



By Juanita Popenoe



Growers are initially applying 10 tons of composted biosolids per acre.

Growers using multiple methods to improve soil

Growers in the north-central region of Florida are very interested in improving soil health to increase citrus productivity. Recent research has indicated that increasing soil organic matter is critical to continuing production with HLB-infected trees. Several growers here have known for some time that soil health treatments seem to be working. Composted biosolids, cover crops, and, most recently, oak leaf compost tea are all being used.

COMPOSTED BIOSOLIDS

Composted biosolids are safer than straight biosolids because they have been composted with organic matter to make a good soil amendment classified as class AA — the highest quality for beneficial use. A proper composting process takes the temperature up to levels that should kill any potential disease or weed issues and makes the nutrients

available in a slow-release form.

In addition, proprietary inoculants included by some compost companies may provide other benefits. Biosolid composts are readily available. Recent research has shown how well they work as a soil amendment for lawns, increasing organic matter and reducing water requirements.

Growers in the area have used an initial 10 tons per acre followed by annual applications of 2 to 4 tons per acre to bring non-productive groves back into productivity. They suggest using as much compost as you can afford to apply to your groves.

I am working with IMG Citrus at Cherrylake, Life Soils and other UF/IFAS Extension agents and specialists on a demonstration of biosolid compost to determine the differences between 0, 4, 8 and 12 tons per acre applied annually. We will use soil sensors to monitor soil moisture and

electrical conductivity and hopefully lysimeters to look at nutrient movement through the soil profile. Tree growth and productivity will be measured as well. The trees were planted in 2019, and compost was applied in October 2020. Watch for a field day next fall to show what effects can be seen in the first year.

COVER CROPS

More growers are also trying cover crops, tree-to-tree or just in the aisles. Some growers are trying perennial plants in the aisles, like perennial peanut, while others are trying a mixture of annuals. Several have found that it can be difficult to get cover crops established in the aisles of older groves, and additions of compost or other organic matter can be helpful.

OAK LEAF COMPOST TEA

The recent news about oak leaf compost tea improving the health of HLB-diseased trees has generated a lot of interest, especially for applications to young trees. Researchers said that water from a mixture of oak leaves soaked overnight used in a soil drench has had dramatic effects on citrus health.

Growers have been calling about what types of oak leaves to get and



A container for bulk production of compost tea has an aerator at the top and spigot at the bottom for ease in making large batches for use in soil drenches.

where they can source them, as well as the details about how to create the tea and apply it. Extension has also promoted this as a great way for homeowners to bring their declining citrus trees back.

It seems too simple to be true, but many are willing to give it a try to see if this might indeed improve the health of diseased trees. It appears to be a great opportunity to monetize the waste from landscapes and woods. Exactly how to collect the leaves and put them into some type of container to soak may limit the amount that can be produced, hence the interest in using this for younger trees.

CONCLUSION

Research shows soil health is key to maintaining citrus productivity in HLB. There are several options that growers are trying, although research on some of these techniques is still in progress. Thanks to innovative growers who are trying things out on the bleeding edge of technology, we may have some therapy for HLB sooner rather than later.

The irony is that these techniques are things that our ancestors practiced many years ago. I guess the saying “What’s old is new” applies to horticulture as well as fashion trends. 🍊

Juanita Popenoe is a multi-county commercial fruit Extension agent at the University of Florida Institute of Food and Agricultural Sciences Lake County Extension office in Tavares.

What Is Old Might Be New



By Rick Dantzer, CRDF chief operating officer

“There seems to be with orange growers a considerable interest manifested in the Parson Brown orange, and as I once owned the tree that produced this now famous orange, and was the first orange grower who brought this fine fruit to the notice of the Northern public, I will, with your permission, give your readers a short history of this tree,” said Capt. J.L. Carney in a 1896 letter to Florida Farmer & Fruit Grower.

What follows in the letter is a history of the establishment of the Parson Brown orange and how the first buds were taken from a tree owned by Uncle Brown, a Methodist minister (hence the name). He was reputed to have the best tree of this genotype.

The Parson Brown orange had a checkered past. Emanating from the Lake Weir area, it spread across the citrus landscape, growing in popularity because of its good flavor, excellent color and early-season maturity. It was seedy, though, and had more than an average amount of peel oil. Consequently, it fell into less favor than other varieties, such as Hamlin. Still, it hung on, and more than a few growers continued to grow it.

When HLB hit, it was noticed that some Parson Browns seemed to be faring better than other genotypes. In fact, one grower claims to continue to pick upwards of 600 boxes per acre from his Parson Brown grove. This caught the attention of University of Florida Institute of Food and Agricultural Sciences emeritus Extension agent Gary England. He aims to document Parson Brown’s true status and determine which clones are best.

England is working with CRDF’s Brandon Page and Manjul Dutt of UF/IFAS, who presented CRDF with a research proposal to determine why Parson Brown seems to stand up to HLB better than many cultivars. It is suspected that Parson Brown has higher levels of the PR1 and PR2 defense genes, which are the molecular markers of systemic acquired resistance, than Hamlin. The research project will determine if this is the case.

But what about the high peel oil and seed content qualities that caused Parson Brown to fall into disfavor with processors? With an orange crop estimate of 57 million boxes in Florida, processors are in such need of fruit that factors such as high peel oil and seeds are of lesser concern than they once were. And plant breeders have indicated an ability to breed the less desirable characteristics out of the fruit over time.

Some of the earlier and perhaps best Parson Brown clones are few in number, so a priority is to preserve the gene sequence for those that are considered the best. That work, perhaps with the assistance of a funding partner, will be considered, as well.

Wouldn’t it be something if part of the solution to HLB has been with us all along, and the good ol’ Parson Brown is part of the answer? We will soon find out.



Column sponsored by the Citrus Research and Development Foundation