

THE SAVAGE GARDEN:
BARRY AND BETH'S MISGUIDED ADVENTURES WITH SUPERTHRIVE™

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My good friends Barry Rice and Beth Salvia wrote of their experiments with "mysterious, smelly" SUPERthrive™ in their article "Looking for horticultural effects of SUPERthrive™ on *Nepenthes*" in the March 2009 issue of CPN.

Yet the types of experiments they performed could be compared to someone wishing to test the benefits of toothpaste by applying the paste to their armpits. I was going to mention another body part, but it was rather distasteful.

Without naming names, the authors report hearing "anecdotal stories" about the uses of SUPERthrive™ (hereafter Superthrive) from "It saved my *Nepenthes rafflesiana* from death!" to "one 'capful' of Superthrive per liter of purified water is commonly cited." Well, I don't doubt these unnamed sources; however, it might have helped if Barry and Beth — and their sources — had simply read the directions on the bottle! In fact, on Barry's engrossing website, www.sarracenia.com, he solicited comments on the uses of Superthrive. Not one respondent mentioned a foliar application. They apparently read the label and nearly all had favorable results.

It is probably I who first introduced the use of Superthrive to the general carnivorous plant-growing public. I did so in my award-winning, bestselling book *The Savage Garden* (D'Amato 1998), currently in its eighth printing. Rather than have you pull the book from your shelves, bear with me while I quote from page 23:

Vitamin B-1 is a supplement for plants commonly available in nurseries, and found in the popular American brand Superthrive, which adds other vitamins and ingredients to its solution. These are not fertilizers as commonly supposed, and their use is often controversial among carnivorous plant enthusiasts. Some growers greatly applaud their use, while others find their benefits dubious. Personally, I have found products such as Superthrive quite good for carnivorous plants when one follows the manufacturer's instructions. Vitamin B-1 has long been used as a root-growth-promoting ingredient, primarily for general garden and houseplants. It is most often used when transplanting bare-rooted plants, and helps them overcome shock by encouraging root growth. Bare-rooted plants are usually soaked in a solution of ten drops per gallon of water for half an hour or so before they are put into soil. For general plant care, manufacturers of products such as Superthrive recommend a one-drop-per-gallon application with each regular watering. I have noticed that bare-root soaking of carnivorous plants in Superthrive or vitamin B-1 during the process of transplanting them can reduce losses due to shock. It is particularly helpful when moving tissue-cultured CPs from flask into soil. In my experience, losses due to shock were reduced considerably, if all other conditions were good. Keep in mind that a general application of such products in high doses will increase the growth of algae even more dramatically than is caused by the application of fertilizers. I would therefore not recommend high doses applied directly to soil.

I also refer to the product under the propagation section of the chapter *The Sundews*. From page 166:

One method I have used to enhance leaf cuttings is to dip them in a solution of Superthrive (one drop per cup of water) before laying them out.

Barry and Beth did three experiments in their article. In the first one, they took cuttings of *Nepenthes*, put them in sphagnum moss (with no reported use of rooting hormones), and using one capful of Superthrive per liter of water (ye gods!), sprayed the cuttings "until all plant surfaces were fully wetted."

In the second experiment they soaked fresh cuttings in a diluted concentration of Superthrive.

In the third experiment on established, rooted, potted plants they again applied a foliar spray once a week using two drops per gallon of water.

Well, considering what they did in their experiments and then comparing it to what the manufacturer of Superthrive recommends in their directions, no wonder Barry and Beth concluded that they "were unable to detect any beneficial effects from SUPERthrive™." Duhhhh!

Superthrive is not a fertilizer. It is not a rooting hormone. The primary ingredients (which the authors never even mention in their article) are Vitamin B-1 (.09%) and naphthylacetic acid (.048%). Vitamin B-1 (VB1) is thiamine hydrochloride, which is normally produced in the leaves of plants and then sent down to the roots and promotes root growth. Naphthylacetic acid is a hormone known to enhance root growth and is often found in various fertilizers. The hyperbole of "50 vitamins-hormones" found in Superthrive's advertising I don't doubt since the company used to produce liquid human vitamins until pills became all the rage. But the above-mentioned ingredients are the only two actually listed on the label.

I have found that using the product the way I recommend in *The Savage Garden* yields the same results as using horticultural VB1 in reducing transplant shock of ROOTED plants and in greatly increasing plantlet growth of sundew leaf cuttings, or for that matter, flytrap and butterwort leaf cuttings as well. I did these personal, undocumented experiments in the 1980s.

One thing Barry and Beth didn't mention is that if they really sprayed the cuttings with the extremely high dosage of Superthrive reported in the experiments, they must have soon seen an abundance of "green." That would have been from algae and slime mold which would have rapidly grown on the sphagnum mosses their cuttings were rooted in.

Here's an experiment for you: In a gallon of purified water, add about a teaspoon of algae-ridden water and a teaspoon of Superthrive or VB1. As a control, do the same with a second gallon, omitting the Superthrive or VB1. Place both gallons in the sun for several days and let me know what happens. Think St. Patrick's Day.

Here's another experiment. Take two fresh, healthy sundew leaves, dipping one into a cup of water containing one to three drops of Superthrive or VB1. Do nothing to the second leaf. Lay both leaves out on milled sphagnum or peat moss as you would for typical leaf-cutting propagation. Let us know what happens.

I have used and sold Superthrive at my nursery California Carnivores for twenty years. I almost never use it mixed with fertilizers (one drop per gallon) as the manufacturer recommends, although this might enhance a plant's absorption of minerals. We mostly foliarly feed our CP anyway, so not getting into the roots, the Superthrive would do nothing — as Barry and Beth amply proved!

Incidentally, the Vitamin Institute, which manufactures Superthrive, has offered a \$5,000 award to anyone who can disprove their suggested beneficial uses of "the stuff," as they call it. It has remained unclaimed for 69 years! I guess those who did try to get the award became....converted! Invasion of the Body Snatchers! How do you think they propagated so many of those Pods? And the duplicates who emerged from the Pods were all wearing Superthrive T-shirts! (Offered free to retailers of "the stuff.")

Seriously, the seemingly outrageous claims on Superthrive's packaging and website (www.superthrive.com) do seem a bit over the top. However, it was this sort of advertising that won its inventor, John A. Thompson, a lifetime achievement award in marketing. It has generally eliminated from nursery shelves most VB1 competition. I met the elderly Mr. Thompson at a horticultural trade show some years back, and he is quite a character! Not unlike the labels of his bottles!

Barry and Beth should have concluded their article by claiming their foliar application of Superthrive, which showed no beneficial results, was only Phase One. More experiments are needed. Stay tuned!

References

- D'Amato, P. 1998. *The Savage Garden*. Ten Speed Press, Berkeley, California. 314 p.
- Rice, B.A., and Salvia, E.M. 2009. Looking for horticultural effects of SUPERthrive™ on *Nepenthes*. *Carniv. Pl. Newslett.* 38: 24-27.