

# THINNING APPLES IN SONOMA COUNTY

Paul Vossen

Chemical thinning improves fruit size and return bloom better than hand thinning primarily because it happens earlier. Early excess fruit removal, which occurs prior to blossom initiation for the following year (within 40 days after full bloom), has a positive influence on return bloom. Early thinning also provides the maximum benefit for fruit size on the remaining fruit, because the improved leaf-to-fruit ratio provides more carbohydrates to those fruit.

## Hand thinning:

When thinning apples by hand, thin for size as well as proper spacing. It is common to thin to one fruit per spur, but this might not provide maximum fruit size if smaller fruit were left to achieve uniform spacing. Instead, keep the largest fruit, because large fruit that exist at the time of thinning will be the largest fruit at harvest regardless of spacing. To achieve the greatest fruit size, leave large fruits together and thin smaller fruits to achieve a relative number per branch rather than leave smaller fruits that are spaced more uniformly. The ideal would be to leave all large fruit spaced uniformly seven to eight inches apart.

Thinning to one fruit per cluster, so that fruit are not touching, can reduce codling moth damage, however, because spray coverage is better, larvae often enter where the fruit are touching, and sometimes larvae damage both fruit where touching.

## Chemical Thinning:

Chemical thinning rates should be adjusted to the vigor of the tree and fruit set conditions. Lower rates should be used on low vigor trees and when poor pollination conditions exist. Conversely the higher rates listed can be used on healthy vigorous trees and when conditions are excellent for pollination and fruit set. Regulaid is a surfactant that improves absorption, which allows for use of a lower rate of thinning agent.

## GOLDEN DELICIOUS

- **Accel (6-benzyladenine) – 75 to 100 ppm (not to exceed 30 grams active ingredient per acre) + Sevin XLR Plus – 2 pints per 100 gallons @ 10 mm fruit size.**

*This combination has increased the effectiveness of thinning compared to either product alone, which has generally provided inadequate thinning for Golden Delicious*

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- **Wilthin (monocarbamide dihydrogensulfate) – 2 to 3 pints per 100 gallons + 1 pint regulaid @ 75% to 80% bloom (after king bloom is pollinated)**

*Wilthin is a blossom desiccant. Timing is critical. Late applications, after petal fall, do not thin fruit adequately; early applications prior to set of the king bloom may cause excessive thinning. Good thinning has been achieved using Wilthin with dilute and speed sprayer applications.*

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- **Fruitone NAA Sodium salt (1-naphthaleneacetic acid) – 5 to 10 ppm + 1 pint regulaid per 100 gallons @ 10 mm fruit size.**

*Fruitone alone is only a fair thinning agent for Golden Delicious, therefore it is often used in combination with other materials or following other materials. Cool weather conditions immediately following application tend to improve the effectiveness of NAA because it dries slower and the leaves absorb more. NAA treated trees seem to have thinned fruit that hangs on for 3-4 weeks after treatment and may not provide the increase in size compared to other treatment materials. Dilute sprays applied at 300 gallons per acre have performed better than speed sprayer applications with less volume per acre.*

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- **Sevin XLR Plus (specific formulation of carbaryl) – 2 to 3 pints per 100 gallons @ 10 mm fruit size.**

*Sevin XLR Plus alone is only a fair thinning agent for Golden Delicious therefore it is often used in combination with other materials or following other materials. Thinning is enhanced if weather turns warm within a few days of application. Dilute sprays applied at 300 gallons per acre have performed better than speed sprayer applications with less volume per acre. The active ingredient, carbaryl, can create an imbalance in mite populations and can kill bees. Be sure to remove beehives from the orchard prior to treatment, do not apply if bees are actively foraging in the orchard, and if cover crop bloom is present, mow the cover crop prior to application.*

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- **Fruitone – 5 to 10 ppm + Sevin XLR Plus – 2 to 3 pints per 100 gallons @ 10 mm fruit size**

*This tank mix combination has provided good thinning in most years with adjustments made for weather conditions, tree vigor, and pollination conditions. Dilute sprays applied at 300 gallons per acre have performed better than speed sprayer applications with less volume per acre.*

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- **Wilthin – 2 to 3 pints + 1 pint regulaid per 100 gallons @ 75-80% bloom FOLLOWED BY  
Sevin XLR Plus – 2 to 3 pints per 100 gallons, or Fruitone – 5 to 10 ppm + 1 pint regulaid, or Fruitone 5 to 10 ppm + 1 pint regulaid AND Sevin XLR Plus @ 10 mm fruit size.**

*Wilthin used as a blossom thinner has been effective in thinning Golden Delicious. If after treatment, however, it is judged that more thinning is necessary (at the 10 mm sized fruit stage) an additional application of Sevin XLR Plus alone, Fruitone NAA alone, or a combination of Fruitone + Sevin XLR Plus can be applied to provide additional thinning.*