

of soil and of climate, it requiring the one rich and the other temperate and free from severe frosts. Its successful cultivation is more satisfactory proof than the most careful register of the thermometer, and is comprehended by the educated as well as by the uneducated. This noble fruit of the most beautiful tree known grows to perfection wherever planted—in the valleys of the Coast Range, throughout the Sacramento Valley, and in the foot-hills of the Sierra Nevada. Early in the decade of '50, a gentleman at Bidwell's Bar, a mining town of Butte County, planted an orange seed as an experiment. From it a tree grew, which, to the surprise of all, flourished, and within ten years after became a source of revenue to its thoughtful and careful owner. This town is in the foot-hills of the Sierra Nevada, and in latitude 39° 30'. Farther north, in the Sacramento Valley, also in Napa and Sonoma, oranges are grown, and always in the open air. In the gardens of Marysville, Sacramento, Stockton, Folsom and other cities, is seen this highly ornamental tree, with its dark green foliage, from which peers in beautiful contrast the golden fruit, most attractive to the eye and profitable to the possessor. There is no limit to the production of this desirable fruit, and the great amount consumed, not only where raised, but throughout the United States, promises a market as extensive as our capacity to produce. The oranges of Los Angeles, for several seasons have found a ready market in San Francisco, and are so superior to those from the Pacific Islands that the latter only find purchasers at reduced rates. A single tree, eighty years old, in Los Angeles County, has produced in a single year upward of \$1,000 worth of oranges. The Pacific Railroad opens an unlimited market for this fruit, which can be safely transported, and invites the farmer or horticulturist to engage in its production. It may be said that the soil and climate in which oranges grow to such perfection as in California are capable of producing anything. The pears of California have also attained a wide celebrity, and are, with other perishable fruits, exported largely to the states of the east. By some it is asserted that apples and peaches, although beautiful to the eye, are devoid of the flavor of those of choice localities in the east, but this is contradicted by experienced pomologists who have made careful tests. With choice selections and careful culture all fruits in this state are as superior in quality to those of other sections of the Union as they are in size and appearance. There is scarcely a limit to the range of varieties that may be successfully grown, even many of the fruits of the extreme tropics, as bananas, are growing in Fresno, and coconut trees of three and four years growth flourish at San Jose and in the Golden Gate Park at San Francisco. The delicious strawberry is found in the markets at almost any season of the year, although in the Spring months the yield is most prolific. Every berry, from bush or vine, known in horticulture, here finds its home, and improves in its quality. To give the list, statistics of production, and description of varieties, would fill a volume. Grapes enter largest in the arrays of figures, and of this class the product of California equals, if it does not surpass, that of any other section of the globe.

The disposal of the vast quantities of fruit produced is an important problem, and the doubt of its favorable solution has retarded the progress and care of culture. The transcontinental railroad affords the opportunity to send to the east that which is grown convenient to the line, and a profitable business has arisen. Cars are prepared for the purpose, and a system for packing and care adopted, by which the fruit is retained in good condition. The cost of transit to New York is very great, being about \$1,200 to New York for a single car load, consisting of from 350 to 400 boxes of fruit. The many car loads going eastward during the season indicate that the profits are encouraging.

Another means of disposing of the fruit is in drying; and for this, processes have been invented by Messrs. Alden, Cassidy and others, which desiccates it in a few hours fit for packing for commerce. By means of an endless chain of light shelves, ascending through a column of heated air, the fruit is dried in superior condition, retaining virtues and a freshness that are destroyed by the time and many mishaps of the old customs. At the Fairs of 1874 raisins, prunes, apples, currants, potatoes, pears and many other articles prepared by the Alden process were exhibited, which appeared superior to anything heretofore shown, and demonstrated the practicability of thus preserving and rendering marketable our perishable products. An extensive and exceedingly profitable field is thus opened for California fruits. At present large quantities of raisins and dried prunes are imported from Europe, which may now be supplied by home production, and we may also supply in great part the entire Union. Grapes or plums, selling at from one to four cents per pound, when converted into raisins or prunes, losing two-thirds of their weight, are raised in value from five to twenty fold.

WINE AND BRANDY.—These are the product of the grape, and constitute one of the great staples of California. The limit of production, or localities best suited for the vine, can be scarcely pointed out. From the plains of the extreme south to the mountain-sides and valleys of the north, at an elevation of 4,000 feet, the grape is equally at home, though changing its qualities with its change of location. The richest soil by the river-side, as well as the arid and gravelly hills, produce grapes of the finest quality. A vast area of mountain land, too dry for growing grain, is well adapted for the vine, and the wine made from grapes grown in such places is stronger than that grown in the moist and more fertile soil of the valleys. The vine was planted in California by the first Missionaries, a hundred years ago, and has borne fruit without the loss of a single year ever since. The Mission grape is the most cultivated, but many varieties of recent import are supplanting it, as being more marketable for the table, and for drying into raisins. The character and quality of wine appears to be as greatly influenced by the soil and climatic conditions of the locality as by the grape from which it is made. This has been particularly remarked in Europe; so in every quarter of California many different brands are rising into celebrity made from the same original species of grape. Even at this early day in our history of wine-making, the list of wines is very formidable, and what is gratifying is that the quality, if not the quantity, is rapidly improving. In making wine, as in other efforts in developing our resources, the knowledge obtained in other countries was of little avail, repeated losses, following experiment, leading the way to success. And still improvement continues, giving the assurance that at no distant day California wines will take the precedence over all others.

From several causes, among which were Federal taxation, inexperience in manufacture, and wines of unaccustomed tastes, the planting of vineyards and making of wine received a check, and the statistical figures have remained about the same for several years past. The general estimate is that there are some 30,000,000 vines growing in California, from which about the same number of gallons of wine might be made, but the demand for eating and drying the grapes is greater than for wine, and only some 6,000,000 gallons are manufactured annually, though by some estimated at 10,000,000 gallons. Los Angeles is the oldest and the leading county in viniculture, producing over 1,500,000 gallons, and Sonoma ranks second in the list, manufacturing upward of 600,000 gallons. From Tehama in the north comes the well-known Gerke wine, from San Mateo the Golden, and from San Bernardino in the south the favorite Cucamongo. From El Dorado, Placer, Amador and others of the old mining counties, come wines and brandies of fine quality, and as the soil of the mountains is proving most favorable for grape-growing, as well as for other fruit, it is probable that in the future the wines of the Sierra will rival, if not surpass, in quality and quantity those of the great valleys.

The manufacture of brandy follows wine-making, the annual product being from 250,000 to 300,000 gallons. In this no brands have yet attained celebrity, the general character being crude and fiery. These defects, however, will probably be remedied by experience and as the liquors acquire age. The strong wines of the mountains appear most favorable for distilling, and as our wine and brandy-makers become experienced, California brandy may rival the choicest descriptions of France.

Champagne is made in large quantities, some few brands having achieved a reputation for quality al-