

less, and from that rate to \$100 per acre for farming land near the large towns. Of the large amount claimed or owned by private individuals, there were, according to the Report of the State Surveyor-General for the year 1873, only 4,843,532 acres enclosed, and but 2,477,012 under cultivation. Of these 1,739,668 were cultivated in wheat, producing 26,089,667 bushels.

The lands granted to the different railroad companies as subsidies in aid of construction comprise several thousand square miles, of which large quantities have been sold at prices averaging about five dollars per acre. These lands are sold on a credit of five years; a payment of twenty per cent. being made at the time of purchase, with interest on all sums remaining unpaid. The railroad companies claim the policy of selling their agricultural lands at low rates, on easy terms and in limited quantities to those who will cultivate the soil and who will own the land they cultivate.

From the amount and quality of land presented as agricultural, a faint estimate can be made of the population the State will sustain. With reclamation of the low lands and irrigation of the dry, we have shown the products exceed that of almost any known country. Add to these the manufacturing facilities afforded by the rapidly falling streams of the mountains or by the abundance of cheap coal found and developing, and to these add the wealth of minerals never known before, and then the grandest forests humanity ever beheld, and none can conceive the wealth that may be produced or the myriads of people that may be maintained.

WHEAT.—The leading agricultural product of the State, as well as of all countries capable of the production, is wheat, the staff of life and the ancient basis of values. The California farmer having learned that the summer-cracked soil of the great valleys would produce wheat in greater quantities than he had been accustomed to gather on the prairies of the West, and that the long droughts which he had thought precluded cultivation only perfected his grain and insured a safe harvest, has turned his chief attention to the raising of this cereal until the crop materially affects the markets of the world. In the crop year ending June 30th, 1873, there were produced 12,675,470 centals of wheat, from 2,063,120 acres, and in 1874, 19,891,800 centals from 2,490,700 acres, a general average of about fourteen bushels per acre. The average was much reduced by the drought which affected the west side of the San Joaquin Valley, where large tracts had been sown. Many farms reported a yield of forty-five, fifty, and as high as sixty bushels per acre, the larger farms generally a less rate than the small ones. The counties producing over a million centals were: Colusa, 1,700,000; Santa Clara, 1,360,000; Monterey, 1,632,000; San Joaquin, 2,200,000; Stanislaus, 3,220,000, and Merced, 2,400,000. This royal grain is grown in every section of the State, and at every altitude, from San Diego at the south, to Siskiyou at the north, and from the sea coast to the high plateaus of the Sierra Nevada. Many of the great farms cover from ten to forty thousand acres, and in the great valleys of the Sacramento, San Joaquin and Salinas the traveler may pass for miles and miles, almost a day's journey, through a continuous wheat field, unobstructed and unguarded by fence, the growing grain spreading to the horizon like a broad prairie in its native wildness. A single farm on the bank of the Sacramento River, of 45,000 acres, produced some 30,000 tons, or at the rate of twenty-five bushels per acre. To take this crop of a single farm to market at San Francisco would require the constant services of ten steamers, making a trip in ten days, each towing a barge of 300 tons, for a period of one hundred days, and in sending it to England, would dispatch a ship of a thousand tons each day for a whole month. The amount of the whole crop of the State that can be spared to export is, placed in round numbers, at 600,000 tons, leaving 200,000 tons for home consumption and seed. To illustrate the magnitude of this a calculator has estimated that if it were taken on carts overland to New York, one ton to each cart, it would form a close column with one end entering New York before the rear had left San Francisco. This imaginary train is surely an imposing one, and would rise to mock those who a few years since declared the great valleys but sun-burnt deserts, and the State unfitted for self-support. The usual market for wheat is Great Britain, where California, from its superior quality and dryness, always commands a ready sale. The rates of freight vary from \$17 to \$25 per ton, and the price in San Francisco from \$1.60 to \$2.25 per cental, the first being about the rate for 1874.

The production of this grain has greatly increased during the past five years. In 1865, the product was 11,579,127 bushels, and the average twenty-four bushels per acre. The prices then were from \$3 to \$5 per cental, two preceding years of great drought having nearly exhausted the home supply of breadstuffs. Then California was not an exporter. In the subsequent years of 1867 and 1868, the price exceeded \$2.50 per cental, which greatly encouraged the production. But the low price of \$1.50, in 1869, did not discourage the farmer, and a still greater breadth was sown in 1870. The extension of the railroads through the wheat-growing districts has given an impetus to the business, and a better prospect for profits in distant localities. With the cost of cultivating and harvesting an acre of nineteen bushels, or 1,140 pounds, at \$16, and the price one and three-fourths cents per pound, or \$19.95, a profit of \$3.95 per acre is left the farmer. The cost of production is divided as follows: Plowing, sowing and harvesting, \$8.50; threshing, \$1.50; sacks, \$1; hauling, freight, etc., \$3.50; interest or rent, \$1.50.

The wheat for shipment abroad is freighted to San Francisco, Vallejito, or Oakland, in small vessels or by railroad, and at those several points is taken on board ship. From far up the Sacramento or San Joaquin, it is brought in barges towed by small steamers, and the cars bring it from points along the line of the railroads. An elevator for raising and loading grain in bulk was constructed at Vallejito, but the system of shipping grain in sacks is considered the best, and is therefore adhered to.

The usual varieties cultivated are the Chilean, Sonora Club and Australian, and the distinction of winter and spring wheat is not known. The sowing is best made in November and December, in order to be benefitted by all the rains of the winter; but good crops are often obtained when the seeding is made in February and March, if it should happen that rains fall in considerable quantity in April and May. Harvest begins in June, and is done by reaper or header machines, drawn by horses, and the threshing is by machinery often driven by steam. The grain is received in sacks, and is stored in the field, by the railroad stations, or by the river landings, where it awaits a market or transportation. Stacks and barns, in which to store the crop to await the toilsome process of the flail, during the long and frozen winter, are unknown in the sunny clime of California. The golden grain can safely remain in the field, either in the straw or in the sack, improving in the dry atmosphere until the rains of October or November, during which the farmer has had ample time to transport it to market or the great warehouses by tide-water, where at any time the ships of commerce may take it on board for a distant port. This dried and hard wheat is preferred in all markets to any other, as it withstands without damage the long voyage through the tropics, where damp grain would heat and sweat. It is, moreover, strong in nutritious matter, and requires the addition of much water when prepared for use, thus giving the advantage of increased weight to the consumer.

BARLEY.—This cereal ranks next to wheat in quantity of production and aggregate value. It was in great demand in the early days of the State for feed for horses, and for a number of years constituted the leading product of the farmer. Being regarded as a hardy plant, it was thought to be the only grain that could be successfully raised in such a climate as California. Growing finely and producing a perfect kernel, it became a favorite article with the farmer, and nearly all the grain fields of the State were devoted to it. At last, in about 1857-8, the product became so great the markets were overstocked, and barley sold at from fifty cents to \$1 per cental. This low rate admonished the farmer that he must vary his crop, and wheat, oats and other grains were essayed. Success attended the venture, and thus barley