

Using Vermicompost on Poinsettias

GROWERS NOW HAVE AN ADDITIONAL WEAPON IN THEIR ARSENAL IN THEIR BATTLE FOR IMPROVED POINSETTIA QUALITY.

By Jim Snyder

Imagine cloning your most experienced, efficient employees to get hundreds, or even thousands, of additional workers in your greenhouses who toil to improve the quality of your poinsettia (and other) crops and who never show up on your payroll. Recent trials sponsored by Sonoma Valley Worm Farm (SVWF) in cooperation with commercial growers Plug Connection and Colorama Nursery would suggest that is exactly what you get when adding the beneficial microbial community produced by high quality vermicompost to the substrate of your poinsettia and other ornamental crops, resulting in increased root and shoot development.

Background

Vermicompost is produced by thermophilic composting of organic material, which is then fed to worms to digest for further breakdown in a tightly controlled process. The resulting product is 100 percent natural, organic compost, rich in beneficial microbes, that closely resembles

Table 1: Vermicompost Poinsettia Trial, Colorama Nursery

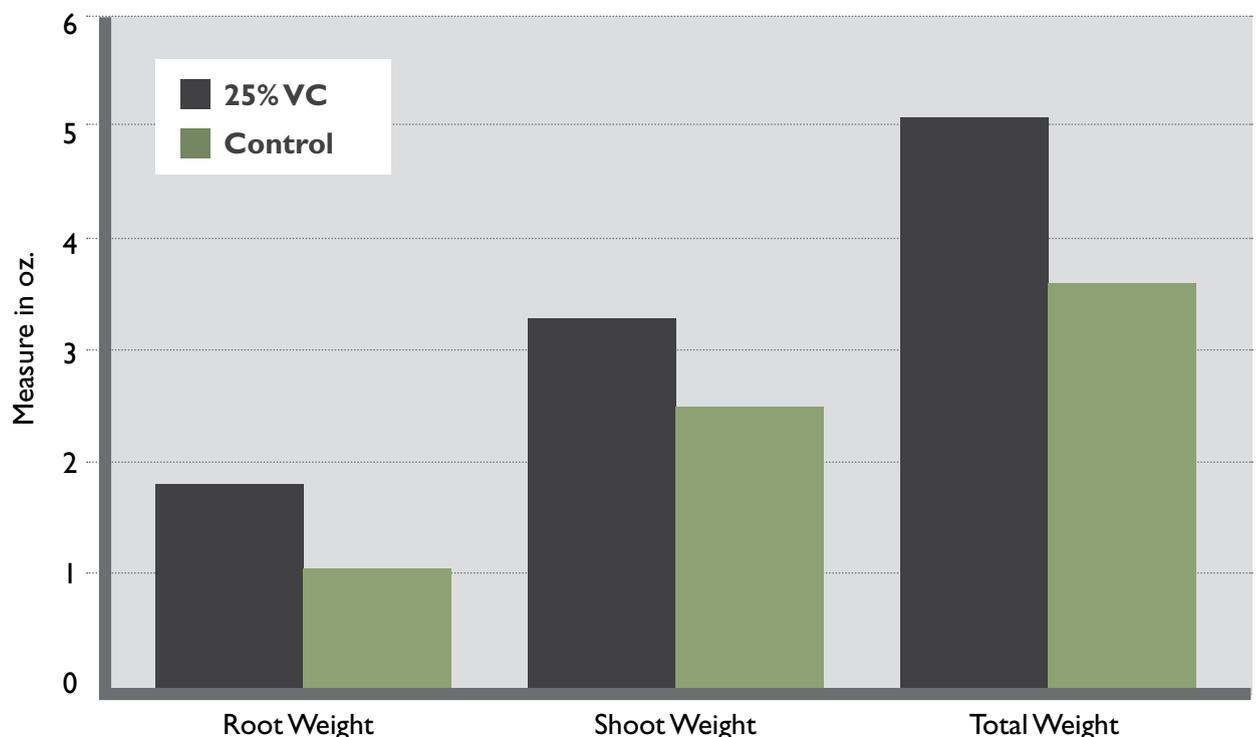




Figure 1 (top). Effects of VC-treated plants at Colorama Nursery. Root formation appeared to seek and develop in the VC layer.

Figure 2 (middle). Effects on washed roots at Colorama Nursery. Root development was observed to be significantly increased in washed roots.

Figure 3 (bottom). Heights of both VC-treated and non-VC treated plants were similar at Plug Connection trials.



high-quality peat in appearance.

The benefits provided by vermicompost include a rich microbial population that enhances the plant's ability to assimilate nutrients. Recent university research using vermicompost has also shown promise in providing suppression of soil-borne diseases like *Pythium* and *Rhizoctonia* and improving the plant's ability to ward off insect pests. The increased nutrient assimilation results in substantially increased root development and greater vegetative tissue formation. These two results are evident in the accompanying images and grafts. To ensure success, it is essential to use a vermicompost that is consistent in structural properties and microbial content, and free from pathogens and weed seeds.

The process developed over 20 years by SVWF employs an initial thermophilic composting stage that raises temperature to over 145° F, killing weed seeds and pathogens. Structural and microbial consistency is insured by using single-source organic waste from a nearby NOP-certified dairy farm.

Production Trials

For these commercial production trials, vermicompost was added to the producer's normal poinsettia media at 25 percent at Colorama



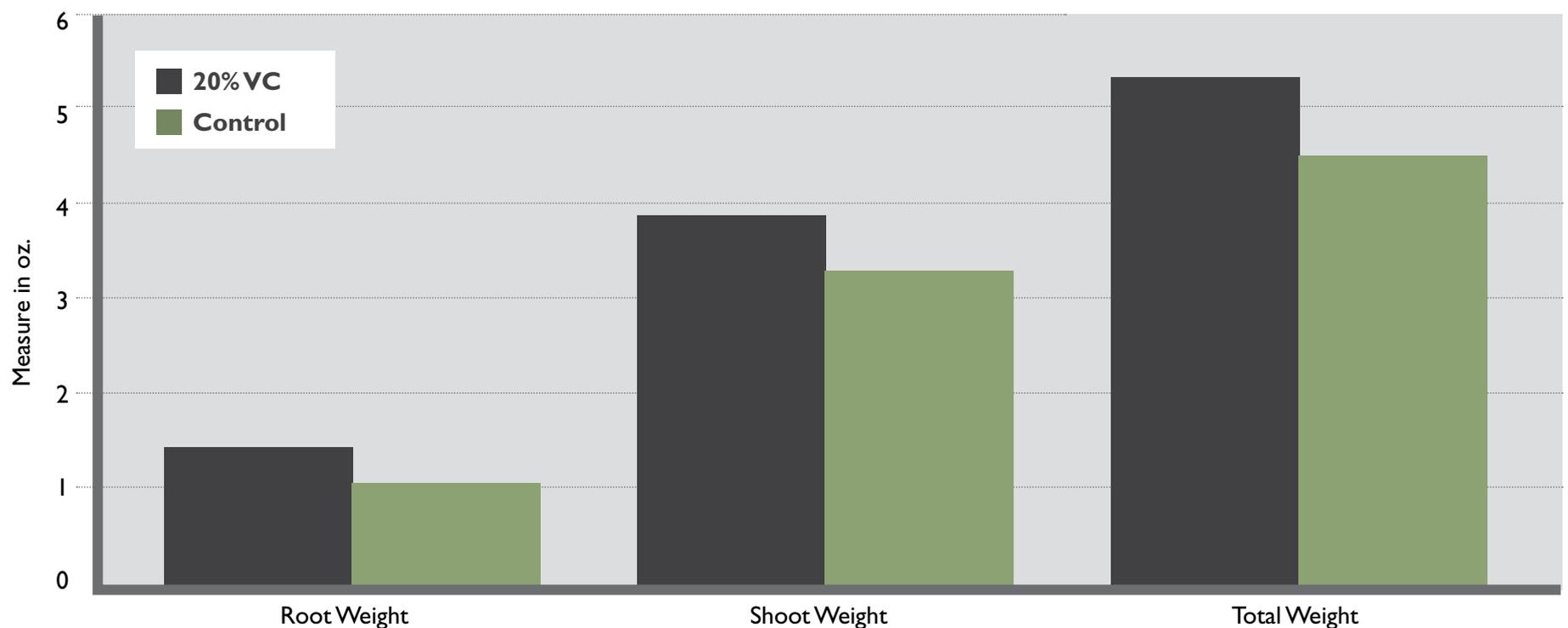
Table 2: Vermicompost Poinsettia Trial, Plug Connection

Figure 4 (right). VC-treated plants at Plug Connection exhibited slightly increased flower development. Left is treated with 20 percent vermicompost, right is control.

Figure 5 (below right). Root development of the VC-treated plants at Plug Connection was visually greater in washed roots.



and 20 percent at Plug Connection. At Plug Connection the VC was mixed throughout the media. At Colorama the VC was mixed throughout the media at 25 percent in one treatment and in the bottom third layer and the middle third layer in two additional treatments. Plants were irrigated normally and received the same fertilizer and PGR applications as their commercial crops. The variety used at Plug Connection was 'Prestige Red' and at Colorama 'Premium Red'. While vermicompost resembles other organic media amendments in physical appearance and is incorporated in the substrate, vermicompost should be thought of as a plant treatment similar to fertilizers, pesticides and PGRs, and not as a media component. Incorporation in the substrate is the application vehicle for the vermicompost treatment.

The trial results at Colorama were as follows. All plants developed normally and comparably to both control plants and the commercial crop in flowering time. Although plant height of the VC-treated plants were similar to the control plants, the

weight of the vegetative portion of the VC-treated plants was significantly greater than the weight of non-VC treated plants (Table 1) by 25 percent. Stem caliper also seemed to be greater on the VC-treated plants. On the VC-treated plants, root

development was visually observed to be significantly increased in both complete root ball (Figure 1) and in washed roots (Figure 2). In the VC-layered treatments, root formation appeared to “seek” and develop in the VC layer (Figure 1). Weights

of the washed roots of the VC-treated plants were significantly greater than those on non-VC treated plants (Table 1) by 75 percent.

At Plug Connection, results were similar to those at Colorama. Heights of both VC-treated

and non-VC treated plants were similar (Figure 3). Unlike at Colorama, the VC-treated plants at Plug Connection exhibited slightly increased flower development (Figure 4). Plants at Plug Connection were seven to 10 days behind those at Colorama because of plant date and variety and had not yet reached anthesis. The difference in development could be varietal or may even out as plants approach maturity. Although plant heights were similar, weights of the vegetative portion of VC-treated plants were significantly greater than non-VC treated plants by 14.6 percent (Table 2). Root development of the VC-treated plants was visually greater in both complete root ball and washed roots (Figure 5). Weights of washed roots of VC-treated plants were greater than those of non-VC treated plants by 17.3 percent (Table 2).

The increased root weight and development along with increased weight of vegetative plant material in VC-treated plants at both trial locations would seem to indicate vermicompost treatments enhances plant growth that should result in stronger, healthier plants. At the time of this report, both shipping and post-harvest analysis were underway but not complete.

Although vermicompost was compared to conventionally produced control plants in this trial, VC is 100 percent organic and OMRI compliant (at press time OMRI listing has been re-applied for) and completely compatible with organic, sustainable and NOP-certified production. 

For more information about the production benefits of vermicompost or to add vermicompost to your production arsenal, contact Sonoma Valley Farm at info@sonomavalleywormfarm.com or 707.996.8561.

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