Impact of Cover Crop Termination Timing on Grain Corn Productivity

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In 2020 initiated a three-year trial at Borderview Research Farm in Alburgh, VT to assess the impact of cover crop termination timing on weed biomass, corn seedling populations, vigor, pest damage, and grain corn yield. Cover crops can offer a wide range of benefits including improved soil health, weed suppression, and erosion control. These benefits can contribute to higher

Soil samples were collected for presidedress nitrate tests (PSNTs).

Table 2. Agronomic information for cover crop practice management trial, Alburgh, VT, 2020-2023 .

Location	Borderview Research Farm Alburgh, VT

value is presented for each variable (i.e. yield). Least Significant Differences (LSDs) at the 0.10 level of significance are shown. Where the difference between two treatments within a column is equal to or greater than the LSD value at the bottom of the column, you can be sure that for 9 out of 10 times, there is a real difference between the two hybrids. Treatments that did not perform significantly different from each other share the same letter. In this example, treatment C is significantly different from treatment A, but not from treatment B. The difference between C and B is equal to 1.5, which is less than the LSD value of 2.0. This means that these treatments did not differ in yield. The difference between C and A is equal to 3.0 which is greater than the LSD value of 2.0. This means that the yields with these treatments were significantly different from one another. The shared letter indicates that treatment B was not significantly lower than the top yielding treatment C, indicated in bold.

RESULTS

Weather Data

Weather data were collected with an onsite Davis Instruments Vantage Pro2 weather station equipped with a WeatherLink data logger. Temperature, precipitation, and accumulation of Growing Degree Days (GDDs) are consolidated for the

Table 6. Weed biomass by termination timing across years, Alburgh, VT, 2021-2023.

Management practice	2021	2022	2023	Trial mean
		lbs ac^{-1}		
Bare	3.21	506[b]	359[b]	289[b]
Brown	0.713	453[b]	283[b]	245[b]
Green/Brown	6.96	73.8[a]	12.5[a]	31.1

date consistently has on grain yield. In addition. This study was conducted on grain corn and different outcomes may be produced with corn silage as the whole plant is harvested.

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