

FRUIT GROWTH ‘Apple Fruit Set Predictor’ app

Jon Clements

University of Massachusetts Extension

The FRUIT GROWTH (FG) app by Joe Ferri – and mentored by his grower brother Tom of TK Ferri Orchard, The Blue Mountains, Ontario, CANADA – is an iPhone/iPad (only, no Android) app that does just what it says: predict apple fruit set based on the apple fruitlet growth rate model. Per the description on the App Store (<https://apps.apple.com/us/app/fruit-growth/id1604255929>), the FG app features:

- Easy fruitlet size and cluster count input screens.
- Quick apple set prediction results screen.
- Full results easily shared to email addresses and Mac computers.
- The Fruit Growth app accepts fruitlet sizes and cluster counts data to calculate the predicted number of apples that will be set.
- The results are summarized in the calculated results screen. The full results Summary file (.csv) can be shared to an email address, internal device storage or air dropped to a Mac computer.
- The fruitlet size Data file (.csv) can be shared for cut and paste to the Excel Fruit Growth Model (Ferri version).

I used the FG app in 2022 to predict fruit set in two Gala blocks, two Honeycrisp blocks, and one Fuji block. (Across two orchards, results forthcoming in a pending Fruit Notes article.) I found it generally easy to use and once fruitlet growth measurements are made on a given date it gives instant results predicting fruit set so further chemical thinning decisions can be made. One feature of the FG app allows you to do a split tree (top and bottom) calculation predicting fruit set. As you probably know, fruit set is often better in the tops of trees vs. the bottom. Thus you can target and be more effective with your thinning sprays. Below are a few screenshots from my FG app in 2022 (Figs. 1 - 3), and there are a set of excellent screenshots on

the App Store (<https://apps.apple.com/us/app/fruit-growth/id1604255929>) so you can better understand how it works. For reference, per the Ferri’s, here are their specific notes on how to use the FG app once you download and install:

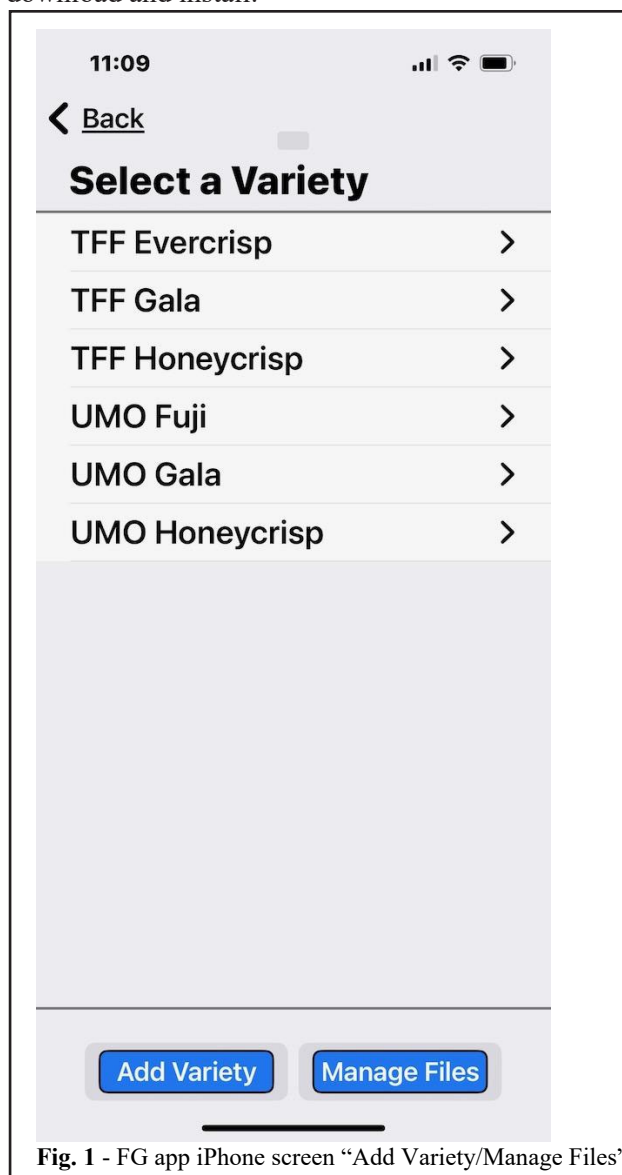


Fig. 1 - FG app iPhone screen “Add Variety/Manage Files”

Fruit Growth Model Notes (Rev 3.0.0)

Select a Variety - to input the fruitlet sizes (Fig. 2)

- Input the fruitlet size and **Enter** button
- For fruitlet size measurement accuracy of 0.5 mm` (e.g. if 12 is entered 12.0 is stored, if 12. is entered 12.5 is stored)

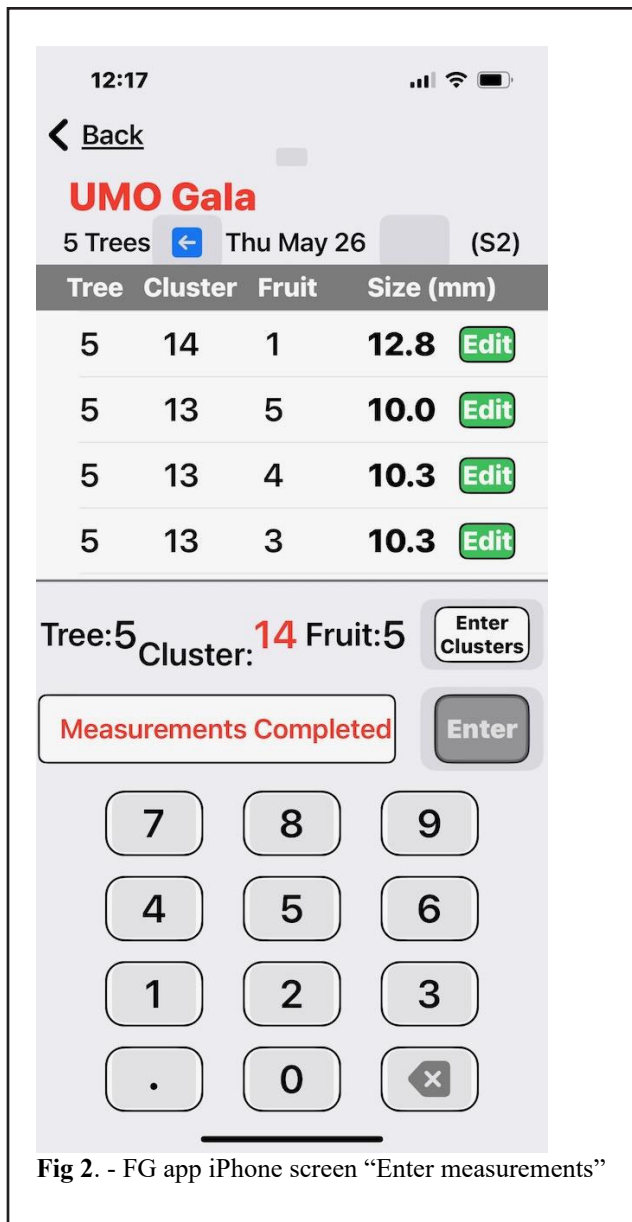


Fig 2. - FG app iPhone screen “Enter measurements”

Note: Once all current measurements are completed, to advance for the next sample date and measurements push the blue right arrow next to the date.

When each tree fruitlet measurements are com-

pleted:

- **Enter Clusters** button - to input the number of clusters per tree
- Input the cluster count and **Enter** button
- If two people are counting the clusters, use the + button to add the counts

Note: To delete all the last sample fruitlet sizes and cluster counts push the **Trash** button

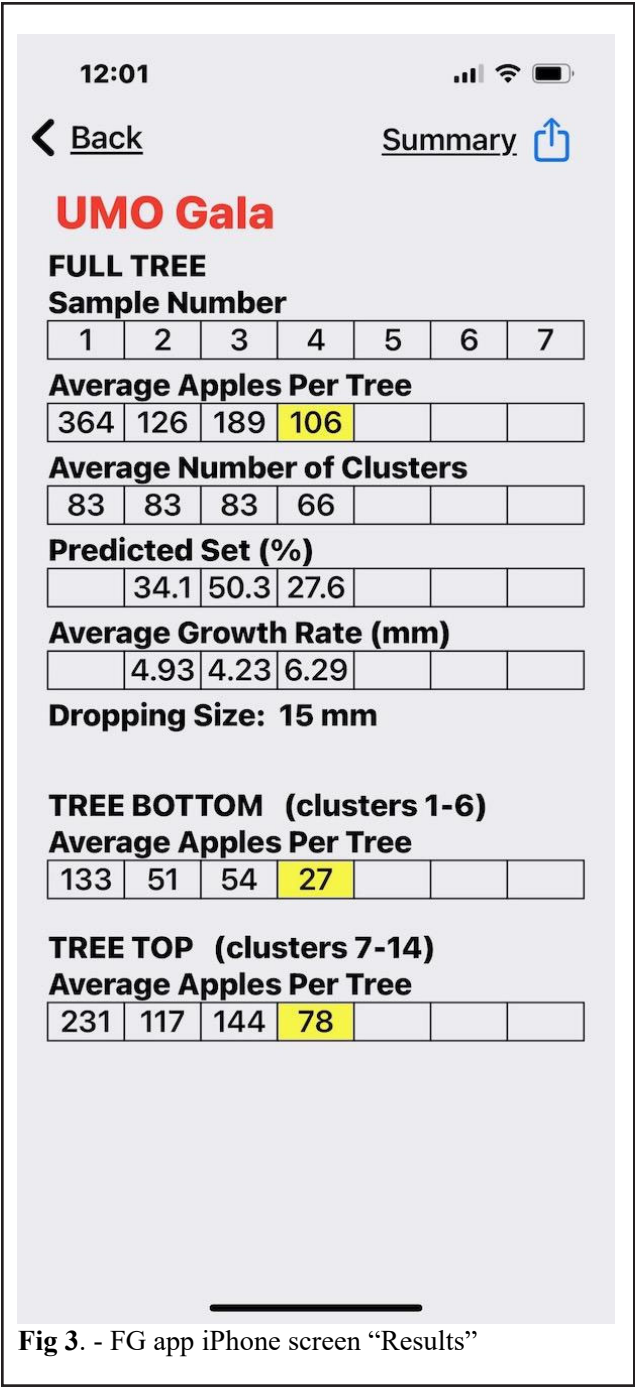
Add Variety button (Fig. 1)

- Enter the variety name
- Choose the number of trees to measure
- Choose the split or full tree option
- (Clusters: Tree Bottom 1-6, Tree Top 7-14)
- Save button - save the file name and settings

Manage Files button (Fig. 1)

- Select a Variety
- **Results** button - generate the results summary (Fig. 3)
 - **Share Summary** button- generate the full results summary .csv file
- **Delete** button - permanently deleted the file
- **Import Data** button - import a fruitlet size Data.csv file
- **Share Data** button - generate the fruitlet size data .csv file
- (used to cut / paste into the Excel Fruit Growth Model (Ferri) version)

Joe Ferri is actively updating the FG app, it is up to version 3.0.0. You can download from the App Store, it costs \$17.99 but is money well spent. Alone, once set up (see my RECIPE for setting up your trees for using the FG app: <https://ag.umass.edu/fruit/fact-sheets/hrt-recipe-predicting-fruit-set-using-fruitlet-growth-rate-model>) I can complete a set of measurements per variety/block on a given date in less than an hour. It would go quicker with two people, and you get instant results predicting the fruit set. *How good is that?*



Editors Note (Win Cowgill): I too have used the Ferri App and model, works well, easy to use. Agree two people make it go much faster- one measuring one recording. Note that after doing Fruit Growth rate measurements and modeling for ten years there is one fact that jumps out, and is the reason every grower should measure fruitlets and use one of the computer models for predicting fruit set.

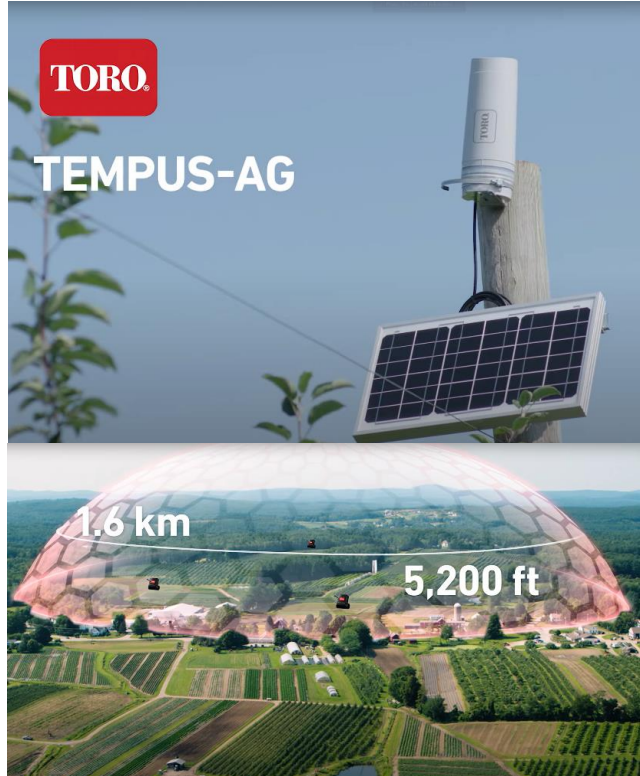
The reason is after you have completed two sets of measurements on a block, maybe 3, you have a "feel" of how your trees are responding to thinners and what fruit is setting. You cannot get that same information by just walking the orchard or driving by with the window down.



Brookdale Farm Supplies

Toro Tempus Ag Controller, a revolution in automation

The toro tempus ag controller allows for full farm automation. Tempus Ag uses a LoRA radio signal to create a bubble which allows for system automation. 1 base station produces a LoRa bubble of 5,200 feet in diameter. Multiple base stations can be added to cover large areas over one network for the entire application. The base stations can be operated on Wi-fi or with a 4G wireless signal. It can run irrigation cycles as well as collect environmental data, allowing growers to adjust their irrigation schedules as needed. Tempus Ag can report on a variety of sensors; temperature, pressure, soil moisture, humidity and more. Tempus works in both an outdoor field setting and an indoor high tunnel or greenhouse environment, Tempus can send alerts via text or email at thresholds determined by the user. Call us to design your custom system.



UNA PASSIONE TUTTA ITALIANA



Brookdale Farm Supplies has partnered with Valente for distribution in the United States. Valente's concrete posts are prestressed, reinforced posts that are trapezoidal shaped, with four smooth sides and no edges. This design prevents wear on hail netting and coverings. Valente trellis can be used in apple orchards, cherry orchards, vineyards and more. The system can be designed three different ways; standard trellis support, tall trellis support for future netting, or tall trellis with hail or over coverings included.



Trellis at Brookdale Fruit Farm, Hollis NH

Orchard Tubing available in 17, 18 and 20 mm, Call for current pricing

Brookdale Farm Supplies

38 Broad Street
Hollis, NH 03049

603-465-2240

www.brookdalefruitfarm.com

