



# Pomegranates in Florida — really?

By Bill Castle and Emory McTeer



Look for the launch of *Vegetable and Specialty Crops News*, a brand new magazine from AgNet Media in 2017. It will include features like this on pomegranates, blueberries, peaches, vegetables and more. Watch for developments and tune in online now for VSCNews coverage for the “deep Southeast” at [www.vscnews.com](http://www.vscnews.com).

**Y**es, really! Investigating the potential of pomegranates as a commercial crop in Florida started in 2008 at the University of Florida’s Citrus Research and Education Center (UF/CREC). At the time, greening disease was well established in the citrus industry. Interest in alternative crops was high. Pomegranate was identified as a crop worth exploring partly because there were dooryard plants everywhere in Florida — some that were 100 years old or more. Moreover, because of the efforts of the Pom Wonderful Company in California, the fruit’s popularity had grown immensely. Pomegranate advertising stressed the many health benefits of the fruit and juice.

**Figure 1.** Plants of Parfyanka at about 5 years of age in 2015 had an excellent crop of large fruit, causing many branches to bend.

The initial efforts in Florida were to collect and evaluate pomegranate varieties. Over 100 selections were eventually assembled from the National Clonal Germplasm Repository, sources in Georgia and North Carolina and from Florida nurseries and homeowners. Those selections were propagated through the generosity of Randy Strode at Agri-Starts Inc. in Apopka, and eventually used to establish two mother plantings: one at the CREC and another at Water Conserv II outside of Winter Garden.

Plants were also provided to various cooperators. Among the original cooperators was Harold McTeer. His family had a commercial blueberry patch near

Haines City on land previously planted with citrus. We agreed on a trial of about 1 acre of pomegranates now consisting of 180 plants spread across 42 varieties. We started with 45 plants in 2009 spaced 10 by 18 feet. Another 135 plants were set out in 2011 with slightly more space in-row — 12 by 18 feet — because of concerns about plant thorniness.

2015 was a good year at McTeer Farms. 2014 was a good year, too, but for reasons not apparent, the plants looked beautiful and were exceptionally well-cropped in 2015. That scene was the best evidence so far of what is possible — thus, this case history.

The 2015 story began with untrained rooted cuttings growing in 1-gallon pots. Pomegranates were planted in a field of sandy soil and have

that less irrigation is better. However, the 2015 and 2014 seasons were wet in the Haines City area, making it difficult to determine how much irrigation is the right amount.

## THE LIMITING FACTOR

We weren't far into the pomegranate project before it became obvious that the major issue, the limiting factor, in growing

pomegranates was going to be fungal diseases. The excitement of early summer when good crops were present on the plants usually faded to disappointment by late summer, when nearly all of the fruit on each plant became infected with something rendering them unmarketable.

At the beginning of the project, a list of legal chemicals for use on pomegranates in Florida was included

### Pomegranate websites

**General:** [www.crec.ifas.ufl.edu/extension/pomegranates](http://www.crec.ifas.ufl.edu/extension/pomegranates)

**Pomegranate Selection Guide:** [www.crec.ifas.ufl.edu/extension/pomegranates/pom\\_guide.html](http://www.crec.ifas.ufl.edu/extension/pomegranates/pom_guide.html)

been easy to grow. They were allowed to develop with essentially no training. Some varieties naturally sprouted at the soil line and formed into multi-stemmed bushes, while others retained a single trunk and were more tree-like in shape. The plants were kept to five to eight stems. Some pruning was also practiced to keep the canopy open, primarily to maintain the fruit for fresh use by limiting damage from thorns.

Fertilizers (see "Pomegranate fertilization program" sidebar on page 34) have mostly been applied between late winter-early spring through June. A total of 80 to 90 pounds of nitrogen was applied per acre. The plants were regularly irrigated using 360-degree microsprinklers providing 6.3 gallons per hour. Water was applied about once every one or two weeks for two to three hours per application. It appears

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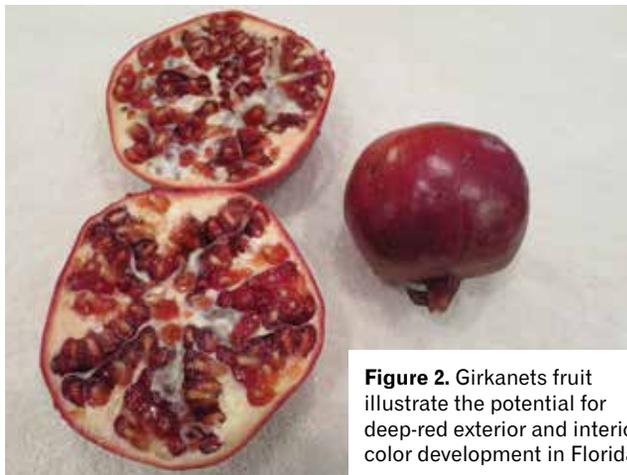
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on the UF/CREC website. There were virtually no chemicals on the list suitable for fungal diseases. Fortunately, the research and Extension team of Gary Vallad, Achala Nepal KC, Zhanao Deng and Hugh Smith of the UF/Gulf Coast Research and Education Center in Balm evolved along with Alicia Whidden of Hillsborough County Extension to more formally study pest, disease and horticultural aspects of the crop.

Significant progress regarding the diseases has been made through the efforts of Vallad and KC, who have identified the pathogens involved and have begun to devise and evaluate management strategies. Two Botryosphaeriaceae species, *Neofusicoccum parvum* and *Lasiodiplodia theobromae*, and a *Colletotrichum* sp. were identified as major pathogens causing leaf spotting, stem dieback and fruit rot diseases. Field and lab studies with existing fungicides are underway at various sites, including McTeer Farms.

Meanwhile, at McTeer Farms, about three applications of foliar sulfur between flowering and harvest, along with extracts of *Reynoutria sachalinensis* (Regalia®), have been experimented with to combat these diseases. Commercial product rotation was an essential part of the management strategy.

Insects have not been problematic, except for the leaf-footed plant bug which appears every year, usually as the fruit approach maturity. It is an insect that can become a serious pest if not managed. Neem oil and Pyganic® were used in a general insect management program.



**Figure 2.** Girkanets fruit illustrate the potential for deep-red exterior and interior color development in Florida.

## POSITIVE RESULTS SHOW POTENTIAL

The preceding background information leads to the real excitement of 2015 at McTeer Farms. When I (Castle) walked around the end of the surrounding windbreak to look at the pom planting in early August, I was stunned. The plants were striking in their overall healthy appearance. Virtually all of the 2009 and 2011 plants were well-cropped, better than in any previous year (see Figure 1, page 32). Also noteworthy was the obvious presence of red color among the fruit. Despite our hot and humid climate in Florida, the environment did not preclude excellent red fruit and aril coloration beginning in the summer (see Figure 2).

Our assessments of yield, the disease situation and fruit characteristics continued with renewed excitement. Our combined evaluations became the principal source of descriptive information for a comprehensive pomegranate selection guide added in November 2015 to the CREC website.

Our information showed that selections such as Girkanets had the potential to yield 75 to 125 fruit per plant of red-colored fruit with medium-soft seeds and good taste. Girkanets is noteworthy for being a precocious bearing selection that produces fruit consistently from year to year.

Other selections with yields ranging from 70 to 80 fruit per plant were Kazake, Wonderful, Al-sirin-nar and Medovyi Vahsha. All of those selections have hard seeds except Medovyi Vahsha. Christina and Gainey Sweet fruit and plants were markedly less affected by diseases. We also agreed on the high ranking of selections like Azadi, which is yellow-fruited and soft-seeded with a mild, pleasant flavor liked by nearly all who taste it. Another precocious selection that has yielded consistently is Salavatski. Many more details can be viewed on the website selection guide.

Real potential for pomegranates in Florida was demonstrated in 2015 at McTeer Farms. How that translates to commercial opportunities is presently unknown and unproven. Nevertheless, enthusiasm for the crop remains high in Florida. Most ventures are small in size (a few plants to a few acres), but nurseries are supplying plants, research is underway, national grants have been applied for, and growers are adding to our knowledge about cultivars, cultural practices and marketing. The best news? There now is a pomegranate community in Florida. 🍎

*The authors wish to acknowledge the generosity and vision of Harold McTeer (deceased) who was the cooperator with whom the project was initiated. He was a citrus and blueberry grower and exceptional cooperator.*

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## Pomegranate fertilization programs

- Four applications of 8N-6P-8K dry material between February/March to June.
- Monthly foliar applications of 23-0-0; about 4 pounds of nitrogen per acre per application. The Ag Nutrients product by Redox Ag has urea as the nitrogen source.
- Three to four applications from February/March until harvest of foliar micronutrients, supplied by KeyPlex 1400, Growth Products' MicroTech Ag and various Redox Ag products.
- No fertilizer applied between harvest (late August–September) and late winter/early spring.