

years to do it, but the tide of immigration and settlement has now been turned strongly to the San Joaquin and Sacramento valleys, and millions of eastern capital are now being invested in these lands and in water to irrigate them.

THE SACRAMENTO VALLEY

We are now to look a little more in detail at the farm lands and conditions which invite the settler. Begin with the Sacramento Valley, the most northern end of the Great Valley, and the smaller. It has an area of about 4,600 square miles, and an acreage of 2,661,120 in the level floor of the valley. It is drained by the Sacramento River, and has substantially the climate of Southern California. Its chief city is Sacramento, the capital of the State.

A SURPRISING

At the same altitude the climate is practically the same in the north as in the south of the State; San Diego in the extreme south, and the country 650 miles north as the crow flies, produce

identically the same crops. Do not, therefore, stumble over the word "northern," as if it meant cold. It is here only a geographical term, and has no climatic significance whatever. You can look up out of orange groves to snowy mountains from end to end of the State, and you can find magnolias, camellias and other tropical flowers blossoming out-of-doors, and rare shrubs and plants growing in the dooryards, and palmettos on the streets in many parts of this valley.

There is no country in the world that presents such an anomaly outside of California. It shows a loop of the isothermal lines, or lines of equal temperature, reaching from the extreme south to the head of the Sacramento Valley. If you doubt that surprising statement, the orange groves in this valley are here to attest it; the fig, the olive, the lemon and the date-palm flourish here as in the South. Indeed, the date-palm ripens its fruit year by year at one point in this valley, and investigation shows no other place in the world where the date ripens its fruit so far north.

Settle this in your mind at the very outset, that the same general climatic conditions exist in this valley as are found in central and Southern California. This is a country not subject to the general law, and the proof of it is the successful culture of citrus fruits along the whole eastern border of the valley.

These are a great river providing water transportation and a comprehensive system of drainage; tributary forests and mines of great value; 26,000 square miles of territory lying between the summits of the two mountain ranges all rich in natural resources; fertile lands, mountain forests of sugar pine, abundant water, valuable minerals—gold, silver, copper, lime and clay, mineral oil and asbestos—and these splendid resources all accessible to the very summit of the Sierra.

In the valley proper the lands are free from brush or stone, are level and ready for the plow. There is no timber in the lowlands save the growth of willow and cottonwood, but the lands on the east side have scattered groves of oak, giving a park-like aspect to the landscape. The rolling hill-lands have scattered growths of scrub oak and shrubs of several kinds. The great body of agricultural land of the valley is not overflowed; some of the river-bottoms are exposed to flood-waters, but save at long intervals and in the lower valley, are secure behind levees.

That it was a land of unusual attraction was evidenced at an early day by the location of great ranches, and in our day by the selection, by the Government, of grounds for a Plant Introduction Garden, and by the State for a University Farm as a feature of the State Agricultural College. But the available lands for farms show for themselves, as

they are not part of a wilderness; they lie side by side with improved lands, and in the midst of established communities. Towns may be farther apart than in the older regions of the East, but they are in all the valley, with churches, schools, telephones, trolley lines and regular trains on the main routes of the Southern Pacific, which cover both sides of the valley.

Much of the valley was once an arm of the sea, and all of it is sedimentary. Generally the soil has great depth, and is very rich and productive. That it is not all equally good need not be said. It never is in any country. It is good in spots. But the spots here, like everything else, are large. Good soils, rich soils, soils of almost incredible depth, are the rule. The valley was laid out on a generous scale, and some waste land was thrown in for good measure, but it is simple truth to say that continuous bodies of the best farm lands to be found in any country here embrace whole counties, and the waste land is relatively small.

The prevalent soils are loams; there is some adobe—this being a Spanish-Californian term for a heavy clay soil. As a rule adobe soils are rich and durable, and the black adobe of the east side is easily tilled. The new settler will look doubtfully at some of the reddish tinted soils of the east side, and at the red foothill soil. But these soils are very fertile and well drained, and where cut into by streams the reddish plain loam is to be seen from six to ten feet deep and then underlaid by gravelly sub-strata.

On the west side of the river are wide areas of sedimentary soils, and in the lower end of the valley these are of pre-eminent fertility. They are a mixture of soil material of volcanic origin from the Coast Range and of the finest natural sediments of the streams and the river itself.

But we need not point out the best soil areas. The average farmer knows when he sees them, and here as usual the closest settlements occupy the regions of fertile soil. But they do not "possess the land"; there is room for 10,000 more farms, and a promise of prosperity in every acre.

The chief products are grains, hay and fruits, stock raising and the dairy. Many table-grapes are grown. Near the river are many peach orchards, the industry being so large that the owners are locally known as "peachers." Oranges are extensively grown about Sacramento City, around Penryn, Oroville, Palermo and Corning. Sugarbeets are a valuable farm product, maturing early, free from frost and from rain when storing up saccharine, yielding heavily and leaving the land in good condition if properly rotated. Rice is successfully grown, and will become a staple crop. It is very profitable.

But products need not be dwelt upon. "Everything grows." This is almost literally true, and this is in itself the most persuasive fact we could present. It is simply true that "as an agricultural state California stands alone," and the heart of its agriculture is here in this wide valley.

RAINFALL AND IRRIGATION

The rainfall ranges from 18 inches in the lower valley to 34 in the upper. Now, if you think of California as a "dry" country, and if you "shy" at irrigation, this greater rainfall may please you. The winter rainfall is sufficient, with care and thorough cultivation, to mature many crops, and it is only fair to say that the natural conditions favor success rather than failure for a certain narrow range of farm life.

Summer rains are not in the calendar. This is an advantage to the hay and grain farmer and to the fruit-grower, but it is an obstacle in the way of diversified crop production. This is so clearly the case that the irrigated area is everywhere spreading, Small farming, that is, intensive culture, is wholly dependent upon irrigation.

