

## **GEM Observations and Recommendations...**

With Gem acreage increasing steadily and many growers unfamiliar with the characteristics of the Gem tree we are making the following observations based on our experiences.

Gem is distinct from Hass in some significant ways. Gem is a compact, slower growing column-like tree with predominantly non spreading branches, where much of the fruit remains tucked away under the canopy. This attribute protects the fruit from wind, heat, and cold to a greater degree than Hass.

While the Gem tree may be small, it has very dense growth that packs a lot of leaf surface into a given volume of canopy. Thus, while the Gem tree may occupy less space than a Hass tree, it still has considerable biomass. We can be fooled into thinking that fertilizer and water requirements are less than they really are. We think of the Gem as a hungry and thirsty tree and adjust our inputs accordingly. It may well be that we wrongly perceive it as being 'smaller' than it really is.

It does not need nor does it like to be pruned during its first several years. Pruning of young trees including minor skirt pruning may be causing reductions in productivity. For this reason we do not prune Gem trees until it is necessitated by crowding.

We irrigate using two rows of drip tubing and do not employ mini-sprinklers. This enables us to leave the skirts intact during the early years while still achieving uniform application of water. We have also discovered that we're saving a considerable amount of water by using drippers in high density plantings. We have found that two rows of drip, with .5 gph emitters at 18" intervals, this works very well and fruit damage from irrigation is minimal.

It looks like Gem need more Nitrogen than Hass. The leaf tissue Nitrogen level may need to be at 3%, although we need to consider the implications of high nitrogen applications on fruit quality and postharvest performance.

In the first two years, Gem can flower so heavily that it causes defoliation, and the tree looks like it will die. The trees will usually recover when given proper care. If this does happen whitewash works well. This defoliation tendency seems to diminish by year 3.

Gem need to be well staked due to the production load of the tree when it is young. They are more likely to snap off at the ground level in high winds.

Regards,  
Dan Grant