

California Apple Production— Beginning the 21st Century

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California is the nation's leader in agricultural production. Leading the nation in the production of over 250 crops, it is a mecca for agriculture but, traditionally in the United States, California is not foremost in our minds as an apple-producing state. With the exception of the southern Atlantic states, apple production has historically remained in the northern-tiered states from Washington to New England. However, California apple production dates back to before 1800 when apples were grown in the Spanish missions. Early records indicate that Russian immigrants established orchards near Fort Ross, California, as early as 1820. During the late 1800s and early 1900s, the apple industry was established and began to flourish along the California coast. Here the climate was similar to that of New England due to the cold ocean currents. However, for nearly 100 years, this apple acreage remained static and basically was confined to the north and central coastal areas.

It was not until the introduction of the Granny Smith in the late 1970s and early 1980s that California apple production began to increase dramatically. With the further introduction of Fuji and Gala, California apple production by the end of the 1980s had reached nearly 325,000 tons per year. This was about 7% of the nation's apple crop and meant that California had moved from about the 20th position of the nation's leading apple states to number 4. Only Washington State (at 45% of the production), New York (at 10%) and Michigan (at 9%) had greater production. During this tremendous expansion of apple acreage in California, there was also a change in production areas from the coastal areas to the central valleys which

now have about 70% of the state's apple production. There was a change in the destination of this apple production. For nearly 100 years the majority of the apple production in California was processed and used for applesauce, dried apples or juice. With the advent of the new varieties, there was a major shift to the production of fresh or dessert-quality apples.

Also during this period of expansion, there was a major change in the markets for California apples. Until about 1970, the majority of the apples produced in California was also sold in California. With increasing populations, California apple producers found a ready and willing market to buy their produce. However, with the changes to fresh apples and increased production, California apples were exported to other states and to other countries (mainly the Pacific Rim). During the mid-1980s to the early 1990s, the rapidly expanding apple industry was supported by an equally rapidly expanding infrastructure of cold storages, packing facilities and marketing organizations to handle the increasing crop. By 1996, the State of California had 39,123 acres (15,833 ha) of apples in production with an annual fresh production of just under 9 million boxes.

California's unique climate produces an agricultural mecca surpassed by no other agriculture area in the United States. The central San Joaquin Valley, where the majority of the apple production occurs, can be defined as a desert, with rainfalls over most of the valley averaging 6 to 10 inches (144 to 254 mm) per year. With a long season and abundance of good quality irrigation water, apple varieties such as Fuji, Granny Smith, Gala and the recently introduced Pink Lady and Sundowner

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flourish. The major disadvantage is that the winter dormancy period is reduced. Most of the central valley is on the "borderline" of having enough winter chill to meet the dormancy requirements for the apple tree. However, a unique meteorological feature of the San Joaquin Valley is the seasonal winter fogs that occur during the months of December, January and February. These heavy, dense fogs prevent the

tree from heating even though ambient temperature remains relatively high. Evaporative cooling, coupled with the blocking of direct radiation from the sun, tends to keep the tree in an artificial dormancy that is quite effective.

Associated with these problems of marginal dormancy is a long bloom period. This causes problems with chemical thinning and with the determination of maturity. Bloom periods in most California apple-producing regions of the San Joaquin Valley can be extended for as long as a month. This is not necessarily true for the cooler coastal climates and for the higher elevations. In general, the California climate is quite conducive to growing a high quality apple. Most importantly, however, this wonderful climate is also attractive for a multitude of other crops, which gives the California agricultural producer many choices when deciding on potential crops. In other fruit producing regions of the United States where these choices do not exist, apple growers tend to stay apple

growers because the crop and the climate dictate. Californians, on the other hand, have the unique option to change quickly to almost any crop they decide would be more profitable. This has taken its toll on apple production in California due to increased world production and static per capita consumption of apples.

The future of the California apple industry is clouded at best. It is painfully evident that apple acreage is being replaced with more profitable crops. Large and small apple blocks are disappearing throughout the San Joaquin Valley. From a production high in 1996 and 1997 of nearly 8.7 million boxes to an estimated crop of less than 7 million in 2000, the industry is failing to hold its own in the highly competitive international apple business.

There is a common saying in California agriculture that states: "Whatever California can do, they will over-do." This may be true for most agricultural crops grown in California but, in the case of apple production,

the problem does not lie in overproduction from within the state but with the competition from other states and countries in our global economy. The "California farmer" is a very resilient animal and it must be remembered that his expertise in apple production developed in a short period of time, bringing the state from 20th to 4th in national production in less than 10 years. This factor should not be discounted in the future should the need arise for high-quality, long-season apples.

Those growers who remain in production during the tough economic times probably will be rewarded as the international apple business progresses through the throes of market adjustment to overproduction and lack of consumption. Plus, the strong incentive of over 32 million "legal" mouths to feed within the state keeps the fire alive and the grower forever hoping that "next year will be a better year" and the next century will be a better century.