

Impacts of Pre-emergence Herbicide on Preharvest Fruit Drop in 'Valencia' Citrus

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Summary: The study aimed to assess the impact of diuron, a commonly used pre-emergence (also known as residual) herbicide on preharvest fruit drop in young 'Valencia' citrus trees in two commercial groves in southwest Florida. We applied diuron at three different rates (1.6, 3.2, and 6.5 lbs. a.i./acre), along with a weed-checked control using post-emergence herbicides, and an untreated control with no herbicide treatment. The treatments were applied twice, in fall and spring, using a randomized complete block design with four replicates. The fruit detachment force

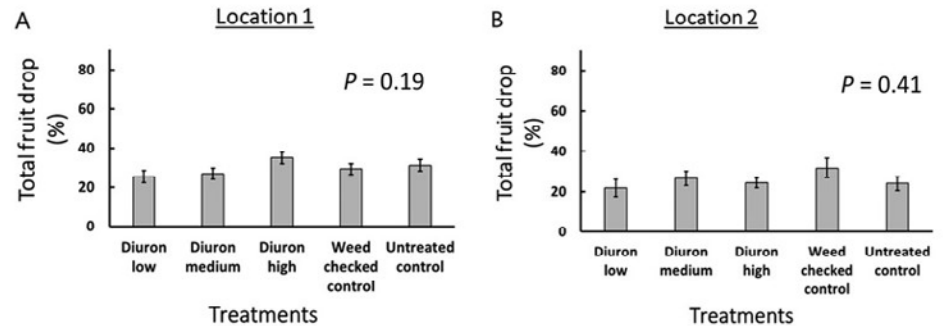


Figure: Valencia citrus preharvest fruit drop at (A) Location 1 and (B) Location 2. The total fruit drop percentage is calculated as [cumulative dropped fruit number/total fruit number (i.e., sum of dropped fruit and attached fruit on the tree at harvest)] * 100. Letters above the bar, if present, represent significant differences between the treatments based on Tukey's honestly significant difference test ($\alpha = 0.05$). Error bars represent standard error ($n = 4$), and p value is shown.

was measured from the fruits on the trees in the experimental plots, and the number of fruits dropped under the canopy was counted at regular intervals until harvest. Our findings, based on a four-month observation period, indicate that diuron application had no significant effect on fruit detachment force and preharvest drop in 'Valencia' oranges at both study locations.

Take Home Message:

- Non-target impacts of applying the pre-emergence herbicide diuron on 'Valencia' citrus trees were evaluated at two locations.
- Observations on the fruit detachment force and preharvest fruit drop over a period of approximately four months were collected.
- There was no statistically significant difference in fruit detachment force and preharvest fruit drop between the different diuron treatments and the control groups at both study locations.

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