

A Poor Ol' Country Propagator[®]

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To start a tome of this nature one would naturally ask, "Well since you have been so involved in horticulture, just how did such a process start?" And I would suppose that such a question has merit for like many of us the paths that lead us to our eventual destinations are often derailed and changed along the way.

My earliest exposure to the world of horticulture was brought on by my childhood years growing up in North Florida, inland from the coast and at the logical terminus of the orange grove growing regions. Much of Volusia, Putnam, St. Johns, and Alachua Counties in north Florida are heavily agricultural and horticultural which included such crops as citrus, leatherleaf fern (for the florist trade), peaches, wild collected hearts of palm (known colloquially as swamp cabbage), deer tongue (a wild-collected herb used in the production of tobacco products, \$0.50 for a bushel of leaves, I still do not know what it is botanically), pecans, truck farming, beef cattle, chickens, pork production, pulp wood, lumbering, and commercial fishing. In fact, my hometown of Crescent City, Florida owes its very existence to beef cattle ranching. At the turn of the 19th century to the 20th it was a shipping point for cattle from Volusia and Putnam counties. Cattle were herded through town, corralled at the town's Eva Lyons Park and loaded onto steam boats at Lake Crescent for a trip up Dunns Creek and the St. Johns River and on to the markets of the upper East Coast.

My father was a part-time farmer aside from his regular job at a grocery store, and the family had a variety of concerns operating at one time including chickens for eggs and meat, pigs, the occasional cow, oranges and other types of citrus, persimmons (*Diospyros kaki*), grapes such as *Vitis rotundifolia*, pecans, leather leaf ferns, asparagus ferns (not really ferns but an ornamental form of asparagus such as *Asparagus densiflorus* Sprengeri Group (syn. *A. springeri*), wild blueberries, and *A. densiflorus* 'Myersii' (syn. *A. meyeri*) for seed production. We never thought to raise the deer tongue herb because it was so abundant in the wild. By the time I was 8 or 9 years old I had a regular active part in maintaining all of these things after school. There was no shortage of work to do before supper and home work and cutting wood for the wood stoves (we had two for heat during winter). Most Northerners would not even consider that heat was a valuable commodity in winter in Florida of all places but let me assure you that it gets cold there. There were massive freezes in 1893 that wiped out most of the Florida Citrus industry, followed by others in 1964 when it dropped to 6 °F and in 1984/85 with cold in the teens which again wiped out much of the Florida citrus production (it has failed to recover from the 1980s freezes). Six hours below 28 °F will kill citrus to the ground.

One of my earliest memories of anything resembling horticulture occurred when I was 4 years old, when my father and grandfather and I a budding horticulturist, went across the road and dug up as bareroot, two water oaks (*Quercus nigra*) and took them back home and replanted them in our front yard. One died and one lived and as far as I know it is still alive today some 52 years later.

From the age of 6 years and on my father would load up the whole family (my sister, step-brother, and step-mother) for a road trip to Massachusetts. There was a

dramatic change in plant life and the differences between the Berkshires and lowland Florida were not lost on me. I always managed to bring back a load of plants to Florida only to watch them die in the relentless tropical heat. One of my father's patent sayings was that plants were slaves to their environment and they could not be abruptly moved from one place to the next. He seemed impatient that I did not automatically subscribe to this notion. One of the things that I tried to do later on in life as I learned more was to find tropical substitutes for their more Northern cousins. Having raspberries was a challenge and desire and this was met with the introduction of the Mysore Raspberry from tropical India. Others such as the no-chill-requiring apples from Israel soon found their way onto the farm.

My first tasks were menial such as the ubiquitous pulling of weeds but eventually I graduated to helping to bank orange trees at the beginning of winter to prevent the graft unions from freezing and to running water pumps at night to protect the fern crops from below freezing temperatures. My father often started our own orange trees by t-budding a desired cultivar onto sour orange seedlings.

I thought it was fascinating that by a little bit of surgery and hokus pokus that a bud would take and grow into a desirable tree with delicious fruit, especially since the growing bud resulted in a tree that had but superficial resemblance to the chosen rootstocks which were sour orange or *Poncirus trifoliata*. I used to ask how this could be and another of my father's patent replies was that "it was the nature of the beast." I am not sure that he had an understanding of the physiology, he just knew that it worked. After watching hundreds of such surgical operations I decided to try myself. I bought my first pocket knife with an ultra thin blade at around age 11 and proceeded to try out my skills (I still have that knife). After an uncountable number of flops I finally got the hang of it. From oranges I went to black walnuts, (*Juglans nigra*) (they will graft onto *Carya* with a cleft graft), roses, and persimmons (*Diospyros kaki*). My father maintained that *Ligustrum* was related to *Citrus* (it is not) but I was intrigued by the prospect of this and sought to graft *Ligustrum* to *Citrus*. The grafts all failed and it seemed pretty obvious that if there was a kinship it was a weak one and had no merit. I was set upon the notion that if there was a question about something, try to devise a way to either prove or disprove it. It was about that time I took an interest in plant breeding but not knowing much of the process that endeavor did not take off at that time, but did resurface years later.

When I was around 12 years I started mowing yards and clipping hedges and raking leaves. I would do almost anything to make money as it was genuinely hard to come by. My developing lawn business took me into town where I got to see a great deal many other plants that we did not have. One of the towns' people was a man by the name of Tex Legant (pronounced Lay-Jant).

He had a passion for breeding hibiscus (*Hibiscus rosa-sinensis*) and one day I was astounded to see two of his creations, a bright orange one and a totally brown one — quite a bouquet. I had never seen a brown flower and was completely bowled over at the prospect of plant breeding. When I was 13 years we got our first color TV. I was astounded because with that new marvel I could see what the plants were in the back ground for shows such as Hawaii Five-O and Magnum, P.I. — at the time utterly fascinating.

As news of my lawn mowing capabilities spread around I was approached by a local farmer to raise vegetable seedlings for him. I had quite the enterprise going raising vegetable seedling by the tray for \$0.50 a tray. Plugs today of perennials

bring \$0.50 each or about \$30 a tray. Back then it wasn't so much what you got paid by the hour as what the total take was by the end of the week. As an offshoot of that enterprise I got into raising hot peppers for the local supermarket and was paid the astronomical price of \$1.00 a pound. That was better than scrap copper which at the time was \$0.35 a pound which was considered lucrative enough. Peppers were easier to deal with and did not include toxic fumes from burning wiring to get to the copper.

When I turned 16 years old and had a driver's license I approached my high school guidance counselor with a proposition, either he find something for me to do to interest me at school or I was leaving because I was bored to tears with the whole process (I hated high school). He heard me and got me enrolled in St. Johns River Jr. College and when the next semester rolled around I went to high school for a half of the time and the college for the other half of the time. I came close to graduating both at the same time.

From both of them I went on to the University of South Florida, majoring in Biology. I chose biology because it afforded me a vast repertoire of subjects to take. At that time I was interested in both zoology as well as the plant sciences. Along the way I somehow stumbled into a laboratory that was devoted to elucidation of the chemistry of flower pigments. I spent 2 years as a volunteer lab assistant with several stints as a for-credit student in the lab as an independent study program. During that time I learned about the new science of plant tissue culture, and the influence of breeding (there is that word again) on plant flower color chemistry. I also picked up a great deal of information on analytical chemistry and the use of radioisotopes in tracing applied precursors in plants and how they were transformed into the resultant pigments. I spent many hours during the night running poly acrylamide gel chromatography to extract a specific pigment from a coarse mixture as well as developing extraction procedures for phenolic phytochemicals such as flavones, flavanones, and anthocyanins.

During my junior year at the University I literally ran out of money. I was putting myself through school with minimal help from home, and my savings ran out. I needed work desperately and found a job at Holmes Nurseries in Tampa. I was making all of \$2.00 per hour. I worked a 40-h week and went to school when time permitted. After a month I was given a \$0.05 raise. I was determined to finish school and I did, but it took 5 years to do so instead of the conventional 4 years total. While at Holmes I learned about many aspects of plant production and plant propagation. I also ran across a copy of *Plant Propagation* by Mahlstedt and Haber. I know that I have read that book cover to cover at least four times, maybe more. While at Holmes I was introduced to the art of interior plant maintenance and then on to the merits of conventional landscape maintenance at the Tampa International Airport (TIA). At TIA I did both and had security clearance all over the terminal buildings taking care of the numerous plantings on the cantilevered balconies.

I graduated from South Florida in 1977 and stayed in Tampa for another year. The next summer I wanted to see something different and arranged for a series of job interviews in Denver, Colorado. I was tired of Florida. I loaded up my little truck and headed west. I spent 2 weeks in Colorado and was forever changed with what I saw as I had never seen anything like it. The spectrum of plant material was radically different than anything I had ever seen in Florida. I was smitten. I got a job in a combination re-wholesale/retail nursery and went back to Florida to tie up

lose ends and moved to Colorado in time for the spring start up. I left the only life that I knew well behind me and looked forward, even though my father was dead set against it and warned me that there was no future in the nursery business and I would wind up poor and destitute, which I thought was rather odd advice since being poor and destitute was a normal way of life for me and I couldn't see how it could get any worse.

Once in Colorado I had to learn a whole new arena of plants, their culture, and what a severe climate can do to plant production. The occasional cold snaps and hurricanes in Florida were bush league when compared to the vicissitudes of climate change in Colorado. But more importantly is the rapid transformation of ecosystems in Colorado based upon altitude. Whole plant populations can change in a distance of a quarter mile just by going up or down. Microclimate systems abound and many times such things can be encountered merely by crossing the road. While plant communities in Florida changed slowly and the systems in Miami are not the same as in Jacksonville there are similarities. In Colorado the transition is rapid and the similarities can sometimes disappear completely. North facing slopes have entirely different plant communities than those found on south facing slopes. This complexity is often accentuated by those dramatic temperature differentials in very short distances with an accompanying change in water availability. Plants in the high altitude West also have different features to protect themselves from extremes of weather and from the vastly brighter light found there compared to sea level.

I worked many jobs at the now extinct Mountain Meadows Nursery, from production of container plants both woody and perennials, to production, harvesting, and storage of B&B trees and shrubs. As time went by I became more familiar with the range of plants for the trade and served as editor of the nursery's catalogs, trade show representative, and developer of a plant propagation program at the nursery. I had become acquainted with the Denver Botanic Gardens in the process which in turn lead me to learn of the existence of the International Plant Propagators Society. After I had been in Colorado for about a year I discovered a member of the IPPS who would later help me in joining the IPPS and went on to learn that the then secretary of the Eastern Region of the IPPS was one Bill Snyder, who lived in Boulder, Colorado. In 1979 I joined the Western Region of the IPPS with the endorsement of one Clayton Burdge from Montana who was both a member of the Eastern and the Western Regions. At that time there were only two. I attended my first meeting in Vancouver, B.C. that same year. With my head swirling from the vast exposure to a whole new world that was all very new to me even more radically different than the changes in Colorado, I sat down on the bus next to a rather distinguished gentleman who was informative and interesting but at the same time quite mild-mannered and reserved. We talked about viruses in plants. Little did I know that the man I sat next to that day was Dr. Richard Zimmerman, someone who I still like to sit next to on the tour bus.

During the course of my activities in the nursery trade in Colorado I learned of a need for seed collection both for the nursery and for other operations. I soon developed my own seed business collecting native plant seed. One of my favorites was *Rubus deliciosus* (Western thimbleberry) which at the time was bringing \$600 per pound and I could collect a pound of seed in one day, which at the time was more than I made in an entire month. What was more important than the sudden fortune of \$600 for a day's work was the exposure to the myriad of native plants

and the accompanying ecosystems that came along with them. Money was a poor compensation compared to experiencing the grandeur of the Rockies on an early fall day while collecting seed. It must have been an epiphany as I am still in the seed business some 30 years later. One of my key accomplishments from my Colorado days was that on a trip back to Massachusetts I saw for the first time the Eastern form of thimbleberry, *Rubus odoratus*, and brought back seed to the Denver Botanic Gardens. Today there is hardly a garden center or nursery in Colorado and most likely New Mexico and Wyoming that does not have that plant for sale and it was because I wanted to try something different, so much for slaves to the environment.

In the early 1980s, the economic bottom fell out of Colorado and I lost my job. I bounced around a bit, and worked at a range of jobs in the trade from other nurseries to a parks district to the Denver Botanic Gardens. During that time I met my future wife and when both of us were faced with poor and destitute once again, we moved east to Pennsylvania to chase a job as a propagator at a large wholesale nursery. We were married a week before we moved and while I hated leaving Colorado we both needed a change in venue if we were to survive.

We did survive and we had a son some 3 years later. After 5 years I changed jobs and started a propagation program at another nursery. By that time I changed from the Western Region to the Eastern Region and I attended my first Eastern Region meeting in Providence, Rhode Island, in 1985. Once again I felt like a lamb thrown into the wolves' den because here face to face were the giants of the nursery trade and I was just some kid that had stumbled into their midst. I remember seeing Jim Cross, Lenny Savella, Case Hoogendorn, Charles Hess, Peter Vermuellen, Ralph Shugert, and a host of others and stood dumbfounded wondering why I was with this august crowd, what could I possibly contribute to the knowledge base compared to these guys? Another face I saw was none other than Dick Zimmerman. It is amazing how the world travels in concentric circles. It was also there that I met my good friend, Dick Bir who gave a talk on manganese levels of soils in North Carolina. I knew I was in the right place.

One important thing that I realized early on in the IPPS was that in order to get something out of it, you have to give to it. The motto of Seek and Share should be taken literally and one only gets the return of the investment if you have placed as much effort and time into IPPS as you can. I started by just showing up but then developed the courage to say, you know I have something to say about all of this and pretty soon I was part of the proceedings as at least a commentator during the question box secessions, (which by the way was one of the best things about the IPPS which seems to have gone away). From there I gave a talk in 1987 on rooting cutting with IBA dissolved in solvents based upon glycol antifreeze. I caused quite a stir with that because people really questioned who is this guy that has such a different take on things. Others tested my ideas and found that they do work. I now have lost count of the number of articles and posters I have presented but it's sizeable. I do want to set one record straight though. I did not write those papers for the notoriety, I wrote those papers as a pay back to the society that has treated me so very well and introduced me to a host of propagators and plant scientists and, above all, friends that I would not have had any other way had I not joined the IPPS. The IPPS also has offered me a voice and a place to be heard when it comes to horticulture and its advancement. Along the way I have held many committee assignments and progressed to 2nd VP, and then on to 1st VP working with Nevin

Smith of the Western Region for the joint meeting in 2008. Which I would like to think was the pinnacle of accomplishment for me. I am now immediate past president and hopefully still making a contribution to the effort. I would like to think I have made some small contribution to the increase in knowledge in horticulture over the years. I know that the IPPS has been a leader at advancing horticulture both from a knowledge base and from the point of pushing people's careers and I am ever so thankful to be a small part of it.

I left several other jobs during the course of my career and then one day realized that I had a character flaw and that was I had a specific dislike to having a boss. From that time on I forged my own path and started my own business based upon propagation and seed collection. After 16 years I have moved beyond commodity propagation but I do keep a hand in the till working with plant development, breeding, and trialing new varieties. I have also moved on from rooted cuttings to custom grafting and to evaluating seedlings of unusual species to being in the large tree locating and moving business. Large trees are a good fit, as it allows me a fair amount of time in between projects to pursue my life time goal of being a plant breeder (I am finally getting there). I am close to being 56 now and if I can get another 50 years or so to go, I might get to be real good at it.

As always my eternal gratitude is to the IPPS and the members, friends, and colleagues that make it up as one of the best fraternal organizations ever put together.