

Worm Power Liquid Extract for Transplants

Plants are susceptible to transplant shock when going from the protected environment of a greenhouse to being transplanted in a field. This stress can cause multiple symptoms from a delay in development to plant death. Signs of transplant shock on the leaves are chlorosis (yellowing), scorching (sunburn), or appearing wilted. The plant can be fragile from shock for 2 weeks or more, leaving it susceptible to nature. Shock is prevalent in plants that have small or not fully formed root systems. Worm Power Liquid Extract (WPLE) has beneficial microbes that promote root development and help alleviate plant stress.

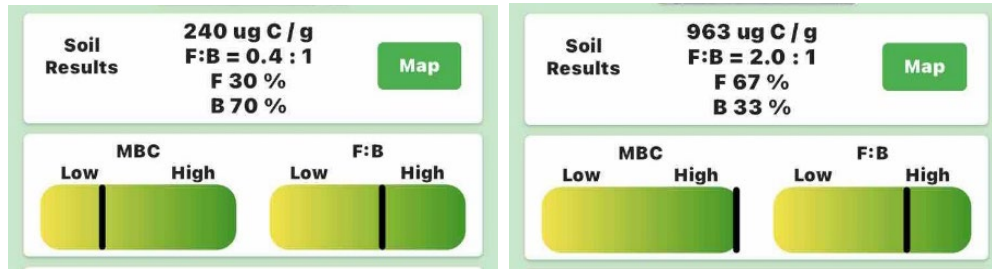
Weekly applications of 8 oz of WPLE were applied with the current foliar system in a commercial nursery to tomato, pepper, leek, and broccoli seedlings. Previous issues of salinity and high nitrates in the water caused poor root development resulting in delayed shipping of the transplants. The picture of the seedling roots (below) shows a root comparison between a control and a seedling that received applications of WPLE. The application of WPLE increased root development by over 50%.

Figure 1. Root comparison of untreated seedling (left) and WPLE treated seedling (right).



Microbes stimulate root growth through their diverse metabolic pathways and can produce plant growth promoting compounds such as auxin. The roots absorb microbes and their nutrients in the rhizophagy cycle and throughout that process, the plant upregulates antioxidants that help the plant deal with stressors. Using WPLE at the time of transplant is beneficial to establish a strong root system and alleviate stress.

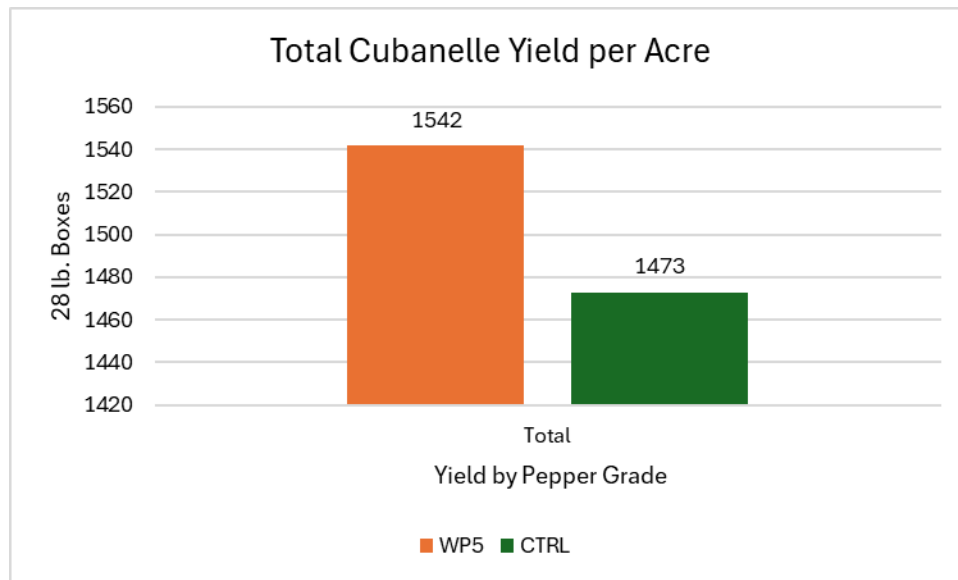
Figure 2. MicroBIOMETER results for untreated seedlings(left) compared to WPLE treatment(right).



Seedlings that have been treated with WPLE have more robust root systems and are able to handle the stress of being transplanted to a new environment. The addition of WPLE applied during transplant provides the soil with an inoculating dose of established microbes to plant. The above MicroBIOMETER measurements show an increase in biology three times greater than the control when WPLE is applied. Microbes can help reduce transplant shock and increase overall yield by making nutrients more readily available.

WPLE increased cubanelle pepper yield with a single application at transplant. A field trial evaluated the addition of WPLE at 5 gallons per acre (WP5) during transplant to an adjacent control (CTRL). The addition of WP5 increased in total marketable yield by 4.7%.

Figure 3. Yield of cubanelle peppers as 28 lb. boxes per acre.



Worm Power Liquid Extract provides beneficial microbes to the plant roots for all stages of plant growth. The addition of WPLE use at transplant is recommended to help reduce transplant shock and increase yield.