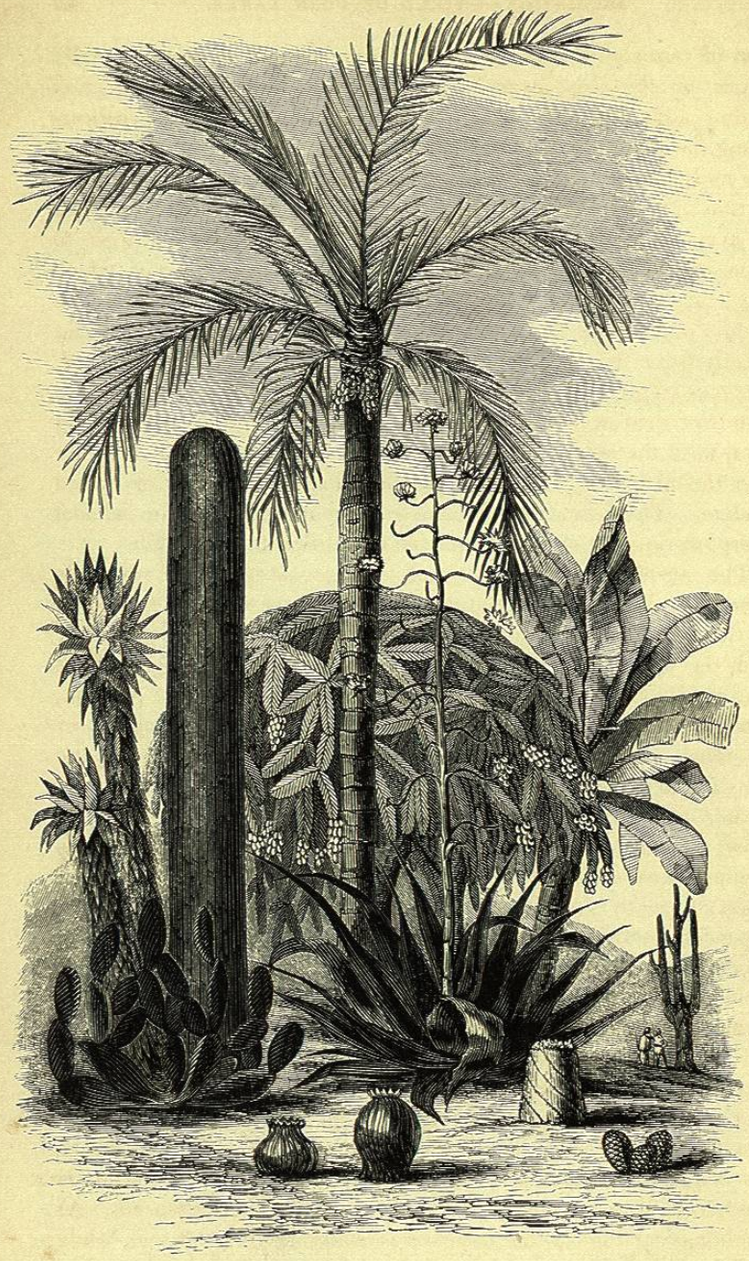
CHAPTER IV.

Agriculture — Agricultural Products

AGRICULTURE — DRY AND RAINY SEASONS. — IRRIGATION — YIELD OF CORN LANDS. — COLONIAL RESTRICTIONS. — COLONIAL DEPENDENCE — BAD INTERCOMMUNICATION — ARRIEROS. — CORN LANDS — DIFFERENT KINDS OF CORN IN MEXICO — MODE OF CULTIVATION — PRODUCTION — VARIOUS USES OF CORN. — BANANA — MAINOC — RICE. — THE OLIVE — VINE — CHILE PEPPER — TOMATO — FRIJOL — MAGUEY. — MAGUEY ESTATES. — MAKING PULQUE. — ALOES — CACTI.

Sun, seasons, temperature, soils and moisture are the chief elements of agricultural success or failure, according as they are beneficially harmonized or unfortunately disunited. In our geological and geographical descriptions we have already indicated the rapid changes of temperature in Mexico experienced by rising gradually from the sea shore to the summit of the table land, and passing through the *tierras calientes*, *templadas* and *frias*. This is the origin of the variety of Mexican productions and the reason why the pine and the palm are encountered upon the same parallel of latitude; but the *fertility* of Mexico is very much governed by the moisture with which it is annually favored, and for which it is obliged to rely chiefly on the clouds. The Mexicans are not accustomed to separate the year as we do into the four seasons of spring, summer, autumn and winter, for the variation of temperature scarcely authorizes such marked distinctions of climate; yet they divide the twelve months into two grand divisions of *El Estio* — or the dry season, and *La Estacion de las aguas*, or the rainy season. The latter commences about May and lasts usually four months, whilst the dry season comprises the remainder of the year.

The curving shores of Mexico along the gulf and interior highlands gather and hem in an immense body of vapor, which is carried on by the trade winds and condensed against the cold and lofty inland mountain peaks which rise above the limit of perpetual congealation. This occurs during the dry season whilst the sun is at the south. But when the power of that luminary increases as it advances northward, and until it has long turned back again on its southern course, these vapors are dissolved by the hot intertropical air and descend, almost daily, in fertilizing showers. The forma



GROUP OF PLANTS.

tion of rain clouds and the precipitation of their moisture usually begin on the coast near Vera Cruz, and the course of the rain storms advances from east to west, inundating the *tierra caliente* along the eastern coast fifteen or twenty days before the table lands are moistened. There have been seasons in which it did not begin to rain until a month or two after the usual period. In 1802 such an event occurred; and, again in 1826, the vapors did not begin to form and descend until the end of July, in consequence of which the corn was totally lost. If the rains are withheld beyond the middle of June, all the cereal products are either destroyed or suffer greatly from the drought. The power of the sun, by that time, becomes so great that the ground is scorched and the air filled with clouds of dust which seem to gather and concentrate the blazing rays, until the falling particles surround or fall upon the traveller over the plains as if he were passing through a shower of heated cinders. The heat, and the masses of burning dust, are almost overpowering not only to vegetable but almost to animal life.

The agricultural prosperity of Mexico, accordingly, depends either largely upon the relative duration of these two seasons, or on the power of the landed proprietors to supply the loss of water from the clouds, by IRRIGATION derived from the rivers or slender streams that meander through the interior of Mexico. Seldom, indeed, is the Mexican planter or farmer obliged to complain of too much moisture. Between the parallels of 24° and 30° the rains are of shorter duration, and the intervals between the showers greater. But, fortunately, beyond the 26th°, a copious supply of snow, during the winter, compensates for the want of rain at the regular season. Irrigation, therefore, is universally resorted to, wherever there is an adequate supply of water, and large sums are expended by the possessors of the principal estates, in the construction of *acequias*, or canals; *presas*, dams or reservoirs; and *norias*, or water wheels, by which the refreshing element is forced up and distributed over the thirsty fields.

Such is a brief review and summary of the soil and seasons of Mexico. The average annual yield of the corn lands throughout Mexico is estimated at twenty-five bushels for one. In portions of the country, during favorable years, and where the irrigation is good, from sixty to eighty bushels for one have been produced. At Cholula, near Puebla, the increase is stated at forty for one, while at Zelaya, Salamanca, and Santiago, further north, from thirty-five to forty are produced on an average of years. In the valley of

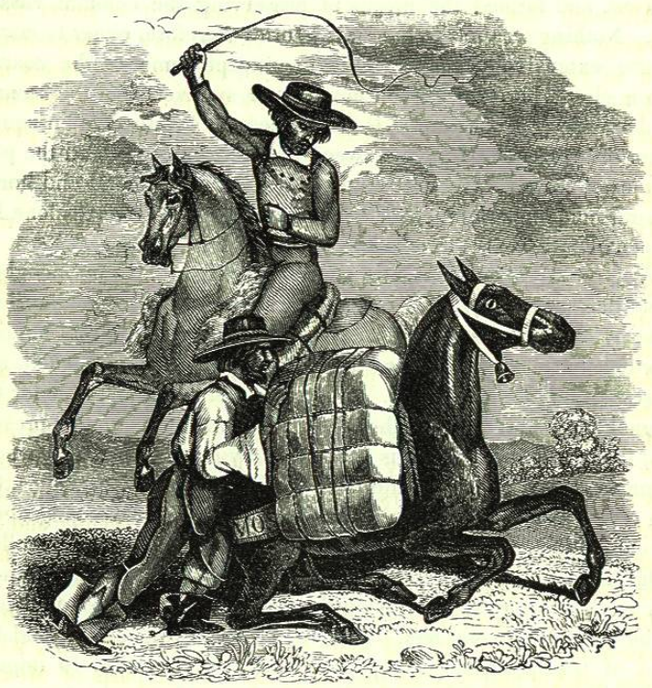
Mexico, proper, the yield is from eighteen to twenty; and even in the old possessions of California, it is set down at from fifteen to seventeen. The best writers consider, however, that notwithstanding the extraordinary fertility of their soil, the Mexicans do not produce in ratio of quantity, superior crops to the best agricultural portions of the United States.

The agricultural advantages of New Spain were early pointed out by some of the colonial authorities to the Spanish Home government; but the very fact of their existence seems to have alarmed the Court and to have originated those restrictive laws which, as we have shown in our historical narrative, so long ensured the dependence of the colony. The King, the Cabinets and the Council of the Indies united in believing that if the internal resources of the nation were developed, fostered, and placed upon a firm basis, the political as well as the industrial independence of America might naturally ensue; and accordingly, these authorities resolved at once to adopt the narrow system of restrictions which retained the essentially productive power in the hands of Spain. Zumarraga, the first bishop and second archbishop of Mexico, addressed urgent letters to the Emperor Charles V., exhibiting the agricultural value of the country, and solicited laborers, plants, seeds, cattle, and all the usual means for the development of Mexican resources. The *Bandos* published in the year 1524, by Cortéz, which are yet preserved in the Hospital of Jesus, in the capital, contain wise decrees for the encouragement of industry, and prove that the military life of the Conqueror had not made him forgetful of his early agricultural labors in the West Indies when he first emigrated from Spain. But the policy of Spain was constantly declared to be adverse to this wholesome and reasonable encouragement. When Luis de Velasco, the second of that name who was viceroy in New Spain, passed thence to the viceroyalty of Peru, he was instructed by the King and Council of the Indies to be careful not to "foster manufactures, nor to allow the cultivation of vines, inasmuch as there was already ample provision of these things and the commerce of the kingdom should not be impaired by such colonial products." At the same epoch, his successor in Mexico, the Conde de Monterey, was also required to be equally vigilant and restrictive in the region confided to his government. These orders, however, were not always faithfully complied with throughout such extended and sparse jurisdictions as those of Mexico or Peru; and accordingly in 1610, through the Marques de Montesclaros, who replaced the

Conde de Monterey in those colonies, the royal prohibitions were repeated, with the addition of the following emphatic language: — "Inasmuch as you understand perfectly, how much the observance of these rules is necessary for the *dependence* of the colonies upon the parent state, we charge and command you to see to their faithful execution." Wine and oil, two of the most important products of Spain, and two of the absolute necessaries of a Spaniard's life, wherever he may happen to live, where thus protected from competition, and formed the means of preserving the colonial vassalage. Nothing was left to the New World, therefore, either to manufacture extensively, or to cultivate, except some of the coarser cotton cloths, for ordinary garments, or a sufficiency of the *cerealia* for domestic consumption. It was necessary to preserve an equilibrium or a reasonable ratio between the supply of food and the production of the mines; and thus the common agricultural and horticultural home markets for the necessaries of life were alone left unencumbered for the Mexicans.

We are not aware that Spain encouraged, more than was absolutely demanded for political ends, a system of internal improvement by national roads, with lateral branches thridding and binding together all parts of the country. Highways were opened and horses and mules imported. But these were only suitable for the internal transportation of the country; and, even to the present day, the whole of Mexico is traversed by miserable roads, whose channels are often cut up into deep ravines by the unceasing attrition of caravans. The stubborn but useful mules, moving about the country in large bodies, under the guidance of Arrieros, follow each other in single file over the same path for centuries, and there is scarcely a highway in Mexico that is not worn by their footsteps to the depth of several feet. Bad roads, royal restrictions, and the want of transportation except by mules, all combined to impede rural industry, waste the people's time, destroy internal intercourse, and to force the consumption of agricultural products either upon the spot where they grew or in its immediate neighborhood. The independence of Mexico since 1824, has of course relieved the nation from the foreign restrictions upon her commerce; but the agricultural habits of the people were not to be changed by a constitution or industrial laws. Improved roads and improved modes of transportation have scarcely been attempted by the modern republicans. Constant revolutions have destroyed concert of action among the people in the different states through which the new highways would pass, at the same time that they have impaired

the unity of system or policy upon which the national government might have acted for the general improvement of internal communication or development of agricultural resources. Some of the best citizens have written and labored in behalf of national industry in all its usual or possible manifestations; but we fear that many years of profound peace must be ensured to Mexico before the farmer will be able to share in the blessings of commerce by means of exportation.



ARRIEROS AND MULES.

The great CORN LANDS of Mexico are those of Puebla; — the Bajio, which comprises portions of the state of Guanajuato, Queretero, Valladolid, Zacatecas, and Guadalajara, in the vicinity of the Rio Santiago; — the valley of Mexico, in the state of Mexico; — the valley of Poañas, in Durango; — and it is calculated that the cleared ground in these districts is capable of producing *cerealia* for a population five times greater than that of Mexico at present. Corn, in the states of Mexico and Puebla is worth two dollars the *fanega* of one hundred and fifty pounds; in Oajaca about one dollar for the same quantity. Its value is every where irregular, and

no general tariff of prices can be assigned to Mexican breadstuffs until some great national market shall be established or Mexico becomes an exporting country. Neighborhoods, at present establish prices.

MAIZE or CORN, is a gift from the New World to the Old, and is unquestionably the favorite food of the great mass of the inhabitants of our continent. In Mexico, every household is furnished with it abundantly, and all classes use it habitually.

Although this plant is a native of America it is never found growing wild in the republic. Single stocks may be occasionally seen in remote or uninhabited districts, but they are rarely met, and, in all likelihood, have been sown by the flocks of robber birds who ravage the Mexican *milpas* or corn fields during the ripening season.

The best cultivated varieties in Mexico, are:

1st. *Maiz de padus;* with small ears, of eight rows, and the most unimportant of all the varieties raised in the country.

2d. *Maiz manchado*, or *chiniesco;* a productive species with white, yellow and red grains; — sometimes also entirely blue, in which case, it is called *pinto*.

3d. *Maiz blanco;* a very productive kind, yielding a fine sweet meal.

4th. *Maiz amarillo;* this is sub-divided into: — 1st, *maiz amarillo grueso*, which is very generally cultivated and rarely yields less than two or three ears each, with from three to six hundred kernels or grains. 2d, *maiz amarillo pequeno*, is smaller and less stout; but in a fruitful soil its yield weighs from ten to fifteen hundred weight, more than the *grueso*.

5th. *Maiz cuarentino;* or quarentine corn; better known in Mexico under the name of *maiz tremes*, or, *olote colorado*, which ripens quickly and may be planted in the coldest parts of Mexico.

6th. *Maiz tardio*, or, *de riego;* the most productive of all varieties, and that which is cultivated around the city of Mexico, and in many moist regions. It sometimes yields five hundred per cent. on the quantity planted.

Maize succeeds best in Mexico in moist and warm climates; but it has the great advantage over the other cereal grains that it may be as successfully cultivated in this country in the *tierras calientes*, as in the *tierras frias*. Its highest limits here are from two to eight thousand feet above the level of the sea, and consequently the time required for ripening is different at different elevations. It varies from seven months to six weeks.