Table 1. Trial agronomic information, 2022.

Fungicides evaluated in the 2022 spring barley fungicide trial included Caramba, ChampION, Miravis Ace, Prosaro, Prosaro Pro, and Sphaerex (Table 3). Fungicides were applied at heading (Feekes stage 10.5). Three treatments consisted of a combination of applications of two fungicides. For one dual treatment, Miravis Ace was applied at heading, followed by Prosaro Pro five to seven days after heading. In another dual treatment, Miravis Ace was applied at heading followed by Sphaerex five to seven days after heading. In the final dual treatment, ChampION was applied both at heading and five to seven days after heading. Each variety was treated with fungicide when it reached the appropriate state of maturity (Table 2).

Heading date applications were applied when the barley reached 50% spike emergence (Table 3). The adjuvant ‘Induce’ was added to all treatments at a rate of 0.125%. All

When the barley reached the soft dough growth stage, FHB infection rates were assessed by clipping 60-100 randomly selected spikes from each plot, counting spikes, and visually assessing each head for FHB infection. The head assessment occurred on 13-Jul for the Robust plots and 15-Jul for the Genesis plots. The infection rate was assessed by using the North Dakota State University Extension Service's "A Visual Scale to Estimate Severity of *Fusarium* Head Blight in Wheat" online publication.

Grain plots were harvested with an Almaco SPC50 plot combine on 1-Aug. Grain moisture, test weight, and yield were measured at harvest. Harvest moisture and test weight were determined for each plot using a DICKEY-john Mini GAC moisture and test weight meter. Higher test weight in barley is associated with better malting quality. The optimal test weight for barley is 48 lbs bu^{-1} or higher.

Following harvest, barley was cleaned with a small Clipper cleaner (A.T. Ferrell, Bluffton, IN). A one-pound subsample was collected to determine quality. Approximately 300 g of each sample was ground into flour using the Perten LM3100 Laboratory Mill. Deoxynivalenol (DON) concentrations were analyzed at the McMaster lab at Virginia Tech on an Agilent 6890N / 5975 GC/MS. This method has a detection range of from 0.025ppm – 15ppm.

Following is a list of the fungicides and application rates evaluated in this trial (Table 3). Descriptions have been provided from manufacturer information.

Table 3. Plot treatments-fungicide application rates.

Treatments	Application rate
Control	Water
Caramba	14 fl oz ac^{-1} +.125% Induce ac^{-1}
ChampION	1.5 lbs ac^{-1}
Miravis Ace	

Table 4. Temperature and precipitation summary for Alburgh, VT, 2022.

Alburgh, VT	

Table 5. Harvest quality by fungicide treatment and timing, Alburgh, VT, 2022.

Treatment	Timing	Test weight	Harvest moisture	Yield at 13.5% moisture
		lbs bu^{-1}	%	lbs ac^{-1}
Control	Heading	44.1^{bc}	12.8^{a-c}	3370^{d}
Fusarium	Heading	43.5^{bc}	13.2^{a-d}	3364^{d}
Caramba	Heading	43.4^{c}	12.7^{ab}	3841^{b-d}
ChampION	Heading	44.9^{bc}	13.2^{b-d}	**4492^{a}**
ChampION	Heading & Post-heading	44.1^{bc}	**12.5^{a}**	3949^{a-d}
Miravis Ace	Heading	44.5^{bc}	13.5^{cd}	4344^{ab}
Miravis Ace, Prosaro Pro	Heading, Post-heading	**46.7^{a}**	13.4^{cd}	4155^{a-c}
Miravis Ace, Sphaerex	Heading, Post-heading	45.1^{ab}	13.0^{a-c}	4173^{ab}
Prosaro	Heading	43.3^{c}	13.0^{a-c}	3828^{b-d}
Prosaro Pro	Heading	44.7^{bc}	12.7^{ab}	3994^{a-d}
Sphaerex	Heading	43.3^{c}	13.8^{d}	3526^{cd}
LSD (p=0.10) ‡		1.62	0.72	644
Trial mean		44.3	13.1	3913

† Within a column, treatments with the same letter are statistically similar to the top performer in **bold**.

‡ LSD- Least significant difference at p=0.10.

The incidence and severity of Fusarium head blight infection was calculated for each plot. Incidence refers to the percentage of plants evaluated that were infected with FHB. Severity refers to the average degree of infection of each head examined. The fusarium only plots had the lowest severity and incidence of FHB by visual assessment. This was statistically similar to the untreated control and the Prosaro Pro treatment. The relatively low severity and incidence of FHB in the inoculated vs. uninoculated plots indicates that fusarium spores are ubiquitous and abundant in the environment.