

## **DECLINE OF THE SEBASTOPOL APPLE INDUSTRY: THE REAL REASON**

*By Paul Vossen*

Luther Burbank was only half-right; this is the chosen spot as far as nature is concerned, and agriculture thrives here, but it is not very competitive without irrigation water. He was a magnificent horticulturist who I admire even more when I think of what he accomplished without the irrigation systems we have today and he was absolutely correct for his time. What he did not foresee, however, was the tremendous response plants would have when irrigated and the value of irrigation water for the economic development of a dry area or the production difficulties in an area without it. The real reason for the decline of the Sebastopol apple industry is the lack of available irrigation water that renders it non-competitive compared to irrigated agricultural areas.

Most wells in the West County produce about 5-20 gallons per minute, some of the best along creeks, about 50 gallons per minute. In the hot summer months high yielding apple orchards will use 5 gallons per minute per acre per day (7,000 gallons) in order to fully size a large crop. The best wells could only irrigate about 10 acres. Without large quantities of well water Sebastopol growers relied on water stored in the soil, about 10 – 12 inches per season and disked the soil in order to destroy the cover crop before it robbed all the water from the trees. Since the soil can only hold about 1/3 of the seasonal requirement for apples, growers had to reduce the crop load in order to reduce the stress on the trees and have the ability to produce a crop the next year. Growers who tried to grow dry-farmed apples by just mowing the cover crop ended up with golf ball sized fruit or very low yields.

Apple trees are pretty tough and another way of exploiting the seasonal water resources was to grow large standard sized trees with vigorous seedling rootstocks that could grow deeply into the soil and extract all the available moisture. Unfortunately seedling rootstocks go through a non productive phase and take 10 years or more to come into full bearing, not allowing for a sane return on investment nor the ability to switch varieties very often. One of the main reasons that apples dominated the agricultural landscape of the Sebastopol area was because those large strong trees could survive and produce a decent crop under dry-farmed conditions while other crops like peaches or berries, for example, just died or were only grown on a very small scale.

Survival with mediocre yields was good enough when San Francisco was a booming young city and Sonoma County was the “bread basket” of California producing much of the wheat, berries, prunes, walnuts, cherries, eggs, meat, dairy products, wine, and apples that were delivered by boat via the Petaluma River. It was the only game in town. George Jewell Sr., a long time apple farmer in the Sebastopol area, told me that he and many of his neighbors earned a very good living and raised a family on just 10 acres of apples at that time.

Starting in the 1920's, with the greatest activity right after World War II, many dams and reservoirs were built on the west coast to tame the wild flooding rivers, provide

electrical power, and irrigate millions of acres of desert land. The Sacramento and San Joaquin valleys in California were planted to every imaginable crop. In Oregon and Washington State the Willamette, Wenatchee, Columbia Basin, and Yakima valleys were all planted, including thousands of acres of apples and the yields were unheard of.

Yields today in Washington State apple growing regions and the Central Valley of California are commonly 35 to 40 tons per acre; the best orchards in Sebastopol produce 20 tons per acre dry-farmed and the county average is around 12 tons/acre. How could anybody compete given these numbers? Not only that but those irrigated areas have lower production costs because they grow precocious semi-dwarf trees that are smaller, easier to thin & harvest, and with early bearing they could plant the newest varieties capitalizing on the highest prices. The last time I visited Washington State I saw an orchard in the Columbia Basin Area that was previously growing alfalfa. It was in its 2<sup>nd</sup> season and had a good crop with projections of a full crop in the 3<sup>rd</sup> year. The trees were planted 4 ft. by 12 ft. (900 trees per acre); the variety was a highly colored strain of Fuji that was worth \$500 to \$1,000 per ton. Last year most of the Sebastopol area fruit was sold for processing at around \$60 to \$150 per ton.

Sebastopol area growers tried all kinds of things to remain competitive. The bottom line, however, is that they could never take advantage of the new technologies developed in the apple industry because most of them were based on irrigation and lots of water. Dry-farmed orchards planted to dwarfing rootstocks failed miserably, because the rootstocks that limited the tree's size also limited its ability to handle water stress. Drip irrigated orchards still did not have enough water to adequately irrigate more than just a few acres.

Sebastopol always had the advantage of an earlier season, getting the best prices on the market and the existing infrastructure of packing sheds and processing plants near large markets. Gravensteins were the first apples on the market and hundreds of rail carloads of iced fruit routinely went back East in July and August from the 25 apple packing houses along Main Street in Sebastopol. With cheap land, low cost abundant water, and huge yields, however, Washington State and the Central Valley of California flooded the market with apples. Later, other countries such as Chile, New Zealand, and South Africa all followed suit. Apple acreage declined from a high in the 1940's of over 15,000 acres to about 4,000 acres left today.

The Sebastopol apple industry went from a status of good profitability to mediocre prices and yields and reduced profits while things were not really bad enough to warrant wholesale changes. This eroded the industry little by little and provided an incentive for farmers to sell small portions of their orchards for home sites. Therefore, the land became divided up into small parcels.

Recycled Russian River water, that which has gone through the regional sewer system and purified to near drinking water standards, was never made available to the Sebastopol area because of inadequate reservoir sites and logistics of dealing with hundreds of small scale land owners. Using recycled water on agricultural lands is a

positive way to create a community alliance and mutual support system by benefiting agriculture economically and maintaining the land in agriculture as open space for an urban by-product “disposal” system. It truly is a valuable resource for both. Now it appears to be going to the geysers. Too bad! It could have been a boon to the agricultural economy of the west county area and allowed for the development of that competitive edge.

With irrigation water, Western Sonoma County would be prosperous berry, apple, cut flower, and vegetable farms instead of a mix of rural residential housing, dry farmed orchards, and very small-scale specialty crop farms with barely enough water. The orchard hillsides would be covered in permanent sprinkler irrigated grasses and other cover crops to limit soil erosion. The farmers would no longer need to cultivate to save water for the trees. Organic production would be easier with smaller trees that are treated by saturating a smaller volume of air with pest confusing pheromones and the ability to grow cover crops in the summer.

Sebastopol area apple orchards with adequate irrigation water could produce gross yields of \$20,000 per acre with dwarf trees and specialty varieties, that’s eight times the value of the current dry-farmed system. Growers could also sell their cull fruit for very low prices to the processors, just like they do in Washington to TreeTop, the company that just bought out Vacu Dry, because they would have already made their money on the fresh market fruit.

Luckily there is an alternative crop in the production of premium wine grapes that have the unique ability to produce good yields and fantastic quality with about ½ the water needed by apples, other tree crops, berries, and vegetables. Grapes should be a welcome site in Sebastopol because it will help maintain the agricultural integrity of the area and this crop appears to be economically viable for some time. In any event, water will continue to play a major role in the ability to grow anything competitively.

The primary lesson of the Sebastopol apple industry is that irrigation water for agriculture has a tremendous value. With the threat of diminishing water resources in the Russian River due to removal of the diversion from the Eel River for the fish and urbanization demanding even more, that resource is tapped out. Translating the lesson of Sebastopol apples to the rest of the county means that any grower who desires irrigation water should support the use of treated wastewater for agriculture and additional reservoir storage capacity to capture winter discharges for summertime use. Urbanites interested in the long-term sustainability of agriculture, as open space should support it.

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