Worm Power Program for Enhancement to Strawberry Production

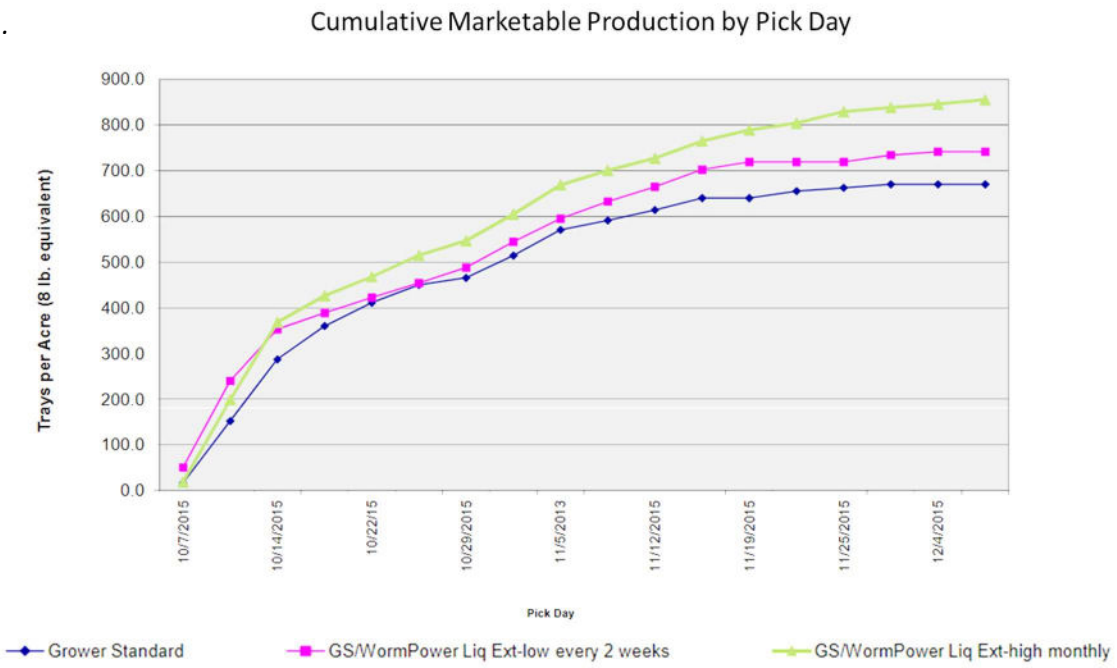
Background: Vermicompost has been previously shown to increase yield in strawberry production. With increased costs of fertilizer programs and concerns about soil health, sustainable options are needed for improving production systems.

Objective: To evaluate vermicompost application rates on strawberry growth and production.

Methods: Trial design was a completely randomized block with six replications. Portola strawberries were planted at the end of July in Ventura County California to evaluate treatments of vermicompost. A grower standard (GS) fertilizer program was applied to all plants in the trial. Treatments of Worm Power Liquid Extract were applied at a bi-weekly low rate of 5 Gallons/Acre (WPL) and a monthly high rate of 10 Gallons/Acre (WPH). All treatments were applied through the grower's in field drip irrigation system. Pick days started in October and ended in December.

Results:

Figure 1.



The above graph (Figure 1) shows the total marketable average amount of 8 lb. trays picked per acre during the season. WPH, shown with green triangle line, stays consistently above GS, shown with a blue diamond. WPH produced the most flats for the pick period, with a total of 855 trays/acre, followed by WPL with 741 trays/acre, then the grower standard with 670 trays/acre.

Figure 2.

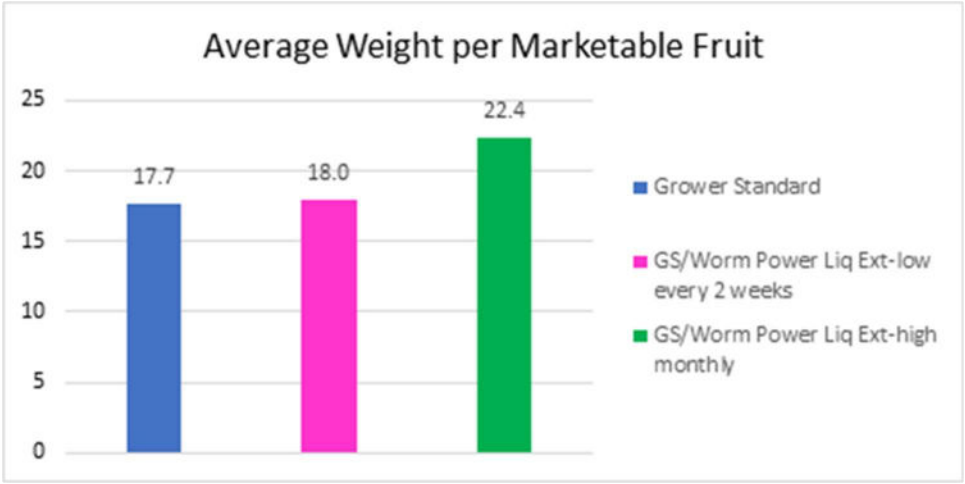


Figure 2 shows the average weight in grams of marketable fruit that were harvested. Average weights of berries were 17.7 g, 18.0 g, 22.4 g for GS, WPL, and WPH respectively.

Figure 3.

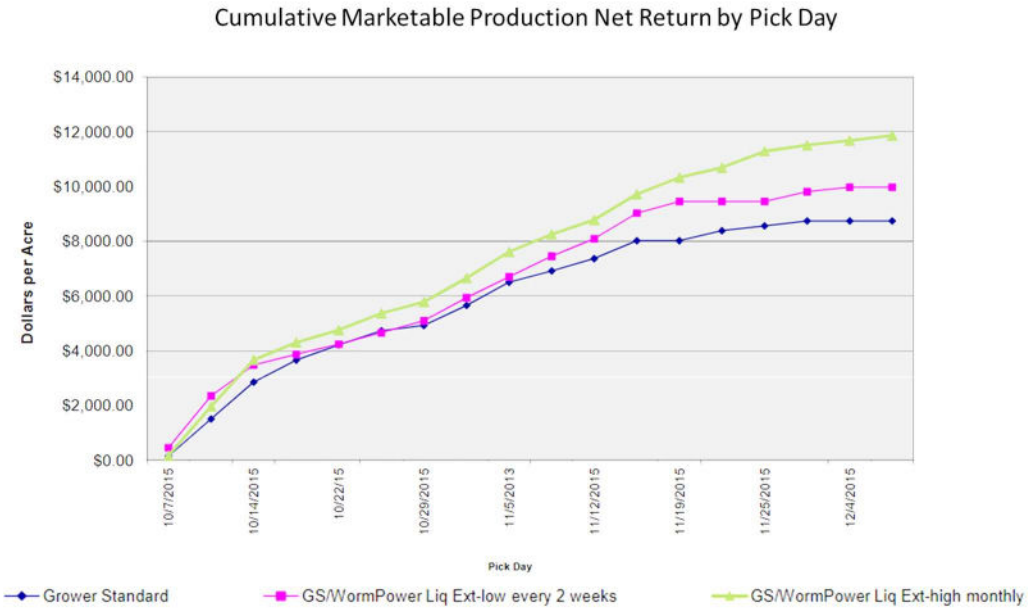


Figure 3 shows the cumulative marketable returns based on USDA Shipping Point Market Prices at the time of picking. This data represents the net back to the grower after costs of approximately $6.00 per tray that represents labor, carton, tray costs, transportation, and cooling costs associated with production. The cumulative totals for the treatments' net returns were: $8,747, $9,981, and $11,689 for GS, WPL, and WPH respectively. The treatment differences for the total season when compared to the grower standard were $1,234 for the WPL program and $3,123 for the WPH program.

Summary: The addition of Worm Power Liquid Extract to a standard fertilizer program increased strawberry yield of 8lb trays per acre 11% with WPL and 28% with WPH. Although total amount of product applied per acre was the same, the high rate once a month had the most increase in yield, weight, and net revenue. The ROI rate for this study was 1.5 for WPL and 3.3 for WPH proving that the addition of Worm Power Liquid Extract can increase grower revenue.