

2022 Blue Magic Trial

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Trial information

Trial was conducted in the Pesticide Research Facility greenhouse located in Auburn, AL. Pests were identified on clones prior to experimentation. Whitefly infested plant added to monitor additional pest levels. Research to monitor efficacy of pesticides was conducted on October 9th with eight different treatments and six replicates.

Experimental Design

Hemp clones were planted at Ornamental Research Station (Mobile, AL) September 15th. After rooting, plants were moved to Plant Science Research Center (Auburn, AL) October 5th. Foliage of plants were sprayed (Day 0) until run-off with treatments (see table below) and left overnight until they were completely dry. Once dry, hemp clones were placed into individual bug dorms (Day 1) approximately 15 centimeters apart. Each dorm represented one experimental replicate and contained 8 plants with each treatment included. Six replicates were included.

Whitefly-infested plants were placed into bug dorms with clones for to evaluate treatments. The presence of aphids and spider mites were noted upon initial scouting and thus were included in data collection. Clones were monitored for pests beginning on Day 3 (72 hours), Day 5 (120 hours), and Day 7 (168 hours) post treatment. Monitoring protocol consisted of one leaf excised from each plant to monitor pest numbers and treatment efficacy. Numbers of pests were assessed using a microscope.

Treatment-Rate
1. UTWC (Untreated Water Control)
2. Blue Magic-1oz (Low)
3. Blue Magic-2oz (Recommended)
4. Blue Magic-4oz (High)
5. Mammoth Canncontrol-1oz (Low)
6. Mammoth Canncontrol-2oz (Recommended)
7. Garden Safe Neem Oil-1oz (Low)
8. Garden Safe Neem Oil-2oz (Recommended)



Statistical Analysis

Data were analyzed using a repeated measures analysis of variance in SAS 9.4

Results

Pest species included sweet potato whiteflies (*Bemisia tabaci*), two spotted spider mites (*Tetranychus urticae*), and melon aphids (*Aphis gossypii*). Below we show data for two-spotted spider mites (abbreviated as “TSSM”) eggs and adults, aphid adults, and whitefly eggs with the three rates of Blue Magic. Graphs depict each treatment with number of pests per each day of data collection.

A rate response was detected, particular for spider mite adults, although all Blue Magic treatments did reduce population numbers; the untreated control took longer to reduce numbers. All results shown below are not significant; they are trends that further trials will be needed to identify the patterns.

The final graph shows a summary of all pests combined and all treatments. Blue Magic at the 4oz rate was the most successful at reducing populations quickly, and this pattern continued relative to the untreated control.



