

is the honored pioneer of the cereals of California. This grows on lands not favorable to other grains' and as the seed is not so enclosed in the head as wheat, more falls in harvesting, thus seeding the ground for the following year. The "volunteer" crops from such sowing are often better than the first, and give an easy profit to the farmer. Five and six volunteer crops have been known to succeed each other, but usually in the third year the field is so choked with weeds and chaff as to render the crop valueless except for hay. The yield of barley is often as high as forty bushels per acre, but the report of the Surveyor-General shows the crop for 1889 to have averaged twenty bushels per acre. There were then 362,839 acres sown, and the product was 7,331,333 bushels. In the year 1873 there were 451,000 acres sown and 8,105,194 bushels harvested, and in 1874, 509,200 acres and 11,972,400 bushels. The price of this grain during some years has exceeded that of wheat, so prone have farmers been to abandon one class of products and concentrate upon another. Lately the price has but little exceeded \$1 per cental, being from \$1 to \$1.10; but this will give an average profit of \$5 to \$7 per acre. The barley of California, like the wheat, is a superior article, and it has been successfully exported to the East and England, where it was used for making beer. Its great superiority has created such a market that California barley is enabled to pay railroad transportation across the continent. This grain may be planted later than wheat, as it grows and matures rapidly. The manner of harvesting, threshing and sacking is the same as wheat, but barley finds a home market rather than seeking a foreign one. It is used throughout the Pacific Coast as food for horses, to the almost exclusion of oats, and is also converted into malt for making beer.

OATS.—In most countries oats constitute the principal grain food for horses, but in California barley has been substituted. Not only is this cereal the delicate food for horses, but in Scotland and on the continent of Europe it is highly regarded for its nutritious and strengthening qualities as a food for man. The cultivation of this valuable grain is comparatively neglected, and for several years the acreage and yield has fallen off. In 1889 we recorded a product of 2,568,759 bushels from 72,034 acres, being an average of thirty-two bushels per acre. In 1872 we find 83,056 acres and 2,164,047 bushels, and in 1873 it had fallen to 61,967 acres and 1,643,994 bushels, an average of twenty-six and a half bushels per acre. The usual market price for oats ranges from \$1.45 to \$1.65 per cental. This beautifully growing grain is a "native and to the manor born," the hills and plains being covered with it in a wild state, growing most luxuriantly. This indigenous grass is largely cut for hay, for which it is well adapted. To observe the countless thousands of acres of this wild grain waving in the wind when the virgin soil of the State, was untouched by the plow, was one of the pleasantest sights that greeted the eye of the pioneer, and was convincing to every sensible observer of the capacity of the country for the production of every other species of grain. It has lately been demonstrated that by careful cultivation the native wild oat can be transformed into a plump and heavy seed, superior and more hardy than any other species of that grain. This is a grand discovery, and will save from extirpation this fine native plant.

Oats are grown successfully in this State, and, as with other grains, exceed in weight the standard established in the East, weighing here usually about forty pounds per bushel. As with all other grain in California, it is sold and reckoned by the cental, or hundred pounds. This grain is grown throughout the State, and is planted and harvested as wheat and barley.

CORN.—The climate of California being warm and the soil rich, it would naturally be supposed that corn would be the most largely producing grain, but such is not the fact. Referring again to the Surveyor-General's Report, we see that 38,025 acres were cultivated in 1873, and 1,307,814 bushels produced an average of near thirty-five bushels per acre. In the great corn-growing States of Indiana, Kentucky and others of the Mississippi Valley, from forty to one hundred bushels are produced, showing that California is far behind those States in that grain. It is gratifying, however, to know that the grains which are raised are preferable for breadstuffs, equal as food for stock, and are produced with less manual labor; and, besides that, the luscious grapes of our vineyards furnish to the bibulous a pleasanter beverage than corn whiskey.

The fact is now generally claimed that this cereal is grown with greater certainty than formerly, and the product is increasing. There are several localities where corn is grown with great success. These are in the vicinity of Chico, in Russian River Valley, and at El Monte, in Los Angeles County. The worm is the great enemy of the corn-grower, but the localities mentioned are more exempt from its ravages than elsewhere. Quite large quantities are grown in the vicinity of cities, where it is sold green in the markets, at high prices. The usual price for shelled corn is about \$1.75 per cental.

RYE.—The rye crop of California is among the least of the cereals, simply, it appears, because it has not become the fashion to cultivate it. This grain grows to great perfection, particularly in the mountainous and colder sections of the State. Upon the eastern slopes of the Sierra the grain grows to a size resembling the plump berry of wheat, and is rich and nutritious. This is one of the best of cereals for domestic use, ranking next to wheat, and is raised where the other will not yield a remunerative crop. If it is desired to find a substitute for corn for distillation, rye can well supply the place. The opportunities for the distiller in this connection are very great. The fine quality of the grain, the cheapness of the land where grown, and the certainty of a crop, are inducements to its cultivation and utilization. The Reports of the Surveyor-General give no basis for an estimate of the average product per acre, as much of the rye, as well as other grains, is cut for hay; therefore we see reported many acres of rye cultivated which return barely enough of grain to seed the ground for another crop. The official report for 1873 shows a product of 39,336 bushels, and 2,533 acres cultivated. The crop of 1874 is much larger. Rye usually sells at \$1.00 to \$1.10 per cental.

BUCKWHEAT.—This is usually a very successful crop, although the grain is grown only for local consumption, and the market is easily overstocked. The product in 1873 is officially reported at 13,757 bushels, from 518 acres, or an average of twenty-six bushels per acre. Buckwheat flour sells at \$3.50 per hundred lbs.

BEANS.—The favorite food of the miner and the toiler in the country has, since the days of the pioneer, been the edible whose name heads this paragraph. Frijoles and tortillas were the mainstay of the country in the days of '49. Then they were imported in large quantities from Peru and Chili and around Cape Horn. Beans are now cultivated to supply the home demand and for export. Upward of 200,000 bushels are raised annually, the average being about twenty-seven bushels per acre, and the price about \$1.70 per one hundred lbs.

PEAS.—This plant is cultivated successfully in every section of the State, sufficient to supply all demands, the annual product being about 100,000 bushels. As peas are usually consumed when green, the estimate of production is difficult to make with any degree of accuracy.

PEANUTS are produced in large quantities on the sandy river bottoms, the product being about 200,000 bushels per annum. This properly belongs to the tubers, as it grows beneath the ground. It is very prolific, producing from 1,000 to 2,000 pounds per acre. California peanuts have become popular in other States, and quite large quantities are exported.

CASTOR BEAN.—The castor bean, from which the castor oil of commerce is obtained, is indigenous to the soil of California, and therefore its cultivation was naturally suggested. In the warm valleys it grows luxuriantly, and its product is becoming an important item in agricultural statistics. The product in 1873