

Citrus Advisory System: An Economical Way to Manage Postbloom Fruit Drop in Florida

Researchers: Megan M. Dewdney, Andre B. Gama, Ariel Singerman
Contact: Megan M. Dewdney
mmdewdney@ufl.edu

UF/IFAS CREC

The Citrus Advisory System (CAS) for postbloom fruit drop (PFD) is a new, simple web-based system (<http://agroclimate.org/tools/cas/>) to predict when PFD is likely to occur. It uses a model developed in Brazil describing pathogen growth based on temperature and leaf wetness duration. Within CAS, PFD risks are calculated daily from the model. If those risks are above a 20% threshold, a fungicide application targeting PFD is recommended to the grower. In the past, another PFD forecasting system, the PFD-Fungicide Application Decision (PFD-FAD), was available to Florida growers but it was difficult to use. Because CAS was developed in Brazil, we needed to verify

Funding



Average costs

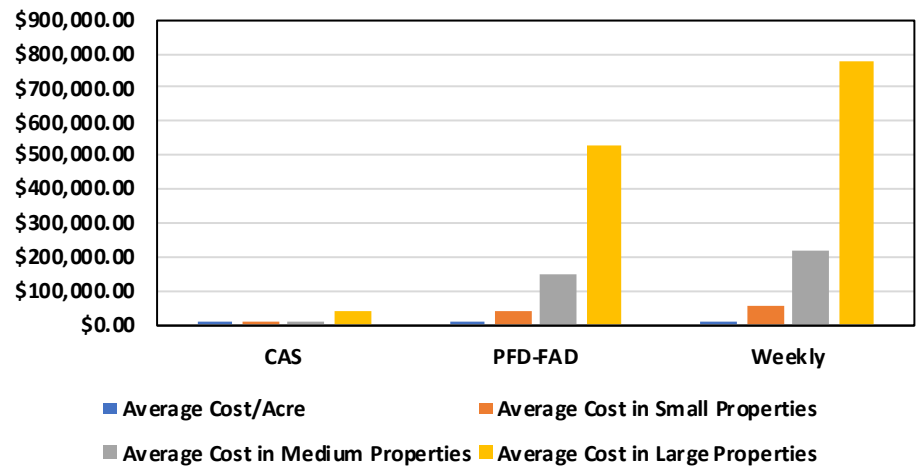


Figure 1. Average cost per acre, cost for small (500 acres), medium (2000 acres), and large properties (7000 acres) from the recommendations of the Citrus Advisory System (CAS), Postbloom Fruit Drop Fungicide Application Decision (PFD-FAD), and the Weekly treatments during seven field trials conducted in commercial groves in Florida from 2017 to 2021.

that the system would work as expected in Florida and compare its efficacy and treatment costs to PFD-FAD, a weekly application program, and nontreated controls. We conducted seven field trials in commercial citrus groves in Florida from 2017 to 2021. Environmental conditions were not suitable for PFD development in any year. Following the recommendations of CAS, only one application was made in four seasons while two and three fungicide applications per season were performed on average based on PFD-FAD and the weekly treatment, respectively. PFD levels were comparable among our treatments and the nontreated controls. Following the recommendations of CAS

rather than PFD-FAD or the weekly treatment reduced costs by more than \$30,000 and \$50,000 in small properties (~ 500 acres), respectively. In 2000 acres-farms, savings from choosing CAS over PFD-FAD and weekly were more than \$100,000 and \$200,000, respectively. Our study concluded that CAS gave very accurate predictions of when not to spray. However, because there was little to no PFD in our trials, we do not know how accurately it predicts disease. CAS is a more economical way to control PFD than the PFD-FAD and weekly fungicide applications due to the sporadic occurrence of PFD in Florida.