2019 Hop Soil Health Trial

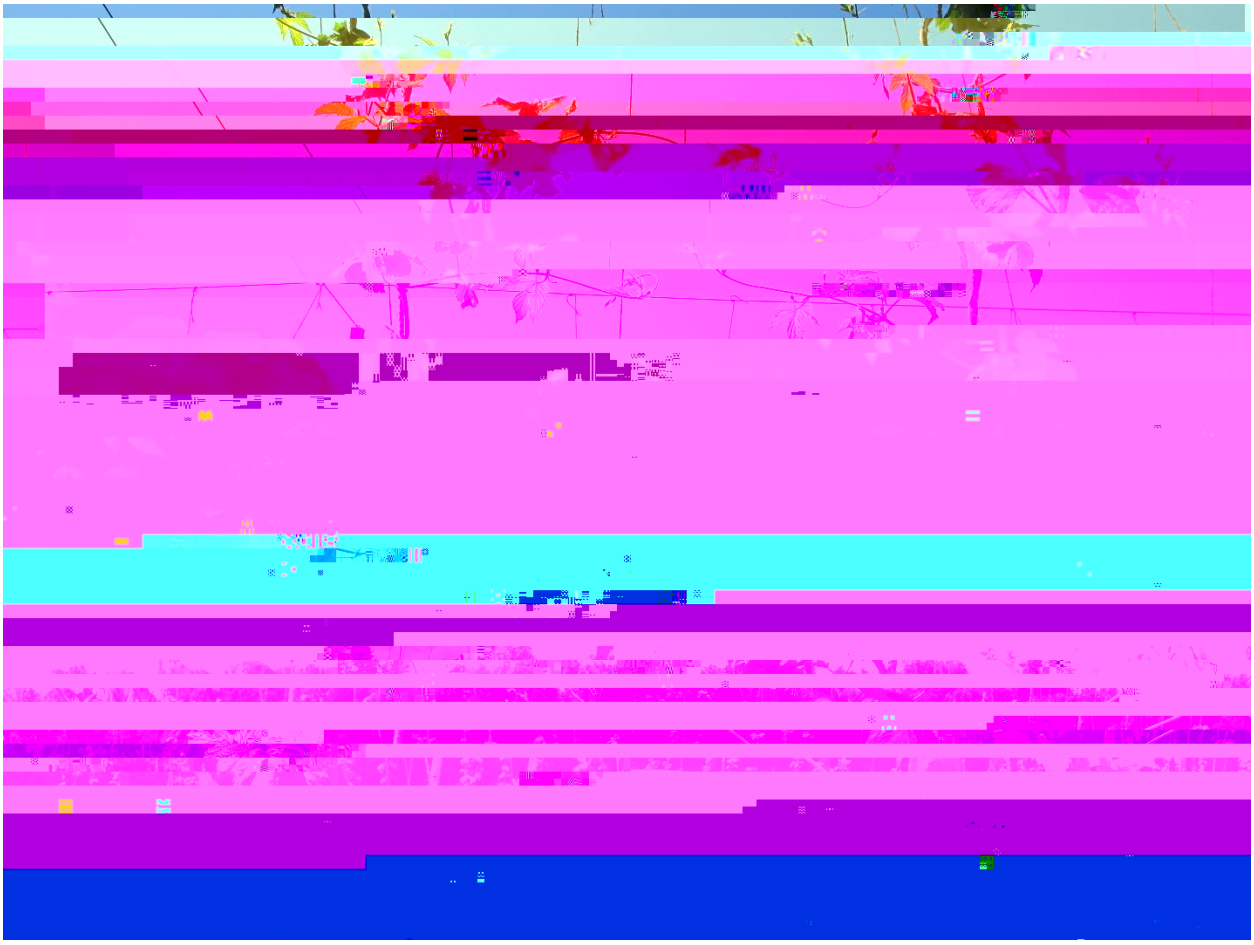

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Table 2. Manure nutrient analysis, 2019.

Nutrient	Nutrients lbs wet ton^{-1}
Total nitrogen	11.2

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 (i.e. yield). Least Significant Differences (LSD's) at the 10% level of probability 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 in 9 out of 10 chances that there is a real difference between the two varieties.

Treatments that were not significantly lower in performance than the highest value in a particular column are indicated with an asterisk. In this example, A is significantly different from C but not from B. The difference between A and B is equal to 1.5, which is less than the LSD value of 2.0. This means that these varieties did not differ in yield. The difference between A and C is equal to 3.0, which is greater than the LSD value of 2.0. This means that the yields of these varieties were significantly different from one another. The letter indicates that B was not significantly lower than the top yielding variety. Within the trial there were no significant variety x treatment interactions so data was pooled across varieties and is presented based on manure treatment impacts.

RESULTS

Table 3 shows a summary of the temperature, precipitation and growing degree-day (GDD) summary. In the 2019 growing season, there were an accumulated 2322 GDDs, 157 less than the historical 30m0 g0 G[I)18(n)-10(

Soil samples were taken on 22-Apr and analyzed for soil health and nutrient analysis (Table 4 and 5). Obtained samples were collected to establish a baseline for soil health and nutrients in order to later determine the impact that manure applications might have on soil health. Various aspects of soil health that were analyzed scored high across the various plots, but there were no differences across any of these tested treatment areas. Soils also had a high overall score with a trial average of 86.5 (out of 100). Soil nutrient analysis similarl

Table 6. Average insect pest and disease scouting incidence for manure application rates, Alburgh, VT, 2019.

Treatment tons manure ac^{-1}	Aerial spikes plot^{-1}	Basal spikes plot^{-1}	HA† leaf^{-1}	PLH leaf^{-1}	TSSM leaf^{-1}
0 (contrpW*nBT/F4 6.96					

Table 9.

producing a crop. Subsequent years of study may provide additional insight into the impact of manure applications on soil health as well as hop quality, yields, and pest pressure.

ACKNOWLEDGEMENTS

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