



NAPGA

E•NEWS

A Publication of the North American Pawpaw Growers Association Vol 5, Issue 3, 2018

President's Patch

Another NA pawpaw harvest season is upon us. Many interesting things have happened in 2018. We had a cold, wet spring with a late freeze. Lots of rain this summer with high temperatures resulting in high humidity. These weather conditions have been in some ways devastating to the growth and health of the NA pawpaw trees.

I received numerous pictures of freeze/frost injury this year. I have written an extensive article on frost/freezing injury and will appear in the next issue of Pawpaw Pickin's.

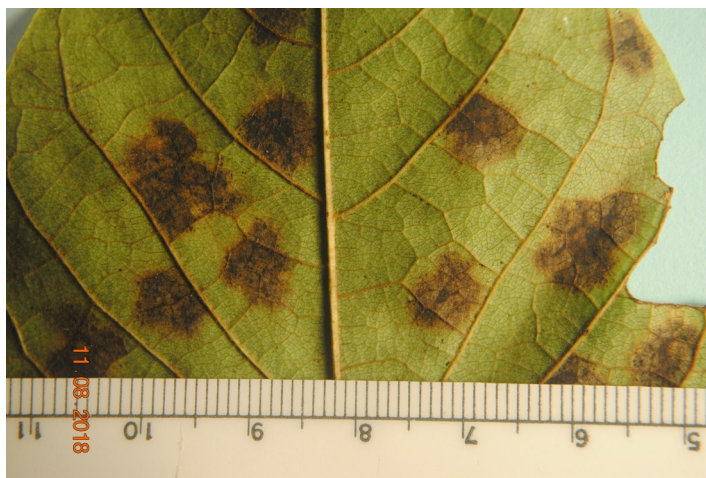
The rainy weather with its cloud cover has had an impact on the pawpaw trees. As a result, the leaves are some what smaller than normal. The smaller leaves are probably partially responsible for the smaller fruit. The frost/freezing also killed some flower buds which contributed to the smaller amount of fruit being harvested.

Another issue this year was the appearance of

black Spot, *Diplocarpon* sp. I have attached a couple of pictures to help you identify the disease. I am working on a more comprehensive article for the next issue of Pawpaw



Pickin's. I observed the disease in pictures from TN and KY. And at my farm in Ohio. The symptoms include: The black spots are circular on both the bottom and tops of leaves with fringed margins, and usually a yellow halo around the spot. And if severe, spots can combine to cause a large black mass, can weaken and eventually kill plants.



Bottom of leaf (Identified by Ohio State University)



Top of leaf

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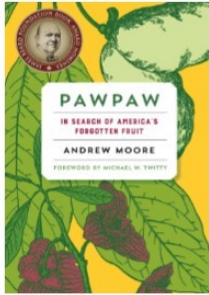
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Pawpaw 101: The Story of America's Forgotten Fruit

Presented by

Andrew Moore



A writer and gardener from Pittsburgh, PA, is author of *Pawpaw: In Search of America's For-*

gotten Fruit, a 2016 James Beard Foundation Award nominee in the Writing & Literature category.



*Exclusive Special Tour
1999 Varietal Pawpaw
Trials planting at Cornell's
Lansing Orchard.*



Cornell University
Cooperative Extension
Schuyler County

October 13th, 2018

Saturday 9:00-3:00

Plant Science Building at
Cornell and Lansing Orchard



*Andrew will be offering book
signing at the event*

What is a pawpaw, and why have most people never heard of it before? Andrew Moore offers a brief history of the pawpaw, the largest edible fruit native to the United States, and offers some explanations as to why it has been overlooked in modern times. He also provides an overview of the growers and producers working to raise the fruit's profile, and how the fruit tree can be reintegrated into our diets and culture.

Plus did you know that Cornell had one of the original 13 varietal trials around the country? 3 sites are now gone and 2 more scheduled for removal. Many Peterson varieties were included in this trial. This will be a unique tour.

Fee is \$30 to attend and lunch is on your own around Ithaca. Advanced registration is required. <http://cceschuyler.org/events>

For more information please contact Roger Ort at 607-535-7161 or rlo28@cornell.edu

Cornell Cooperative Extension in Schuyler County offers equal program and employment opportunities.

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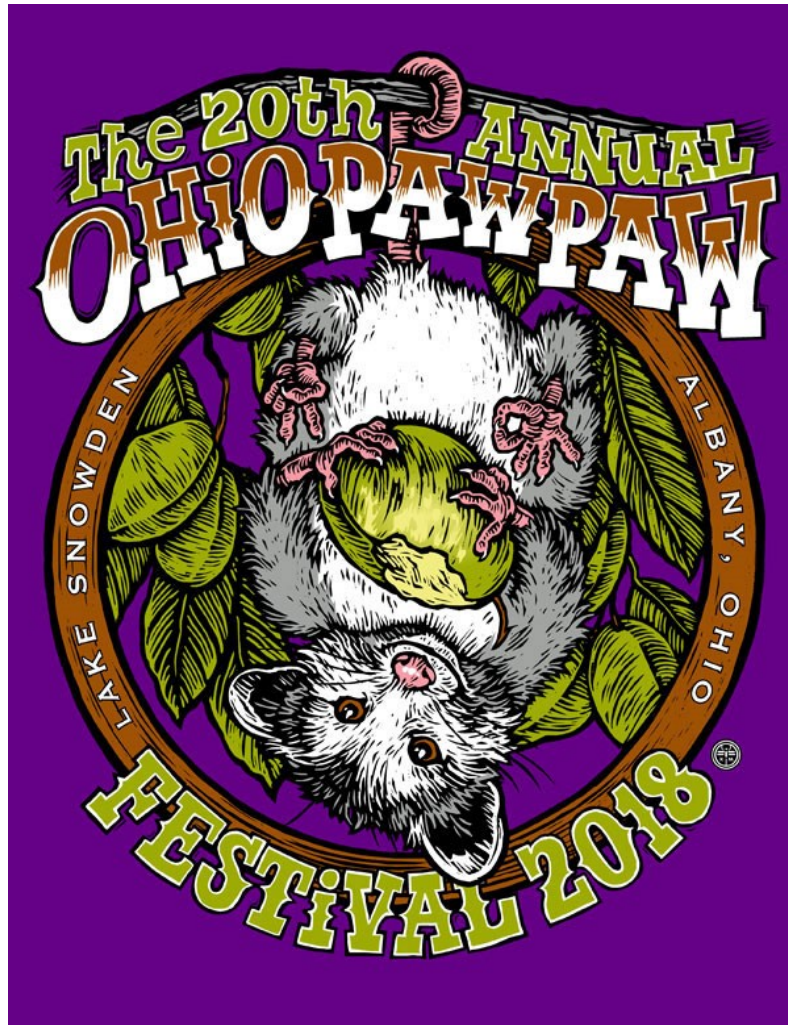
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**We hope to see you at this
year's Ohio Pawpaw Festival
September 14—16
Lake Snowden, OH
In the
NA Pawpaw Education Tent.**



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My Path to a Personal Pawpaw Patch

Anthony Petrochko

My love affair with the pawpaw started in a rather backwards way, and I have my son, Henry, to thank for it.

About six years ago, through the wonders of the internet, Henry discovered the amazing world of exotic tropical fruits. Every evening around the dinner table he would tell us about his latest discovery. Spouting out fruit names like jaboticaba, grumichama, and cupuassu, it seemed like he was speaking a foreign language.

After a while, however, I began speaking the language myself. In 2013 our family took a trip to the American Mecca of tropical fruit—Homestead, Florida. We hit all the hot spots: Fruit and Spice Park, Fairchild Tropical Botanic Garden, and many others. A dizzying array of exotic fruits were consumed: caimito, sapodilla, white sapote, black sapote, canistel, mamey—the list goes on.

I was hooked.

The next year Henry and I joined a group of self-proclaimed “Tropical Fruit Hunters” on a trip to Puerto Rico, where we gorged on mangosteen, durian, pulasan and other ultra-exotics. A trip to Taiwan the same year had us eating our fill of huge sugar apples and atemoyas.

At some point after we returned home, Henry made an off-hand comment that would prove to be a turning point in my fruit obsession.

“Hey, did you know there’s an ‘annona’ that grows wild here?”

“Wait. What? You mean there are basically cherimoyas hanging on trees in the woods right *here*?”

“Yep. It’s called a pawpaw.”

Pawpaw. How could I have never heard of this tree before? I grew up tromping through the creeks and woods of Tennessee. I remember my mother teaching me to identify so many native trees. I even took botany classes en route to a biology degree. But this “pawpaw” was altogether alien to me.

It didn’t take long for me to replace the disbelief with determination—I had to find this fruit!

First I had to figure out what the tree even looked like. I had no one to show me in person, because everyone I knew was as clueless as I was. It took me a while to finally find one—on a trail in Meriwether Lewis Park off the Natchez Trace. Once I made this successful identification, it seemed I was finding the trees everywhere. The only problem was, none of them had fruit.

It took a four-hour trip to Kentucky State University for a pawpaw field day to finally taste the elusive and mysterious cousin of those custard apples, guanabanas, and rollinias I had eaten in my previous travels.

The custardy texture, uncommon in most grocery-store fruits, was quite familiar to me and clearly revealed its tropical lineage.

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The flavor, however, seemed to my palate to be unlike any of its tropical relatives. I can't say I was blown away at first, but that experience would plant the seeds of a future pawpaw obsession.

Up to this point in my life, I had never successfully grown a single plant. I quite literally had no idea what I was doing. But over the next 3 years, I slowly learned the basics of gardening. As my skills steadily increased, I hatched a plan to create my very own pawpaw patch in the back corner of my small-town-urban lot.

Dream to Reality

The Trees

After that first trip to KSU, I began dabbling with growing pawpaws from seed. I planted 6 seeds from fruits I brought home in 1-liter coke bottles, and all 6 of them came up. At this point the pawpaw orchard had not entered my mind—this was more of an experiment. The next spring I tried a few more seeds in a more professional manner, using 14-inch deep Treepots. I also had excellent germination on these, and a few were fairly vigorous. Following these early trial runs, I decided to “go big” with seeds to stock my newly-envisioned orchard.

On January 30, 2017 I planted 72 seeds from various origins, mostly wild fruits but also several seeds from the 2016 International Pawpaw Conference pawpaw tasting. These included KSU's named and un-named cultivars, a few Peterson Pawpaws, and other classic varieties. I decided to reduce the process to as few steps as possible. Instead of sprouting seeds in a flat and potting them up later, I planted one seed directly into each 14-inch Treepot.

I coated 27 of the pots with Microkote, a copper-containing root-pruning paint. Several people on internet forums spoke very highly of such products; however, KSU research had found a toxic effect on pawpaws. I figured I'd give it a shot for myself.

For a potting medium, I settled on “Morton's Nursery Mix,” made by Morton's Horticultural in McMinnville, TN. Its composition is 60% pine bark, 30% peat, and 10% sand.

I had the bright idea (pun intended) to generate some heat for the seedlings by using a high-output fluorescent grow light above the pots. Despite covering the pots with plastic and frequent watering, this caused the top portion of the mix to dry out. I also believe I had some seeds “go bad” for unknown reasons during stratification. As such, my germination rate was abysmal, with over half of my seeds failing. It was quite frustrating to see sever-

al of the choice seeds bite the dust, but thankfully many of the seeds from the Conference survived.

Around March 22, the seedlings began emerging. They had no problems living under the artificial light until the threat of frost passed, at which point I moved them to a miniature improvised hoop house covered with 55% shade cloth.

I used the custom plastic crates that hold 9 Treepots each, modified with 1-inch wooden feet to improve air circulation under the pots. Even with this, it seemed to me that the potting mix was holding more water than I wanted. This prompted me to put a wicking system in place, consisting simply of rayon mop strands laid across the bottom of the crates (directly contacting the pots) and running out the south-facing side of the crates. This combination of the Morton's Nursery Mix and the wicks seemed to be the perfect balance for the seedlings.

I covered the top of the hoop house with clear plastic so that I, not Mother Nature, would be the only person watering the trees. Pots were allowed to get pretty dry between waterings, judged by the weight of the pot in-hand. I used Miracle Gro All Purpose water soluble granules at a rate of about 4 teaspoons per 5 gallons with every watering. In early summer this worked out to about once a week, and in the hot, dry days of August every 3 days or so, at times.

When it was all said and done, I ended up with 14 seedlings from the following parents: KSU 4-1, KSU 4-25, Susquehanna, Wabash, and Sunflower. The average final height after their first year was 17.9 inches and the median was 18.75. The shortest tree measured 9 inches and the tallest 30.5.

The trees grown in the Microkote-painted pots had an average height of 19.4 inches. Not really enough data to make a firm conclusion, but I definitely did not observe any symptoms of toxicity with this product. Later I'll share one more observation regarding the Microkote.

Site Preparation

Our house sits on a long, narrow 1-acre lot on the southeastern aspect of “Mount Parnassus,” a limestone hump tall enough to be the highest elevation in Maury County, Tennessee. In many places the bedrock is exposed. The backyard, or “Back Forty” as we affectionately call it, was for years a forest of hackberry trees, with privet and bush honeysuckle running amok. I had the trees professionally (and not-so-professionally) removed to allow for light. The spot I chose for the pawpaw patch - a 20 by 50-foot

swath - was a dense scrub. In the fall of 2016 I hand-cleared the area, armed with a pruning saw and undiluted 40% glyphosate. I was unsure of the efficacy of this method after reading many privet horror stories, but combined with the other work I did it was successful.

Unfortunately I waited too long to do something with the ground, and by spring of 2017 I had privet and honeysuckle seedlings coming up with other weeds. Reluctantly, I sprayed glyphosate over the area and moved on to the next phase: sheet mulching.

Due to the limestone substrate, my pH readings were near 7.5. I applied elemental sulfur per recommended rates and hoped for the best. Next I covered the area in cardboard followed by various amounts of aged cow manure and leaves from the previous fall. The final layer was several inches of wood chips from a friend in the tree trimming business.

Determined to pack-in as many trees as possible, I decided to plot my planting sites a cozy 6 feet apart and 7-8 feet between rows. Part of the reasoning was also to create a pawpaw hedge to provide privacy along the back of our property line.

With this spacing, I was able to plot 18 planting sites.

Planting

I made the mistake of pulling my seedlings out of winter storage too soon. We had a very warm February, and I suppose part of me figured it would continue. I was bringing the plants inside every evening when the forecast was below freezing. I had to make a business trip around the first week of March, and I couldn't expect my wife to haul the heavy pots in and out to preserve their dormancy without killing them. So, they had to come inside for a few days. This really accelerated things, and before I knew it they were leafing out faster than the weather was warming up.

Matters couldn't have been worse, considering the freakishly cold April we had here in Tennessee, with freezes and frosts well after our typical last frost date. I had to balance the planting with not only my personal schedule but also the desire to get the plants in the ground before they got too far along.

I also decided over the winter to include several grafted trees in the pawpaw patch. I purchased 7 varieties: KSU-Atwood, Benson, and 4-1, Shenandoah, Susquehanna, Maria's Joy, and Lehman's Chiffon. The remaining 11 sites were left for the seedling

trees.

I began planting on March 31st and after a hiatus finished on April 13th. Unfortunately we had one hard freeze after the first round of planting, and 3 or 4 frosts even after April 13th. Since my trees already had 1-2 inch leaves at this point, I had to take extreme measures to cover and otherwise protect the trees. The Maria's Joy lost all its leaves but has rebounded nicely. No other trees really seemed to suffer damage, though one Susquehanna seedling seems like it's dying, possibly from cold damage, but it's hard to know.

Regarding the Microkote-treated seedlings: I was somewhat taken aback when I removed the pot from the first of these trees, as there were literally no visible roots other than the tap-root. The non-treated pots, as one would expect, had several spindly roots crowding around the edges of the pot. I suppose the coating did its job in terminating root tips so well that there was no root circling whatsoever. Yet, the potting mix remained perfectly intact for me to plant in the ground. After about a month in the ground, these treated trees seem to be the healthiest and most vigorous of the seedlings. Only time will truly tell.

In an effort to play it as safe as possible, I opted to build shade structures around all the seedling trees. I used 50% shade cloth attached by zip-ties to 5-foot half-inch metal conduit driven into the ground, and a 4-foot bamboo stake to complete a triangular shape. I found that the shade cloth was not oriented properly to fully shade the trees, so I put cloth awkwardly across the top of the stakes.

The trees are mulched heavily with more wood chips from my arborist friend. I have practically zero weeds as a result of the sheet mulching and thick layer of wood chips.

The sulfur and possibly the organic matter working on the soil chemistry for nearly a year resulted in a pH drop to 6.8 from 7.5, at least if I can trust the soil test results and my sampling technique.

All of the trees other than the one sickly seedling seem to be thriving so far. I do have minor issues with small inchworm type larvae eating holes in leaves. I simply do routine visual inspections, and this keeps damage to a minimum.

What's Next

As an insurance policy, I started a few more seeds this winter and have 4 seedlings about 6 inches tall right now. I also have

some 3-year-old seedlings from my early experiments in addition to last season's seedlings that were benched to make room for the grafted trees. I have procured several scions of various varieties and plan to graft all of my remaining seedlings. I've dabbled with grafts in wild pawpaw patches, but I had incomplete knowledge at the time. With the help of a few OPGA members, I think I finally have the full recipe for successful grafts. Surely I can fit 3-6 more trees on my property somewhere. . . .

Acknowledgements

I couldn't have realized my personal pawpaw patch dreams without significant help from many people.

Marc Stadler, who I met at the 2016 Conference, has effectively been my pawpaw mentor. He has provided unending assistance, wisdom, and knowledge via countless emails and phone calls. Thanks, Marc!

Other folks have been extremely helpful as well: Ron Powell Sheri Crabtree, Jerry Lehman, Neal Peterson, Charlie West, Derek Morris, and Benny LaFleur. Thanks to all of you!!



2014 Puerto Rico – Up close and personal with the aromatic Durian



2013 – Henry and “souvenirs” from Homestead FL trip



2017 - Early stages of sheet mulch

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2017 – “The Back Forty” Pawpaw patch site on the right. Mini shade house in center. Tree in foreground was later removed.



2017 – Seedlings in Treepots with rayon wicks



2018 – Microkote seedling showing no root circling



2018 - Shade Structures

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2018 - Newly planted seedling



About the Author

Anthony Petrochko grew up in Winchester, Tennessee.

A 2000 graduate of The University of the South (Sewanee), he now lives in downtown Columbia, TN with his wife of 21 years and two children. When he's not tending his young pawpaw patch he works as a Project Manager for Aetna. His other hobbies include breadmaking, hiking, and growing maypops (another native "tropical" fruit).

Email at rpetrochko@hotmail.com

Fall Creek Falls State Park

Thank you Anthony for a very interesting and informative article.
Ron

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