

**Evaluation of Rimon Phytotoxicity with and without Oil
2005 Trial
Kaysville IPM Apples of Mixed Cultivars**

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Objectives: To evaluate apple fruit and foliar phytotoxicity caused by a 4-application novaluron (Rimon 0.83 EC) program at two rates with and without horticultural oil.

Methods:

Plot Design

The phytotoxicity evaluation was conducted in a 0.26-acre section of a 2.1-acre apple orchard of mixed cultivars ('Delicious', 'Gala', 'Idared', 'Jonathan', 'Mutzu', and 'Prime Gold') at the Utah State University research farm in Kaysville, UT. Plot size was 3 trees (12 ft spacing). Each of the four Rimon treatments was replicated four times in a randomized complete block design. An untreated control comparison plot (4 rows × 5 trees long; 12 ft × 20 ft spacing) was placed in the southeastern corner of the orchard (see plot map).

In addition to the trial treatments, the study orchard received the following general pest management sprays: Bayleton (Apr 15, May 28, and Jun 27), Procure (Apr 26), Flint (May 14 and Jun 10), Sevin XLR (May 14 for fruit thinning), Agrimycin (May 16 and Jun 23), and Acramite (Aug 9). All insecticide treatments were applied with an orchard air blast sprayer at 70 gpa of dilute spray.

Treatments

Rimon Phytotoxicity Evaluation (Crompton Protocol 185)

1. Rimon 0.83EC @ 32 oz/acre
2. Rimon 0.83EC @ 32 oz/acre + 0.25% v/v horticultural mineral oil
3. Rimon 0.83EC @ 60 oz/acre
4. Rimon 0.83EC @ 60 oz/acre + 0.25% v/v horticultural mineral oil

Application timing for all Rimon treatments:

1st CM generation:

1st spray: Rimon at 50-75 DD after biofix (prior to egg-laying); May 14

2nd spray: Repeat Rimon 14 days later; May 27

2nd CM generation:

3rd spray: Rimon at 1000 DD after biofix; Jul 14

4th spray: Repeat Rimon 14 days later; Jul 28

5. Untreated control (plot in southeastern corner of orchard)

Phytotoxicity Injury Sampling

Fruit and leaves were visually inspected (not removed) before the first Rimon application on May 12 and within 7 days following each Rimon application on May 19, Jun 1, Jul 21, and Aug 4. A final sample was taken on Sep 14 to check for any phytotoxicity symptoms on mature fruit. Sample size was 50 fruit per plot for a total of 200 fruit per treatment and a visual scan of all leaves for a total of 12 trees per treatment. Any russet, lesions (chlorotic or necrotic), other markings, or tree decline were noted.

Results:

Phytotoxicity

No symptoms of phytotoxicity to leaves or fruit were observed in any of the treatments on any of the six sampling dates. As described above, fruit and leaves were inspected carefully for russet, markings, and lesions. None were observed in any of the Rimon treatments (32 oz/acre or 60 oz/acre, with or without 0.25% horticultural mineral oil) or in the untreated control plot.