

## **CLEAN STOCK—GET STARTED IN YOUR CLUB!**

With the cooperation of Professor Hanu Pappu and his team at Washington State University and the financial support of the Scheetz-Chuey Foundation, the ADS has provided opportunities for us to test plants for virus. One objective of the work has been to improve the availability of clean, virus-free dahlias in our local clubs. The Dahlia Society of Ohio has been participating in the WSU testing program from the outset. Each year since 2015, DSO members have tested plants and used the tubers from the clean plants as a source for auction plants the following spring.

In 2019, the ADS sweetened the deal by offering to pay half the cost for testing each club's first 30 samples. Eight clubs took advantage of the program. The great results of the DSO tests were reported in the December Bulletin—100% clean! That success reflects 5 years of ongoing efforts. The results from the other clubs, mostly in their first year, ranged from a few plants to many plants with virus. The key point is that each of the participating clubs came away with tubers from the clean plants to use to grow and propagate clean stock. There is every reason to expect that those clean plants will lead to more and more clean stock for those clubs in subsequent years.

We invite your local society to participate in the program in 2020. Help get your club organized early in order to take advantage of the opportunity! To get started, you basically only need to identify a project manager. You and he will find the details for the project on the virus pages on the ADS website, [dahlia.org](http://dahlia.org). We encourage all clubs to get started on this important and effective approach to increasing clean stock at your local plant sales and auctions!

## **CLEAN STOCK—A COUPLE MORE OPTIONS**

One of the key challenges in getting virus out of our dahlia gardens is generating or acquiring a dependable source for clean, virus-free stock. The foregoing article describes an approach based on local club initiatives to gather and test plants and then use the clean stock from those tests for the following year's tuber and plant sales.

There are two more efforts actively underway that will provide other approaches to clean stock. The first is the testing effort that the ADS has undertaken with our dahlia vendors. We have tested a limited number of plants at no cost to the vendor. The number of vendors involved has increased each year over the last three years. Here are a few of the comments made by one of the participants when asked why his results improved significantly from one year to the next:

**“Awareness.** *I think this is way more than half the battle. It was a guessing game before I had the data. It allowed me to pinpoint the problems areas and focus on cleaning out the bad stuff. **Removing infected plants and stock.** Once they were flagged I pulled and dis-carded the infected stock. I only processed for overwintering varieties that I had good reason to believe were good. Believe me, it was hard to let go of some of the varieties but I knew it was in the best interest of the whole to be disciplined. **Cleaning tools and work surfaces.** Yes, I was much more careful to clean the tools with bleach from bundle to bundle as I was cutting up the tubers.”*

*It is clear that the vendors who have participated in the program have a much clearer picture of the quality of the product they are selling and that they have a better understanding of the practices that will help them to continuously improve their product.*

The Virus Team pledged to keep the specific results of the vendor tests strictly confidential. They, on the other hand, are free to use the results as they think appropriate. (We do encourage them to take great care of the plants with clean results and discard the plants with virus.) You may recall that some vendors have advertised that they participated in the program. The context of their disclosure has largely been that they are following the practices required to achieve clean stock. In the future, with ongoing virus testing, they may be able to provide direct descendants of clean plants.

The other encouraging activity targeting clean dahlia stock is underway at WSU. Professor Pappu and his team have made good progress in both meristem tip culture and tissue culture practices. The meristem process starts by cutting microscopic pieces off the growing tips of the plants. The plant can grow faster than the virus and clean tips can be harvested from even highly infected plants. Tissue culture, on the other hand, starts with relatively large pieces of plant and can be used to rapidly increase the number of plants—but it depends on the availability of clean stock. That clean stock could, for example, be produced by the meristem process.

Professor Pappu provided an update on the meristem and tissue culture work in the September 2019 Bulletin. The good news since then is that Dr. Moyo successfully developed the tissue culture medium and practices to achieve growth of green dahlia plants. The next step is to identify the medium and the conditions required to grow roots on those plants. Professor Pappu and Dr. Gnanasekaran are proceeding with that work as of this writing.

It is clear that there is still a long way to go to fully understand dahlia viruses. Nevertheless, there are very positive signs of progress on how to reduce the presence of virus in our gardens!