**Effect of Prohexadione Calcium (Apogee®) on a WA38 top grafted orchard**

**Problem:** Newly planted trees may take a long time to fill up the space. Top grafting an existing orchard can make trees grow faster. For varieties with excess of vigor, 2 or 3-axis training systems can help control growth and tree development.

**Project Goals:**
1) Evaluate the horticultural performance of WA38 using 2 or 3-axis training systems.
2) Apply Prohexadione Calcium (Apogee®) to investigate its effect on WA38 growth, production and fruit quality.

A) Top graft work of 7-year old Granny Smith orchard on M9-337 with WA38 budsticks (March 2016). Four WA38 budsticks were grafted on each stump.

B) Trees training to 1- axis (spindle), 2-axis (bi-axis) or 3 axis (palmette) systems (2016-2018) (from left to right, in February 2018).

C) Apogee® application (12 oz./A, 3 times in May 2018+2019) in half block, the other half serves as control (no treatment).

- In August 2018, the average 1yr-shoot length of the control was 22 cm longer than Apogee® shoots with almost double internode length.
- No difference in number of leaves/shoot, leaf area nor leaf DM% between 2 treatments at the end of August 2018.

**Avr. 1-year shoot length in cm (May-July 2019)**

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