

Use of Sparkleberry as a Potential Rootstock of Blueberry

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Approach

- Original Plantings - 'Meadowlark' and 'Farthing' were grafted on *Vaccinium arboreum* seedlings in 2010 and planted in bark-amended and non-amended soils in 2011 at the PSREU and Straughn Farms, Archer, FL.
- Superior selections from the original *V. arboreum* seedling population were identified and grafted with Optimus, Patricia, and Keecrisp and planted at the PSREU in 2017.
- Larger clonal populations of four *V. arboreum* selections will be grafted with Optimus, Colossus, and Patricia in 2020 for field testing.
- Open-pollinated crosses among 4 superior *V. arboreum* selections will be made in 2020 and their progeny will be evaluated for rootstock characteristics.

Results

- In the original plantings, initial yields were reduced by grafting, but grafted plants had comparable or higher yields than own-rooted plants in years 4, 5, 6 and 7.
- Cumulative yields of grafted plants on non-amended soils were not statistically different from own-rooted plants in bark amended soils.
- Grafted 'Meadowlark' plants were less affected by bacterial leaf scorch (*Xylella fastidiosa*) than own-rooted plants.
- The single-trunk architecture reduced ground drops during simulated mechanical harvesting during some years.
- Mean berry weight was greater for grafted than for own-rooted 'Meadowlark' plants.
- No consistent differences for internal berry quality were found between grafted and own-rooted plants.
- Grafted blueberry plants have large expansive root systems (Figure 1).
- Plant longevity is greater for grafted plants than for own-rooted plants.

- *V. arboreum* with superior rootstock characteristics have been identified and propagated asexually for further testing (Figure 2).

Challenges

V. arboreum genotypes vary in their suitability as rootstock plants.

V. arboreum propagates poorly from stem cuttings.

Optimal scion grafting techniques for blueberry have not been determined.

Grafting adds to the cost of nursery plant production. Cost-efficient production of grafted blueberry plants is needed.



V. arboreum root system, of grafted 'Meadowlark' plant.



'Patricia' SHB grafted on low-sprouting *V. arboreum* rootstock selection.

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