



PAWPAW PICKIN'S



State Chapter:
Ohio Pawpaw Growers
Association

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Volume 16, Issue 2
Fall 2016

President's Patch by - Ron

I originally was going to combine the fall issue and the spring issue of *Pawpaw Pickin's* but since I recently came into several articles of interest, I decided to go ahead and publish two newsletters.

Last year's NA pawpaw harvest left a lot to be desired. The spring was cold and rainy during the flowering period and many of the flowers were not pollinated for whatever reason. The summer was unusual in that we had an unusual amount of rain during the month of July and very high temperatures in late May. Then in August, temperatures rose into the mid 90's and remained there through September. What fruit was left on the trees, just cooked on the trees. The fruit was coming off the trees so hot that they could barely be held. Since it was so rainy during the summer, *Phyllosticta sp.* or Bordered Leaf Spot was a major problem with most of the fruit being infected as well as the foliage. The foliage was infected from the main stem to the tips of the branches. In areas where the humidity was not so great or was not high until late in the season, the *Phyllosticta* was not so severe. At home, only the leaves on the tips of the branches were infected. I only processed about 60 pounds of pulp for freezing. The remainder of the crop was processed only for seed.

I also want to include some comments about the 4th International Conference held in Frankfort, KY in September. If you were not able to

attend the Conference and have not visited the Kentucky State University web site and to view the posted presentations from the Conference, you have missed a wealth of information. The Conference was a great success with about 160 individuals in attendance. The weather cooperated with just a light drizzle during the tour of England's Orchard and Nursery, McKee, KY, on the first day of the Conference. On the second page of the newsletter, I have included several pictures of the "Best Fruit" Winners of the 4th International Conference.

I attended a meeting in Columbus, OH early in January, 2017 and met with Andrew Moore and Dr. Matt Davies, Associate Professor, School of Environmental & Natural Resources, Soil & Plant Community Restoration. Andrew came to OSU to do a presentation on some new information on marketing of pawpaw products. We toured the OSU wet lands along the Olentangy River and the site of the future NA pawpaw planting on the OSU campus in Columbus.

Dr. Davies is planning to establish four NA pawpaw planting sites in Ohio - Piketon, Columbus, Wooster, and a site in northern OH. These four sites will extend from north to south in OH. The project is in the early planning stages and we'll keep you posted as to their progress.

NAPGA & OPGA past newsletters are archived at
Ohio State University, Piketon, Ohio

<http://southcenters.osu.edu/horticulture/publications/newsletters/Ohio-pawpaw-growers-association-newsletters>

Mission Statement

NAPGA

is an organization of pawpaw enthusiasts, backyard and commercial pawpaw growers, small and large, dedicated to promoting the superior traits of the pawpaw plant and fruit, developing a pawpaw industry and marketing plan, preserving and studying the wild pawpaw genetics.

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Winners of the “Best Fruit” Competition at the 4th International Conference

One of the purposes of the meeting to be held in 2016 was to celebrate the 100th anniversary of the Journal of Heredity Best Fruit Contest in 1916. Participants were invited to bring their NA pawpaw entries to enter into the best fruit contest. As far as I know, these individuals were not recognized on the KYSU or the Facebook sites. Jerry Lehman, IN, placed 2nd and 3rd in the Best Fruit competition with the entries 275-69 and 275-70.



(Above) Terry, Neal Peterson, Ron and Dr. Pomper

Dr. Kirk Pomper and Jerry Lehman

(Below) Terry, photo by Joan Johnson



Terry and Ron Powell won First Place with one of Neal Peterson's selections, "Susquehanna." Susquehanna is one of, if not the best tasting NA pawpaw and is hard to beat in a tasting competition. The first place prize was \$100 in 1917 and that was the prize at the 100th Anniversary contest.



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The Pawpaw: Small Tree, Big Impact

by Elizabeth Matthews, Botanist for National Capital Regional Network, Inventory & Monitoring

With leaves and branches that deer avoid, and fruit that is loved by all, the pawpaw (*Asimina triloba*) is a fascinating native tree. It's the only local member of a large, mainly-tropical plant family (Annonaceae), and produces the largest edible fruit native to North America. Despite being a small, understory tree, unlikely to ever grow into the forest canopy, pawpaw is the most frequently observed sapling in the National Capital Region Network's (NCRN) forest monitoring plots. What do we know about the ecology of pawpaw in our region, and what could its dominance mean for our future forests?



Fruit

One of the most tasty late-season rewards for hikers and wildlife alike is the pawpaw fruit, which begins to ripen in late summer and peaks in September and October.

The flavor of pawpaw fruit is

often compared to bananas, but with hints of mango, vanilla, and citrus. The fruit has the ungainly appearance of a small green potato and may occur in clusters on the tree. In spite of pawpaw's prevalence in on a plant NCR forests, successfully foraging for its fruits can be a challenge. Pawpaw is self incompatible, which means that pollen produced on a plant cannot pollinate flowers on the same plant. Instead, to produce fruit, a pawpaw flower must receive pollen from flowers another tree, and sometimes this "other tree" is farther away than it may appear at first glance! Although pawpaws frequently grow in clusters (think pawpaw patch), the trees in a patch are often genetically identical and connected underground by roots (and thus, in biological terms, are a single plant). Nonetheless, pawpaw's pollinators (which include flies and beetles) inevitably pollinate some flowers, and fruit-hunters may eventually find a tree with fruit. The next hurdle for the human forager is determining if the fruits are ripe; lightly shaking a tree will dislodge any ripe fruits that have escaped the notice of local wildlife. Opossums, foxes, squirrels, raccoons, and birds are all known to enjoy pawpaw fruit.

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NCR Parks with Many Pawpaws

While NCRN forest monitoring shows pawpaw to be the most common sapling in the region, some parks have many more pawpaw saplings than others (Figure 1). Pawpaw is the most common sapling species in C&O Canal (CHOH), GW Memorial Parkway (GWMP), Harpers Ferry (HAFE), and National Capital Parks - East (NACE), and ranks as the second most common sapling species at Antietam (ANTI), and Monocacy (MONO). This distribution is likely a reflection of the amount of preferred pawpaw habitat in each park, but may also be related to other ecological processes.

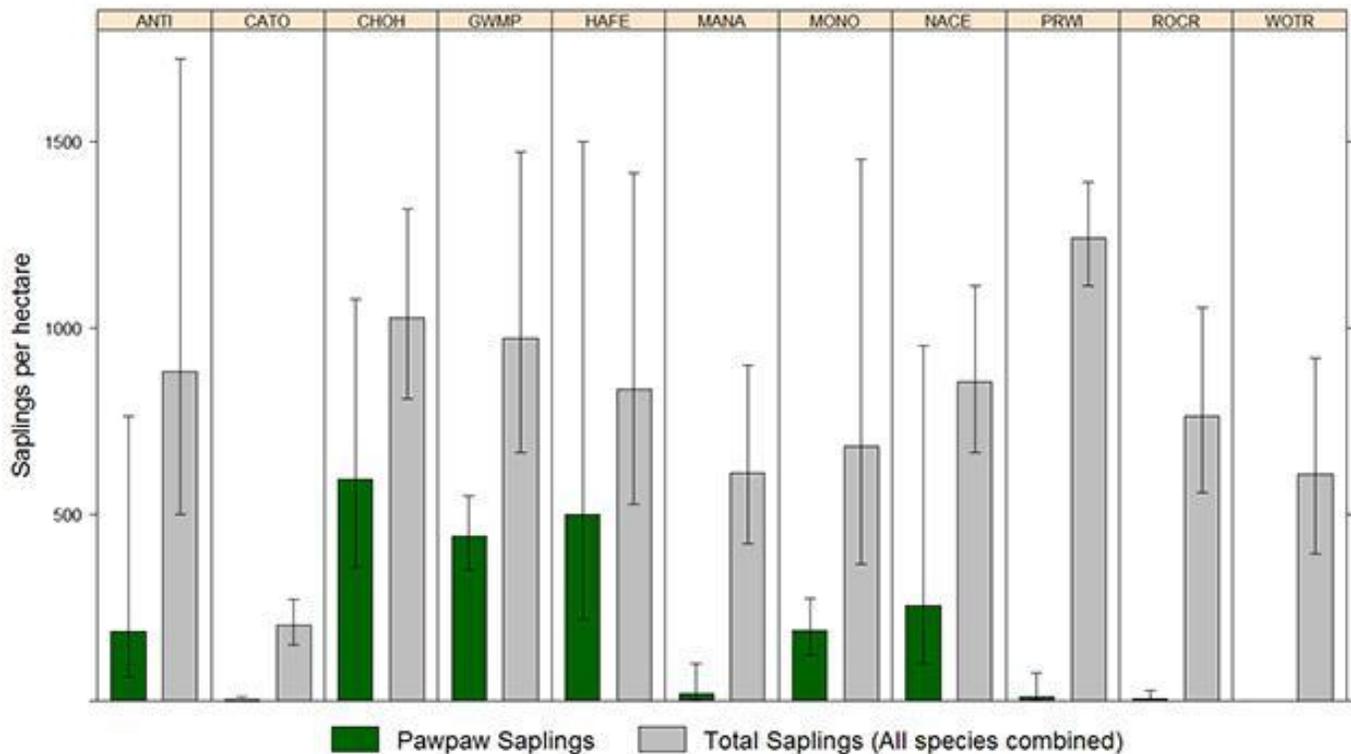


Figure 1. Sapling Density by Park: All Species versus Pawpaw

Habitat Expansion & Understory Domination

In recent decades, naturalists have noted the expansion of pawpaw from well-drained, lowland habitats into drier, upland forests. This phenomenon appears to be driven, at least in part, by patterns of deer browse. Deer find pawpaw foliage unpalatable and, therefore, avoid browsing pawpaw seedlings and saplings. Instead, they preferentially browse species such as spicebush (*Lindera benzoin*), oaks (*Quercus spp.*), red maple (*Acer rubrum*), and blackgum (*Nyssa sylvatica*). Deer avoidance of pawpaw is evident in NCRN forest data. Out of 2,480 saplings recorded in the most recent sampling period, 27% showed signs of deer browse. The browse rate is strikingly different for pawpaw (which represents 21% of all saplings) with less than 1% showing signs of deer browse and greater than 99% being browse-free!

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This deer behavior benefits pawpaw in two ways. First, small pawpaws don't need to allocate energy to recovering from browse, and instead can put that energy towards growth and reproduction. Second, frequent deer browse on sapling and shrub species preferred by deer suppresses the growth of these species, clearing the way for pawpaw. As a result, we might expect to see pawpaw becoming more common in forest understories that are heavily impacted by deer browse (which describes most NCR forests). Indeed, NCRN's forest data show that pawpaw sapling density is increasing across the region, while the density of some deer-preferred species (e.g., red maple and black gum) is decreasing (Figure 2).

Another potential contributor to the success of pawpaw is the suppression of fires that were an important part of the disturbance regime in many eastern forests before European settlement. Pawpaw are not strongly fire-adapted (unlike other common canopy dominantes, such as oaks), and they likely benefit from the lack of fire in contemporary forests.

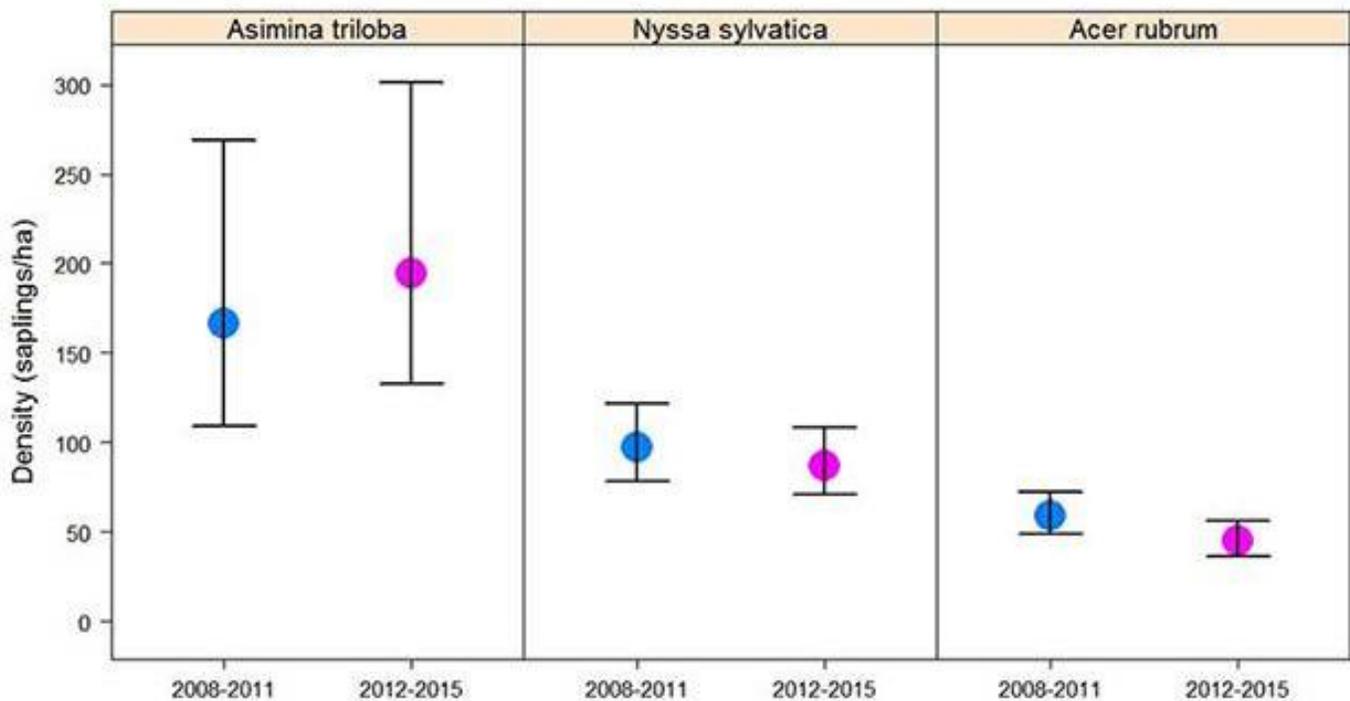


Figure 2. Select Trends in Sapling Density *A. triloba* (Pawpaw), *N. Sylvatica* (Black Gum), and *A. rubrum* (Red Maple).

Future Forest Canopy

What are the long-term implications of increasing pawpaw dominance in the forest understory? Although we don't have a firm answer to this question just yet, we do know that the mix of tree species in the forest understory influences the long-term trajectory of the forest canopy. Many factors determine which saplings ultimately become canopy trees, but trees that do not show up in the sapling layer will never join the forest canopy. Similarly, species that are more common in the sapling layer have more potential to be represented in the canopy than those with fewer saplings. If pawpaw

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continues to become more common in the sapling layer at the expense of other species, we might expect it to one day dominate the tree canopy as well.

Pawpaw is a small tree species (some might even consider it a tall shrub), growing to a maximum height of 15m—considerably shorter than the species that currently dominate NCR forest canopies. The five most common forest trees according to NCRN monitoring data include tuliptree (*Liriodendron tulipifera*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), Virginia pine (*Pinus virginiana*), and white oak (*Quercus alba*). All of these grow to 30m or more. If deer populations remain high, the forest canopy height may decline over time, particularly in areas where pawpaw is the only understory species available to replace dead or dying canopy trees. Or, perhaps the forest canopy would become patchier, with short patches dominated by pawpaw and tall patches dominated by other species that are represented in the sapling layer of the forest (American beech, for example, is deer-browse resistant and the second most common sapling in NCR forests).

Interestingly, a similar phenomenon has been observed in over-browsed forests in central Pennsylvania. In these forests, the small, understory species striped-maple (*Acer pensylvanicum*) has become increasingly common in the forest understory over a 60-year observation period. At the same time, tree species that are capable of growing into the forest canopy have declined by 85% (Kain et al. 2011). Striped maple and American beech were found to make up 82% of all trees in the deer-browsed forests. The authors of this study speculate that these forests may experience unprecedented changes which will ultimately lead to a forest canopy dominated by only a few species that are resistant to deer browse. It is too early to tell if this is the future for NCR forests. For the time being, it is clear that deer-avoidance of pawpaw is contributing to its increased dominance in our understory, and while we may appreciate additional opportunities for fall fruit foraging, we hope it's not at the expense of losing our mighty tree canopy



Forest canopy

Citations

[Kain, M., Battaglia, L., Royo, A., and W.P. Carson. 2011. Over-browsing in Pennsylvania creates a depauperate forest dominated by an understory tree: Results from a 60-year-old deer enclosure.](#)

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10 health benefits of pawpaw

Author: [Chris Adejo](#)

Pawpaw is one of the most important fruit plants of a tropical zone. This fruit is daily used by millions of people. This is a plant with fruits very similar to small bananas and even more – to prolonged mangoes. They have sweetish taste and very strong pleasant aroma. The pulp is yellow or white and melts as cotton candy while eating. This is a peculiar tree, which has been delivered from the countries of Europe and America. It has a set of useful properties.

Health benefits of pawpaw

- The pawpaw is sweet and tasty. This fruit is an excellent low-calorie food for people keeping a diet. There are 39 calories in 100 grams of pawpaw.



- The pawpaw contains proteins, carbohydrates, cellulose, vitamins of group B, A, C, D, and potassium, phosphorus, calcium, sodium, and enzyme albumen. The pawpaw doesn't concede to a melon on use-

ful components.

- Health benefits of pawpaw seeds were admitted since ancient times. This fruit is extremely useful to digestion as the papainase, which is contained in it, helps an organism to take most of the nutrients from it. Juice of a pawpaw is sometimes used for the treatment of stings of insects and removal of pain at burns. The pawpaw is also actively used in the production of cosmetics worldwide. People make the peeling remedies for the skin of it, and juice of a pawpaw is used for the treatment of diseases of the skin.

- The pawpaw is recommended at stomach ulcer, at colitis, bronchial asthma. This fruit normalizes work of a liver, contents sugar in the blood. By means of a pawpaw, people clear intestines. It gives forces and cheerfulness to an organism.
- The pawpaw seed is capable of neutralizing the action of the excessive amount of acid in a stomach of the person and therefore it is useful to those who have heartburn, hernia or gastritis. It is recommended also to pregnant women.



- Easily digested, kneaded pawpaw is an ideal food for babies and the excellent tonic for the growing children. There are many health benefits of eating pawpaw. Juice of a pawpaw is very useful. In some tropical countries, it is used in the treatment of a

backbone, gastric diseases, and eczemas. But it's useful properties don't come to an end on it: juice of a pawpaw is an excellent antihelminths remedy.

- Pawpaw health benefits are in to use it outwardly: in medicine – for the treatment of burns, and in cosmetology – for removal of undesirable hair and for removal of freckles. Its mechanism of impact on hair is simple: it destroys keratin, thus weakening the grown hair and interfering with the emergence of new.

- People extract the lacteal juice of a crust of unripe fruits of a pawpaw, which, in the dried-up look, is applied by modern medicine to cure eczema and various gastric diseases.

- There are great health benefits of pawpaw leaves. Extract from leaves of an exotic pawpaw can be a strong remedy – the recent researches say so. It appears that leaves of this plant were used in traditional medicine of tropical inhabitants (in some settlements of Australia and in Vietnam) for a long time. What is remarkable, the extract received from a natural product influences the wide range of cancer. In other words, it successfully struggles with tumors on the whole body, including liver, lungs, pancreas, breast, and a uterus at women. The dried-up leaves of pawpaw can be taken as herbal tea for strengthened producing of substances in an organism preventing cancer. Physicians lay great hopes on useful properties of a pawpaw, which has to force immune system of the patient to kill cancer cells independently.

- One more advantage of an exotic extract of pawpaw leaves is that it doesn't poison healthy human cells that are peculiar to modern chemotherapeutic methods.

Conclusion

As you can see, the pawpaw has a set of useful properties, beginning with use in cosmetology and finishing with the treatment of cancer diseases. Besides, many properties of this fruit haven't been studied yet. Perhaps, scientists will find more reasons to use a pawpaw soon.

You may have guessed by now that the article is talking about papaya (*Carica papaya*) and not the NA pawpaw (*Asimina triloba*). Philip DeWalt of Kansas City, MO, wrote a response to the article by stating, "This article is an embarrassment. The pictures and video are, indeed, pawpaws, but the text describes the benefits of papaya, not pawpaw. I knew something was up when the discussion turned to juice and seeds. Pawpaws have a creamy, custardy texture and are unjuicable. Their seeds are big and inedible. Unfortunately, papayas are sometimes CALLED pawpaws by the uninformed which exacerbates the problem."

This is another reason why, I refer to *Asimina triloba* as the North American pawpaw. More later. Ron

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Pawpaw Kugel (Jewish dessert)

- 1 pound medium-wide egg noodles, cooked, drained and still hot
- 4 ounces (1 stick) cold margarine
- 1 (16-ounce) container cottage cheese
- 1 cup pawpaw pulp
- 1/2 teaspoon cinnamon
- 1/4 cup golden raisins
- 1/2 cup sugar
- 4 large beaten eggs
- 1/2 cup milk
- 1/2 cup cornflake crumbs



Preparation

In a large bowl, combine still-hot noodles with cold margarine, mixing until margarine is completely melted. Add cottage cheese, pawpaw, cinnamon, raisins and sugar, mixing well.

Lightly coat a 13-by-9-inch glass or ceramic baking dish with vegetable spray. Combine beaten eggs with milk and add to the noodle mixture. Pour into the prepared pan

Heat oven to 350 degrees. pared pan. Top with cornflake crumbs and bake for 1 hour.

Serve warm or cold.



Chris Chmiel, Integration Acres, Athens, OH, collecting NA pawpaw seed at the trash can during the 4th International Conference.



NAPGA/OPGA Dues

Please check with Ron (Botrytis@fuse.net) regarding your dues status or be sure to read the reminder in your email correspondence. Your membership dues are now collected on your anniversary date.

Please renew your membership in NAPGA/OPGA to continue your support. Your continued support is needed to further the education and the promotion of North American pawpaws.

Go to www.Ohiopawpaw.com, for a membership form.

Membership dues are: **\$20.00 — family membership**
\$5.00 — student membership

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Pawpaw Pickin's is published bi-annually by the NAPGA/OPGA, organizations dedicated to advancing the education and knowledge of North American pawpaw culture, encouraging the planting of pawpaws, the management of native pawpaws, and perpetuating the utilization of all N. A. pawpaw products.

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