

Efficacy of Microbial Amendments on Vegetables in Greenhouse and Field Trials

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Abstract. Possible effects of microbe-containing amendments on vegetable development need clarification. Eight-week-old, organically grown seedlings of a bell, cv. Jupiter, and a non-pungent jalapeño, cv. Pace 105, pepper, both *C. annuum* L., were transplanted into pots containing an organic potting medium in a greenhouse experiments repeated over 2 years. Pots were fertilized with Neptune's Harvest®, a fish emulsion. One of eight amendments [Actinovate AG®, Bio Inoculant®, Bio-S.I.®, Compost Tea® (a decoction of biological material), Mpack®, 'PMSLA and EO-12'®, Soil Activator®, Super Bio®] was applied at label rates and application timings. The control was Neptune's Harvest only. Three plants from each treatment were periodically harvested. Heights and total fresh and dry weights were determined. At a single terminal harvest, numbers and weights and chlorophyll, carotenoids, and vitamin C contents of fruit were determined. At the conclusion of the study the control, Bio-S.I., Compost Tea, PMSLA and EO-12, and Soil Activator generally produced bell pepper plants that were taller and heavier than those produced by Actinovate AG, Bio Inoculant, Mpack, and Super Bio. Numbers and weights of bell pepper fruit were not consistent over amendments or years. Heights for cv. Pace 105 plants treated with Compost Tea were similar to the control and taller than all others. Plant fresh weights for the control and Compost Tea were similar to that for Bio-S.I. and greater than all others. Dry weight, number and fresh weight of fruit and levels of chlorophylls, carotenoids, and vitamin C in fruit were unaffected. Compost Tea, PMSLA, and Soil Activator were tested in field trials in 2010 and 2011 using both peppers, cucumber (*Cucumis sativus* L.), cv. Earli Pik, and sweet corn (*Zea mays* var. *rugosa* Bonaf), cv. Incredible. Amendments provided no particular benefits under greenhouse or field conditions.