

**BASIC PROPAGATION METHODS
(OR HOW I LEARNED PLANT PROPAGATION
IN THE OLDEN DAYS)**

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No paper concerning one's own early work experiences is possible without talking about mentors, and being able to thank them personally for all the help that was received is often just not possible. Before relating some of my own experiences as an apprentice propagator, I should like to pay a tribute to those who were so valuable as mentors to me as a beginner.

Alfred Fordham, former propagator at the Arnold Arboretum near Boston is Mr. Plant Propagator and will always be known by that title, I am sure. During all the years that he was with the Arnold Arboretum, Alfred shared his knowledge with any and all who asked for his help and was on the other end of the telephone when anyone called for his assistance. (Just think what we could have done with a Fax machine and Alfred!!) He is among those who have presented many papers to the International Plant Propagator's Society, and, though he has been retired for some time, is still willing to talk with new members as well as old friends on his favorite subject of plant propagation, including seed germination and seed dispersal in particular.

Immediately after his retirement from the Arnold Arboretum, Alfred came to work as a consultant with us at Weston Nurseries in Hopkinton, Massachusetts, where I was assistant propagator at the time. Al was hard at work on the propagation of *Kalmia* by stem cuttings and wanted to continue that experimentation work. It was my privilege to be able to spend most of each day working with Alfred. I believe that he taught me more about the nature of cuttings, timing, root inducing compounds, and plants than I could have ever learned by myself. It was from Alfred that I developed a fondness for seeds that will always be with me. That seed mystique, which is the tiny package containing all that is needed to produce a plant, is remarkable, mysterious, and fascinating. Thanks, Alfred, for all the times you helped me.

The person to whom I owe my career as a horticulturist is the late *Ed Mezitt* of Weston Nurseries. He was the person who decided that I had, perhaps, at least the faint glimmering of a plant person and set about to prove that he was right in that regard. I worked as his assistant for nearly ten years and to him I owe my biggest vote of gratitude. He instilled in me the love of plants, especially the lepidote rhododendrons-which persists to this day with me, even

though I have been in the Midwest for a long period of time where rhododendrons are scarce. Ed taught me the rudiments of plant hybridization, and an appreciation of the results of crossing and back crossing (even though we would throw out hundreds and hundreds of plants each year, there was always the quest for the future success).

It is this quest for the future that keeps us—in this plant business—going. We will always be planting seeds and sticking cuttings even though the results may not be seen for many years and we, ourselves, may never see the results of this work.

AND NOW TO THE WAY WE USED TO DO THINGS

Seeds, cuttings, and grafting are the basics of plant propagation and, although the methods seem to change and be refined, in this industry we are still after the same results: the least expensive plant in the largest quantities possible that can be sold in the public market for the most profit.

Seeding is done today in very much the same manner—using the techniques proven to be successful: Direct seeding into a prepared seedbed, covering the seeds with a fine layer of soil or other material to help keep in the moisture and prevent birds from taking all the seeds away...these methods are all still in use today. We have refined these techniques, learned how to use chemicals to help with the weed problems, and have mechanical assistance in the harvest.

The seed work done at Weston Nurseries, at the time I was propagator there, started primarily with a large group of numbered packets of seeds collected from the plants that had been hand pollinated, as well as from many open pollinated plants. Most of the seed sowing was done just before, during, and just after Christmas week. The seeds were sown into 6 × 3 ft. copper pans at the end of a glass greenhouse (south facing). A 6 in. clay tile was placed in each corner of the pans to monitor the water level in the pan and to enable us to drain the pans. (There was no drainage hole in the pans). The pans were “bottom watered”, that is the water was put in with a hose and left in the pans just long enough to saturate the medium and then siphoned out. The medium was a mixture of leaf mold from the forest floor that had been finely screened and then mixed with perlite plus a small quantity of sand. The pans were leveled and the medium was firmed but not packed. There were no divisions between the seedling blocks other than a slight indentation in the soil. As soon as the seedlings were large enough to survive, transplanting was begun. Many thousands of seedlings were produced in that fashion and the success is very visible today in some of Ed’s hybrids that are on the market.

Propagating plants from stem or leaf cuttings is another very popular method of plant propagation that is practiced all over the

world, much the same way today as in the past. However, we have the added advantages of mist, plastic, soilless mixes, time clocks, etc. Techniques have been refined and honed to a science, but the basics remain the same: plants in active growth, and a medium to support the cuttings. Once again, nurserymen have adapted different materials to their own needs, making the rooting of cuttings as easy and inexpensive as possible.

The methods that I used for rooting cuttings at the nursery, as well as the botanical garden, are much the same as elsewhere in the industry. Mist heads, time clocks, soilless mixes (although sand was still used when I started at Weston) and cuttings taken from plants in full summer growth are the basics. In both places, bench propagation was used and, in the nursery situation, outdoor sand beds were also used. Root inducing compounds are about the same now as when they were introduced into the trade, but further developments are still underway.

Each nursery has developed systems and methods that serve their particular line of plant materials and labor force the best. Many nurserymen design and build their own equipment when nothing that is on the market will do the job. Many nurserymen are inventors when it comes to working out systems that will do the best job for them. Innovation seems to be a part of the nursery business.

In closing, I would like to say to all IPPS members, Please be certain to help the new members who are coming along. Remember that we were all beginners once and were afraid to talk to the more experienced propagators for fear that they would laugh at our questions. I will always remember that formidable "front row" of the Eastern Region, Case Hoogendoorn in particular. To be "dressed down" in front of the group by him was a memorable event, but it was Case who recommended that I give my first paper, and it was my privilege to help him read his last paper to the Eastern Region.

Some of the best ideas that the Eastern Region have had for their meetings came from the new members who were asked for their input. We have a first night "get-together" that is just a gathering space for everyone to get together and talk. There is no formal discussion, but there is plenty of talk going on. All the members are wearing a name tag, the Executive Committee is introduced, and so are the new members. This meeting has become a regular event in our annual meetings and came into being because a new member told me that she was afraid to go up to the long-standing members and introduce herself. The next year Kim Hines herself ran this function and it was so successful that it is now in the regular schedule.

Always remember that our motto is "To Seek and To Share" and try to live up to this.