Effect of Gibberellic Acid and 2,4-D in Mitigating Pre-Harvest Fruit Drop of HLB-Affected Sweet Orange

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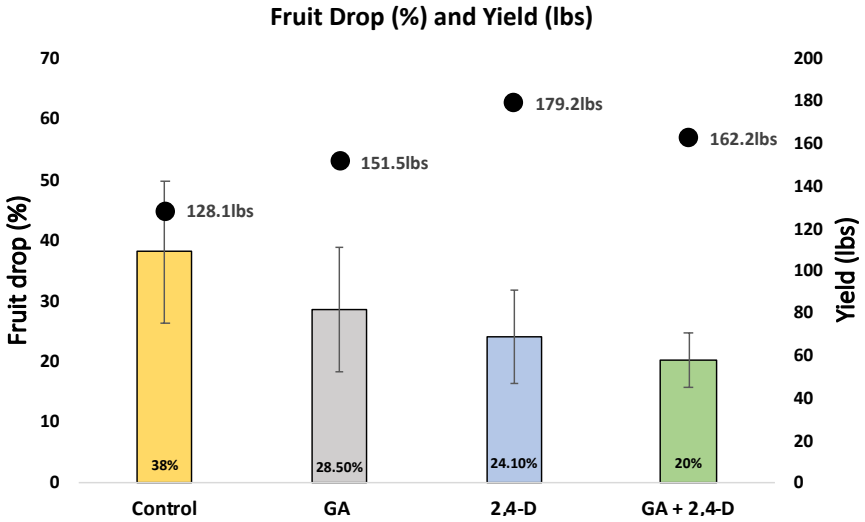

HLB-induced pre-harvest fruit drop has plagued Florida's citrus industry since the onset of HLB in 2005. There has been a lot of interest growing around the use of various PGRs in the field to combat this accelerated drop. Past research has shown that exogenously applied Gibberellic acid (GA) has potential to reduce pre-harvest fruit drop. Growers have brought a lot of interest in also testing out 2,4-D, a synthetic auxin, in combating the pre-harvest fruit drop but very little research has been done. We set out to test the efficacy of these 2 PGRs in a commercial field setting. Using mature, commercially grown 'Valencia', we applied 4 treatments consisting of an untreated control, GA at 20g per acre, 2,4-D at 15g per acre, and a combination of GA and 2,4-D together. Each treatment was applied every 30 days from October to December, a total of 3 applications. The 2 treatments that contained 2,4-D had significantly less fruit drop than the control treatment, which had 38% fruit drop, with the GA+2,4-D combo treatment performing the best with 20% fruit drop. Although there were no statistically significant differences in yield, the 2,4-D treatment produced on average 179 lbs. of fruit per tree which is more than the control that produced on average 128 lbs. per tree and was subsequently the treatment that produced the lowest yield. The use of 2,4-D in combination with GA is showing potential in reducing pre-harvest fruit drop. In the upcoming years, we plan to continue this study on 'Valencia' and evaluate the efficacy of these treatments on 'Hamlin'.

Funding

CRDF Citrus Research and Development Foundation, Inc