



## Plant Health Care Inc.

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# Technical Bulletin

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## THE TRUTH ABOUT VAM COCKTAIL: MORE SPECIES OR MORE HYPE?

### ***Controlled Cocktail vs. Presumptive Cocktail***

Plant Health Care, Inc. pioneered the concept of the cocktail approach to commercial mycorrhizal fungi inoculum when others balked at the idea. Now it is the industry standard. However, few people are aware of the difference between a “controlled cocktail” and a “presumptive cocktail”. Plant Health Care, Inc. prepares its products using the “controlled cocktail” technique. The difference is vital to the quality of the end product.

### ***Controlled Cocktail***

In a controlled cocktail, all fungal species in the mixture are present in fixed quantities. In the case of the PHC VAM cocktail, it contains four species of VAM fungi. All four species are added by mixing equal quantities of spores of four different fungi AFTER these spores are harvested separately. Hence, we know with confidence that all four species are equally present. Therefore, in our standard VAM cocktail, we guarantee that each fungal species is present in an amount equivalent to 25% of the total spore content.

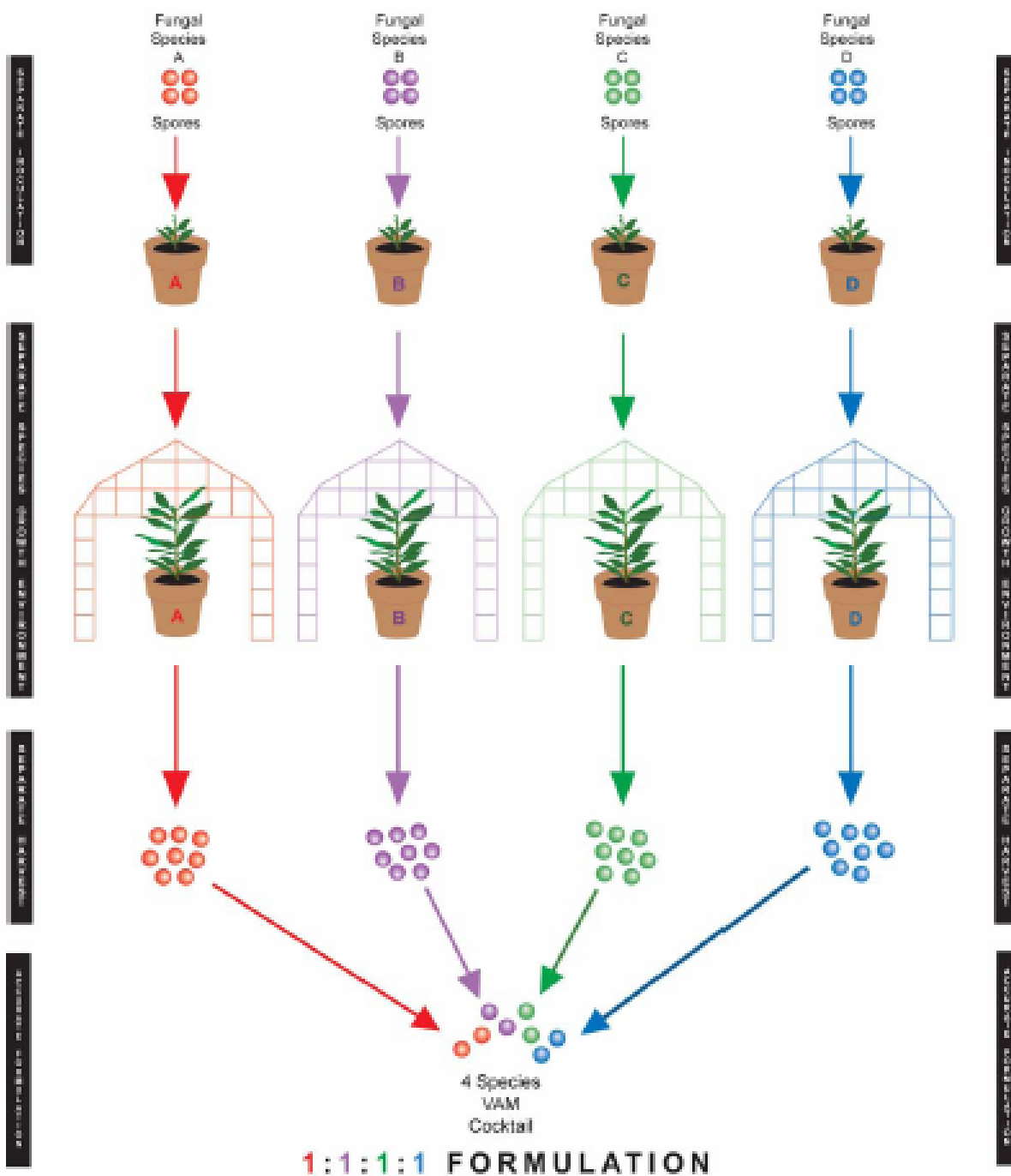
### ***Presumptive Cocktail***

In a presumptive cocktail, there is no attempt to control or verify the presence of all fungi claimed. The cocktail is prepared by inoculating the same production plants with multiple species of fungi, with the presumption that all will successfully grow and produce fungal inoculum in fairly equal, or at least representative quantities. In fact, this process results in a competition among the various fungi. Only a few of the fungi originally added succeed, and these predominate on the host plants' roots. The others may be present in minute quantities or not at all.

### ***Misleading Claims***

The producers of a presumptive cocktail are quick to claim multiple species of VAM fungi on their label. They are not prepared to verify that all species are actually present in significant quantities when the inoculum is harvested to be added to the products. In fact, a presumptive cocktail may not have all the species claimed on the label in significant quantities. One or more often fail to grow, but their failure is masked by the predominance of the other one(s) that succeeded. In the end, there is no way to control whether all the species that were added in the beginning of the process are actually harvested at the end. The only way to do this is to inoculate the production plants with one and only one fungal species under axenic controlled conditions, and add them together after harvesting, i.e., the controlled cocktail.

# Plant Health Care, Inc. Controlled VAM Cocktail Technique



# Presumptive VAM Cocktail Technique

