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Company Name: Pathogen Death Wand Company
Sample Type: Flower

Date Lab Test: January 2017

Date Reported: January 2017

In order to determine the effect of the new VQE light strip on yeast and mold communities, Cannabis samples were treated for increasing lengths of time. Testing was performed using two light strips set at approximately 6 inches apart (see Figures below). The green indicating LED lights were on for both lights for the entirety of the experiment. The treatment was isolated on a stainless steel table with surrounding protective sheets. Cannabis samples, previously determined to be highly infected with yeasts and molds, were placed directly underneath the new VQE light strip, approximately 16 inches underneath the light strip. Samples were approximately 1.5 grams and there were 6 replicates per timepoint.

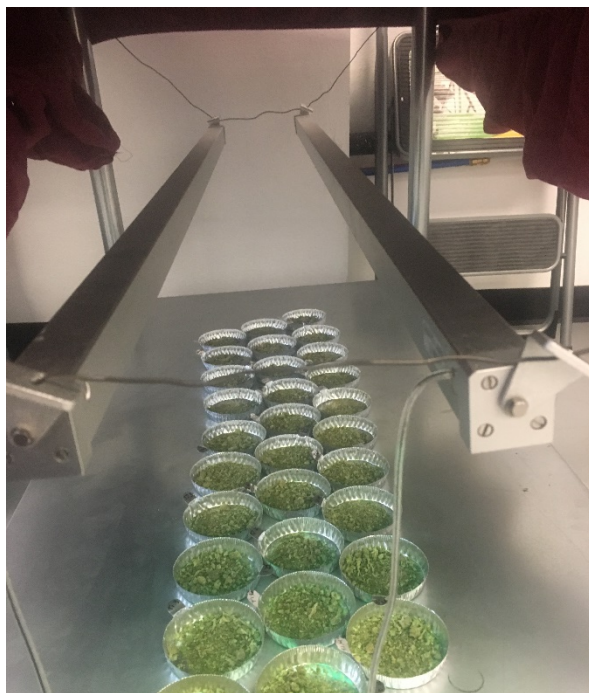


Figure 1. Sample Arrangement

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Figure 2. Functioning Lights

The test was run using treatment times of 0, 19, 46, 72, 96 and 166 hours. Once treatment times were completed, samples were normally plated on 3M PetriFilms, according to laboratory SOP's, and incubated for ~60 hours prior to quantification of yeasts and molds. Chemotype testing was also undertaken, using HPLC for cannabinoid quantification and GC for terpenoid quantification. Results of all analyses are below and reflect an average of six data points per time point.

Figure 3 shows the effect of the VQE light strip on the total yeast and mold communities. Error bars here show standard error.

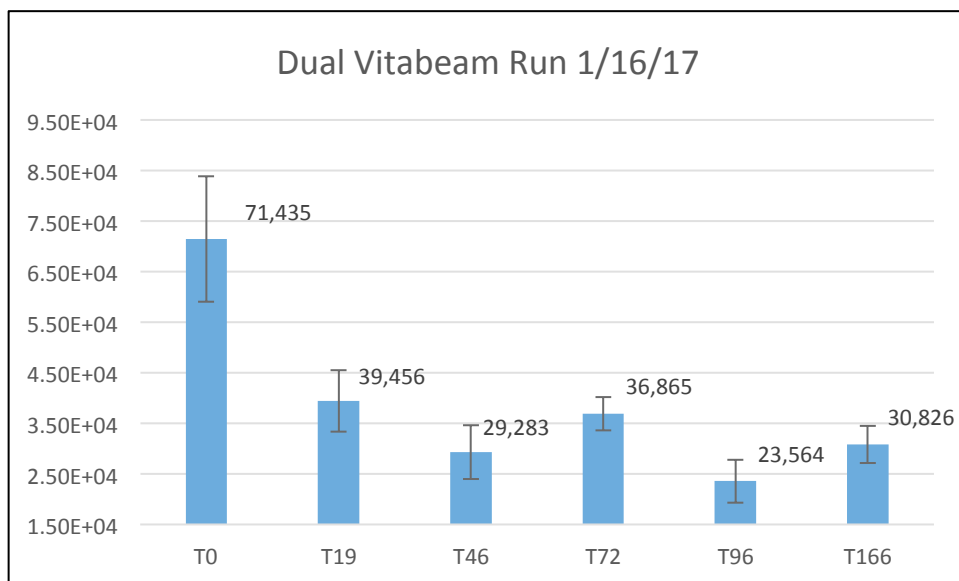


Figure 3. TYMC Kill Curve

As seen in Figure 3, the VQE light strip decreased total yeast and mold communities by approximately 45% at 19 hours and 57% at 166 hours. The y-axis in Figure 3 is TYMC cfu/g counts. As seen, there continues to be a population of microorganisms which can evade death, although the lights are capable of killing off significant populations of microorganisms.

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The potential effect of the VQE light strip on cannabinoids and terpenes was also determined and is shown below in Figures 2 and 3.

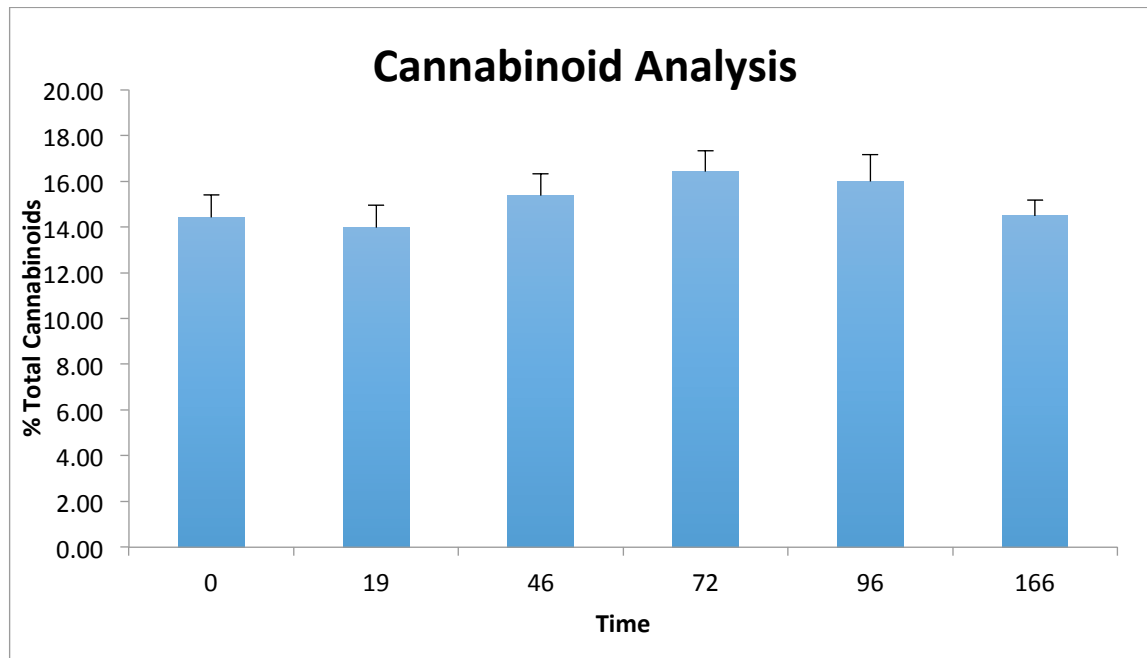


Figure 4. Effects of VQE on Cannabinoids

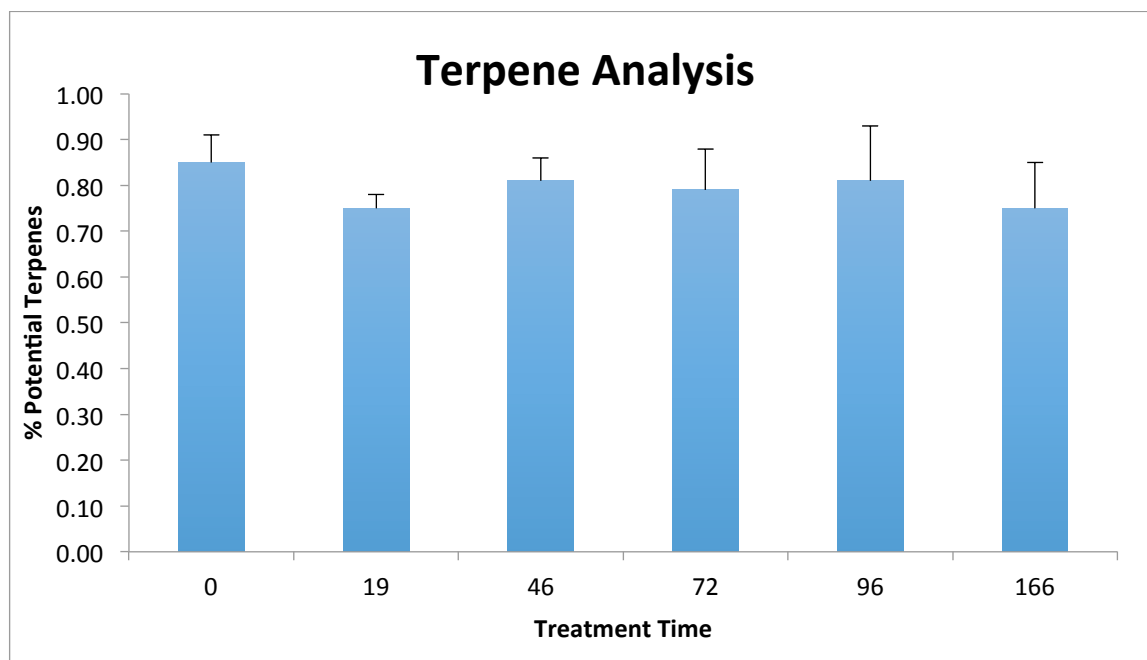


Figure 5. Effects of VQE on Terpenes

As seen above in Figures 4 and 5, and seen consistently through multiple testing iterations, there was minimal effect of the VQE light strip on flower chemotype.