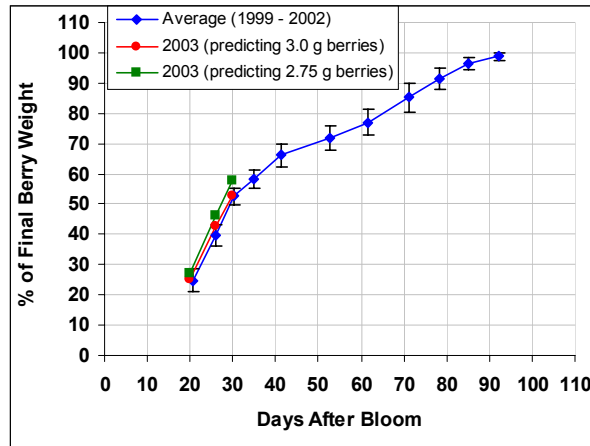
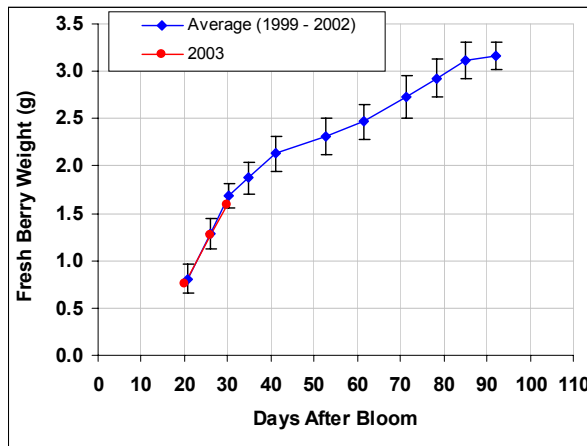


**Current Berry Weight, Crop Estimation, and Thinning**  
**Dr. Terry Bates**  
**7/31/2003**

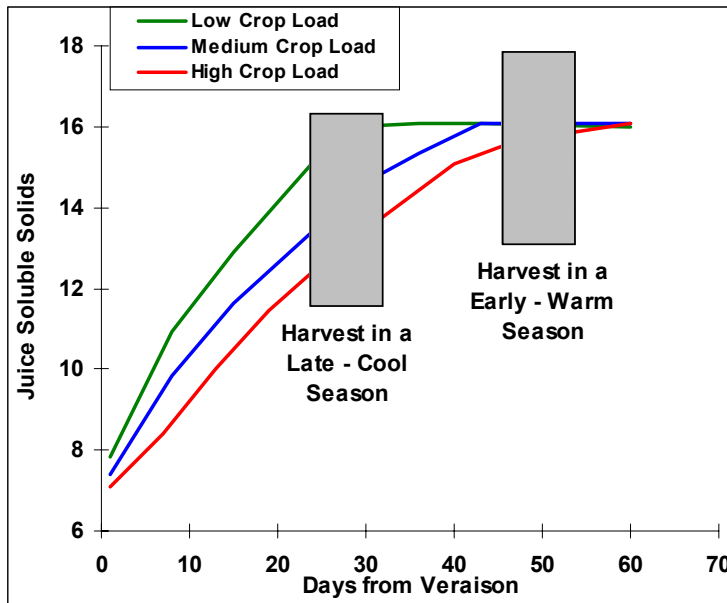
I have been receiving many calls asking if I stand by the numbers on the crop estimation chart based on 2003 berry growth. Indeed, I have seen a range of berry sizes in different vineyards which drives home the message that each vineyard block is different and it is important to know your individual blocks. Some blocks bloom earlier than others – some have more water than others. However, even taking into consideration vineyard variability, I am not seeing anything out of the ordinary in terms of normal berry growth. The following charts show actual 2003 Concord berry weights and % of final berry weight from 120 node vines at the Fredonia Lab compared to the past 4 year average (of balanced pruned vines). If we assume that our 120 nodes vines will reach 3.0g berries by the end of the season then berry growth is tracking the 4 year average. If we assume 2.75g berries at the end of the season then berry growth is slightly ahead of the 4 year average. Either way, we are now approximately 36 days from bloom and berry weight is approximately 65% of final. Therefore, if you are crop estimating and thinning and using the Estimation Chart, you should be using 65% (or 70% if you want to be conservative).



Will you see a thinning response in 2003?

I have also been hearing growers say that they have thinned in other years and did not see a response. Canopy damage during the thinning process is a concern and care should be taken to break as few shoots as possible with your machine. However, what about the situation where there has been little canopy damage? The following chart shows Concord fruit maturation from veraison on heavy, medium, and low cropped vines. All fruit starts out at approximately 7 brix at veraison. As you might expect, the rate of sugar accumulation in low cropped vines is greater than heavy cropped vines. At around 16 brix, sugar accumulation in Concord slows down which has both to do with variety and diminishing weather conditions in the fall. Sugar concentration can increase further because of berry dehydration but we will keep that out of the discussion for now. During an early season, bloom and veraison are early so that by the time the processor doors open, all the fruit from different cropped vines has the chance to mature. Hence, everything gets ripe whether you thinned it or not and you will not record a thinning response.

In a late – cool season, bloom and veraison are pushed back and commercial harvest starts before all the fruit has the chance to fully ripen. These are the years where you will see a thinning response at the scale house. Thinned vines with a low crop will have higher brix than unthinned vines with a high crop at that particular harvest date.



Why can't we just wait until all the fruit is ready?

In a late harvest season, it may not be a matter of the processors waiting until the fruit is ready; it may be more a matter of weather. We lose significant heat and sunlight in September and October which slows sugar accumulation and an early freeze may arrest sugar accumulation before the fruit has a chance to reach full maturity.

What about 2003?

According to the current GDD information, we were 9 days behind a normal season at bloom, 3 days behind normal at 25 days after bloom, and we have slipped back to 5 days behind normal since then. Unless the weather takes an extended and drastic change for above average temperatures, veraison will be late and we will be looking at a late and cool harvest. Therefore, those of you that are thinning this year should record a response at harvest.

