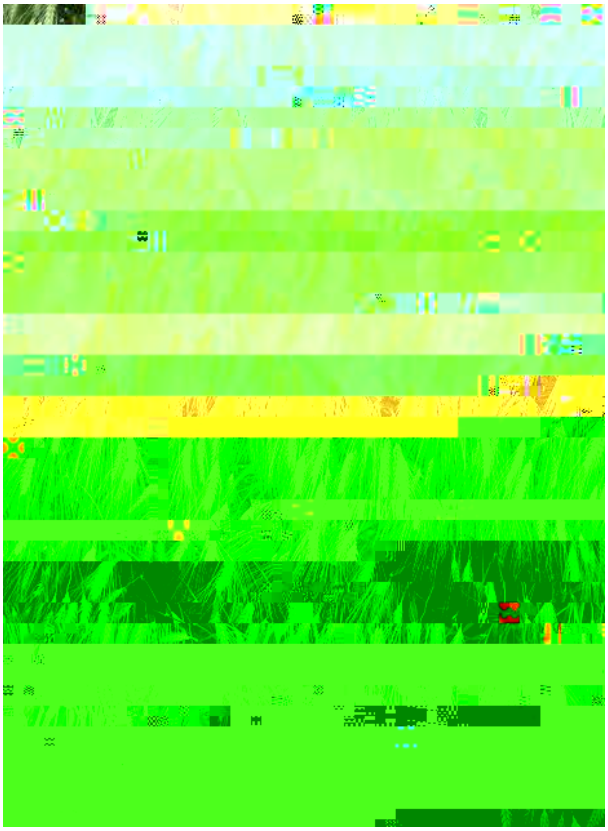
2023 Hulless Barley Variety Trial



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Valsergeste	Solstice Seeds
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B. The difference between A and B is equal to 200, which is less than the LSD value of 300. This means that these treatments did not differ in yield. The difference between A and C is equal to 400, which is greater than the LSD value of 300. This means that the yields of these treatments were significantly different from one another.

RESULTS

Seasonal precipitation and temperature recorded at a weather station at Borderview Research Farm are displayed below in Table 3. The growing season was cooler than normal, although the month of May was warmer than average. There were 3591 Growing Degree Days (GDDs) in the season, 44 growing degree days more than the 30-year normal. There were 22.1 inches of precipitation, 6.62 inches more than the 30-year normal.

Table 3. Temperature and precipitation summary for Alburgh, VT, 2023.

Alburgh, VT	April	May	June	July
Average temperature (°F)	48.3	57.1	65.7	72.2
Departure from normal	2.70	-1.28	-1.76	

Hulless barley yields were lower than the previous year, with a trial mean yield of 1573 pounds per acre (Table 4, Figure 1). CDC Ascent had the highest yield at 2615 lbs ac^{-1} which was statistically similar only to CDC Carter, which had the highest yield in 2022.

Table 4. Spring hulless barley varieties and agronomic characteristics, Alburgh, VT, 2023.

Variety	Heading

Figure 1. Spring hulless barley yield and germination, Alburgh, VT, 2023.

Protein concentrations averaged 12.2%, slightly higher than ideal for malting barley (which needs to be between 10-12% for optimum malting) but acceptable for culinary barley. The highest protein variety was Ethiopian at 13.7%, statistically similar to four other varieties: Sheba, Excelsior, Queen of Sheba, and Sangatsuga (Table 5).

The falling number indicates the level of enzymatic activity in the grain. It is determined by the time it takes, in seconds, for a stirrer to fall through a slurry of flour and water to the bottom of a test-tube. Falling numbers between 300 - 350 indicate low enzymatic activity and sound quality grain. A falling number lower than 200 indicates high enzymatic activity and poor-quality grain as a result of pre-harvest sprouting damage. Falling number above 400 may indicate slow fermentation and germination/ malting.

DISCUSSION

Market outreach has been generating demand for hulless barley in recent years. Hulless barley has potential as a specialty food grain in the Northeast. Though this data is only based on a single growing season,