

XXII.

AGRICULTURE IN THE TORRID REGIONS.

Agriculture on the table-lands has its prescribed limits, according to the soil and climate. The European may easily fancy himself in his own country; the corn-fields, the meadows and market-gardens, even the orchards are those of the temperate zones. On crossing the mountain-ridges which encircle the plateaux, be it to the east or west, the whole physiognomy of the country assumes a decided tropical appearance; the heights are wooded; instead of the fine short Alpine grass, the plains are covered with taller grasses, the ground is overshadowed with creeping-plants and brushwood, and agriculture obtains produce of a very different kind. The estates of the east coast differ from those of the west coast. In the latter all the perennial plants require artificial irrigation, whilst the coast-lands of the Gulf, near the mountains, have rain throughout the whole year. Maize, frijoles (little black beans), tobacco, rice, cotton, and indigo are cultivated as summer-plants, that is to say at the commencement of the rainy season, and require no further, or very little extra irrigation; the sugar-cane, coffee, cocoa, vanilla, manioc, and the banana must have irrigable land on the west side, on the east side in few places only.

On the table-lands the soil must be ploughed for sowing, in the *tierra caliente* the plough is met with on the larger plantations only. The rancheros plant their summer-produce mostly in forest-land, where no plough can be employed. In the dry season, they hew down all the trees and bushes, chopping them up as small as possible; the wood is allowed to dry for some months, and is then set fire to. When the rain sets in, the grain is sown without the soil being turned up; with an iron-pointed stick, holes are bored in the ground, and the seed-corn cast in. Maize, beans, rice, cotton, etc. are sown in this manner, and the tobacco transplanted. In a few days the young seed shoots up, and with it innumerable weeds, which are easily removed. The cotton thrives only there where the winter-months are without rain, especially on the coasts of the southern and ocean on the west side of the Cordilleras to the height of 3000 feet. On the east side the winter in the neighbourhood of the mountains is too damp, the cotton is spoilt by dew and rain, in consequence of which it is planted in the hot coast-regions only. The districts of Tlacotalpan, Cuzamaloopan and Tustla, in the state of Vera Cruz, further, the east of Yucatan, produce the best cotton on the east side. The indolence of the inhabitants of the coast is wonderful; a few dozen bananas, a small field with manioc and maize afford nourishment without much labour: the coast rivers abound in excellent fish and turtle, and there are whole forests of palms tuba (palm-wine) and oil. The idle ranchero does not give himself the trouble to

ascend the palm-tree, in order to procure the ripe fruit; he cuts the tree down. The small cocoa-tree (*coquillo de aceite*) has so oily a fruit, that the kernel is fastened to the end of a stick, where it burns like a lamp. A small hollow is hewn in the trunk, which serves for some months to hold wine, and refills itself daily. This fermented juice, which is saccharine and therefore contains alcohol, tastes very differently to pulque; it has more resemblance to wine, effervesces like Champagne, and is the favorite Tuba of the west-coast.

The cotton is usually planted between the maize, when the latter is already three or four feet high, and freed from weeds. The plant remains small, until the maize harvest, when the shade is removed and the vegetation proceeds more vigorously. By breaking the tops and pressing it downwards, a creeping-plant is made of it, and it is affirmed to be more productive in this form. In the whole country only one sort is planted, called by the Americans, green-seed cotton or gulf cotton: it is long and fine, but is not the best of the sorts now grown.

The cultivation of the coffee-tree is new, and as yet so insignificant, that none is exported. At the foot of the mountain, from 2000 to 3000 feet above the sea, the coffee-tree thrives exceedingly well, producing a small, hard, very aromatic bean. For the small planter it is just the thing; he might grow a few hundred coffee-plants near his house, which would have the appearance of being surrounded by a friendly garden. Picking the ripe berries, cleaning and drying them, is the work of women and children, and is all the easier, as they continue to ripen from November till March, and the harvest can therefore be got in most leisurely. And yet very few cottages are found overshadowed by the dark-green foliage of the coffee-tree; in the neighbourhood of Cordova alone, most of the cottages of the natives are built in coffee-gardens, topped by orange, banana and mango-trees, which when in blossom (from February till April), when the dark branches seem to be covered with fragrant snow, present a magnificent appearance. Trees that are carefully attended to, produce annually an average of from a pound to a pound and a half of dry coffee, and the usual price at harvest-time is six dollars per hundredweight. On an American acre 1000 trees can be planted; one man can attend to 5000 trees (the harvest not included; it is therefore evidently an advantageous investment for the small planter.

It is otherwise with the cultivation of the sugar-cane, which requires buildings, machines, beasts of draught and burden, and consequently demands a greater amount of capital. At an elevation of 4000 feet, the coffee-tree still thrives; but the sugar-cane, except in favored localities, cannot be planted with advantage at a greater absolute height than 3000 feet. On the whole of the western slope of the plateaux, the East-Indian sugar-cane is planted with artificial irrigation. The great haciendas of the plains of Amilpas, in the districts of Cuernavaca, Cuautla and Tetecala supply the plateaux with most sugar and rum; the majority of these plantations (of which there are about 50) produce annually from 10,000 to 15,000 cwt. of white sugar, which is alone used in the country.

On the east side of the country the cane from the South-Sea islands is every-

there planted, the yellow as well as the striped, which becomes much longer than the East-Indian. It requires eighteen months to ripen, whilst the East-Indian is ripe in fourteen months; but the latter produces one, or at the utmost two harvests, the former three or four.

During the Spanish rule, the sugar production of Mexico was more important than at present; formerly great quantities were exported, and the court of Madrid was supplied from Cordova, in the state of Vera Cruz. In the marvets of Cadiz and Santander, the Mexican sugar was considered to be of the first quality. The distillation of rum was limited, the state having monopolized the sale. In the war of independence, the finest plantations, being the property of the Spaniards, were set fire to, or were deserted; and whatever is left for a year uncultivated in the teeming *tierra caliente*, becomes a forest. In the neighbourhood of Cordova alone, six and thirty haciendas were thus destroyed. At present scarcely enough is grown for home consumption, and the prices of raw sugar are as high as those of refined sugar in Europe.

Plantations of cocoa are met with in low, moist and hot districts only, where disease and tormenting insects render it impossible for any save the acclimatised natives to exist. Cocoa is planted only in the state of Tabasco, and in the south eastern part of Oajaca, in the district of Soconusco. The Mexican cocoa belongs to the finer sorts, that of Oajaca is even considered the best in the world. The cultivation of this tree is ancient, and was known before the time of the Aztecs; but during the Aztec rule it must have been far more considerable than at present, if we bear in mind the vast quantities of cocoa which the tributary peoples of the coast were obliged annually to forward to the capital. The larger plantations in Tabasco are managed by Creoles, but although there is no want of land, admirably adapted for the purpose, very few new plantations arise. The coast population is scattered and indolent; and the natives of more elevated regions flee from the scorching lowlands as from the plague. Even the most indigent cannot be induced to settle on the coast, though with the prospect of making a fortune.

Vanilla is cultivated also in hot districts only, and moreover exclusively in the state of Vera Cruz. The plant belongs to the family of the orchideæ, species *epidendrum*. It is a soft, succulent, thick-leaved plant, climbing tall trees, striking its roots into the bark, and receiving its nourishment chiefly from the air. The beautiful, snow-white blossom, with light green labellum has scarcely any smell, even the ripe capsule develops little aroma, which is in great measure produced by an artificial fermenting process. The ripe capsules are carefully wrapped in woollen cloths and placed in a box, which has been slightly warmed by a straw fire. During the heat of the day they are exposed to the sun, and on the approach of evening always wrapped up again. On rainy days, artificial heat must replace the sun, and this drying is done on thin bamboo-trays, which are suspended over coal-fires, and must constantly be swung backwards and forwards. If the pod dries unequally, and portions of it remain green, it must be wrapped up separately in a piece of flannel,

until the dark-brown colour is equally diffused. There is the same difficulty in keeping them; as the capsule may not become hard, lest the ethereal oil should be dissipated, and yet it spoils if it becomes mouldy indeed one single rotting pod will spoil a whole parcel, unless it be at once removed.

In a country where labour is at a premium, it is evident that work requiring such minute attention cannot be managed on a large scale. It is herefore the Indian and his family, who occupy themselves with the cultivation and preparation of vanilla. The plant grows wild in the forests of the coast (some species at an elevation of 3000 feet); but the finest sort is raised by the Indians of the Totonac tribe, who inhabit the districts of Papantla, Misantla, and Nautla. In young forests the brushwood is partially cleared, and then a slip of vanilla placed on the ground in some loose earth and tied with bast to the trunks of the trees. The harvest usually begins in the third year. But the Indian also seeks for the wild vanilla in the forest, and trains it, especially in the southern part of the state of Vera Cruz, in the districts of Tuxtla, Acayucan and Tlacotalpan. On the coasts of the southern ocean, there is much of the best species of vanilla in the forests; but there no one is acquainted with it, and it remains untouched.

Indigo is cultivated in the country, but only on some of the slopes towards the southern ocean. The climate is very favorable for it, and some species, which are rich in colouring matter, are brought forth spontaneously. The arrangements for extracting the dye are simple and inexpensive; and yet the cultivation of indigo is strangely neglected. Under the Spanish rule much indigo was planted, as the Spaniards bought it up at prices which afforded the planter a larger profit with small labour. That the old method of extracting the dye, that chemistry now plays a part in the world, that one must produce more, and at is unpractical a cheaper rate than hitherto, the planters have never found out; but as the merchant could no longer take their indigo at the former price, and they had no desire to render themselves acquainted with any other process, they preferred growing it no longer.

In Mexico every one smokes tobacco, men and boys, women and girls; one would therefore suppose that vast quantities were grown. This is not the case: the plant has been wholly withdrawn from private speculation, and the sale monopolized for the benefit of the state, because it always had been so during the time of the Spaniards, and it was deemed adviseable to retain it. The state is the sole vendor of tobacco and snuff, and has a sufficient supply grown in four or five districts of the state of Vera Cruz. In 1832 the monopoly was given up, but owing to endless financial difficulties again introduced by Santanna, and made over to farmers at a stipulated price. In was June and July the beds are prepared, the tobacco is transplanted from August till November, and from December till April the harvest is got in. The soil is carefully attended to, the young plant kept clear from weeds, and as soon as the buds begin to shew themselves, the tops are broken off. Not more than from eight to ten leaves are left on the plant without counting the sand-leaf, which is thrown away. Custom-house officers visit, the plantations, and see that no more

than the number agreed upon is planted, others guard the mountain-passes towards the table-land in order to prevent smuggling.

The soil is so productive, and the climate so favorable, that after stripping off the leaves, and cutting down the stalk to within some inches of the ground, fresh vigorous shoots appear, one or two of which are allowed to remain. They are soon as large as the mother-plant and afford a second, or even a third harvest. The leaves are hung up on bast strings, dried in the shade, and then sent to the chief depôts, where, when they have undergone fermentation, they are sorted, and tied up in bundles. The tobacco is then sent to the government factories in bales, where it is not weighed until two months afterwards. The price is high, and varies from 12 to 28 dollars per cwt.; it is paid for in ten monthly instalments.

Various kinds of tobacco are planted, mostly that with the short dingy yellow blossom, which has a very large strong leaf. But there is little doubt that the sorts would be more carefully selected, if the trade were not fettered by the monopoly. Most of the government planters enter into an arrangement with the small farmers and peasants, who have to grow a certain number of plants, on condition of handing over the harvest at a low figure — 6 to 8 dollars per cwt. These *aviados* receive something in advance, and their chief profit consists in securing the sand-leaf, and the greater part of the after-harvest, which they sell to the contrabandists. It is, indeed, allowed to export whatever remains; but it is attended with so many annoyances from the authorities, that it is never attempted. The many ships, which enter the Mexican harbours of the east coast with European manufactures, find no return-freight except gold and silver, cochineal, vanilla, a few drugs and goat-skins, all of which take up very little room in the ships (money is usually sent off in the English government-steamers); consequently they must either proceed to Laguna to buy log-wood, or they must take in sugar, coffee or tobacco in a Cuban or Haitian port. The expence is therefore double, to say nothing of the loss of time. As soon as tobacco becomes an export article, its cultivation must increase immensely in the coast-states, the Mexican being very partial to this branch of agriculture, which occupies him part of the year, only.

More liberal commercial principles have rendered the soil of Cuba several hundred per cent more productive, have filled the ports with forests of masts, whilst Mexico which could produce infinitely more than Cuba, sees but few sails in her harbours, and is unable to freight these few with the produce of the country.

Rice, which might also become an export article, is planted everywhere in the warmer coast-regions; but almost exclusively by the *ranchero* and the Indian, and frequently without the plough, precisely like the maize. Not swamp-rice, but mountain-rice is cultivated, which affords a very plenteous harvest, and rarely fails.

The small planter, *ranchero* of the warmer districts, beside his maize-field, has usually some small plots of land with beans, Spanish pepper, tomatas, yams and bananas, which furnish him with a quantity of nourishment. The edible arum root, bears from 10 to 15 pounds' weight of bulbs to each plant, the yam (*dioscorea*)

develops monstrous roots weighing from 50 to 80 pounds, the batate or sweet potato, produces its mealy bulb three or four months after being planted, and the manioc (*jatro-phamanihot*) gives a quantity of excellent starch. The *ranchero* takes little trouble with these products, which richly replace the potato; he considers it rather a sort of luxury, and if he cultivates half an acre of them, thinks he has done much. He attaches more importance to the banana (*musa paradisiaca, regia* and *sapientum*) are the three sorts known in Mexico), because it always provides him with fruit. This fine plant is one of the richest gifts of bounteous Nature. In the second year it has a fruit-branch, and for half a century unweariedly produces fresh branches every year, each bearing from 75 to 100 fruits, if one is only careful not to let the brushwood gain the ascendancy, and to remove the branches which have already borne. Each plant forms a group of stems of different sizes, varying from one to twenty feet in height, and in every degree of development, some of them constantly laden with fruit. A few dozen of such plants produce more fruit than a family can consume, and moreover in all seasons. Raw and cooked, roasted in the ashes, or baked in fat, it is relished by every Mexican; if cooked while unripe, it has more farina than saccharine matter, and resembles the potato; when dried it is better than the fig, and is sent to all parts of the country. The fragrant foliage affords a pleasant shade, the dried fibre of the stem a soft cushion, the huge leaf a clean table-cloth, on which the fruit appears as the meal. All the domestic animals, the dog and cat excepted, like the banana; the Indian prepares a fermented liquor from it, and the distiller converts the saccharine matter into alcohol.

We will now conduct the reader to one of the little ranchos, so constantly met with, both in the east and west.

On a hillock in the midst of the savanna (prairie-land) stands a hut with a slanting roof of grass or palm-leaves, overshadowed by a large mimosa, the branches of which, with their feathery foliage, are extended in the form of an umbrella. There is neither bush nor grass about the house, and within a circuit of ten or twelve paces all is cleared. A kind of slight ladder leans against the trunk of the mimosa, in order that the fowls may ascend and roost on its branches. By its side dozes pleasantly in the shade a large black sow, half buried in the ground, surrounded by her promising family, wallowing in the mud. The sides of the hut are constructed of bamboo-staves, through which so much light enters, that no windows are needed; the door is open, and immediately in front of it, the body-guards have bivouacked, consisting of three or four lean dogs, who, on our approach, raise their heads, and commence a most discordant barking. "*Tscho, animales!*" cries a female voice from within, and the *señora* immediately appearing at the entrance, drives off the dogs, and returns our salutation. She is a Mestizo woman, somewhat brown, barefoot, but cleanly dressed, whilst her long flowing hair shews that she is just performing her toilette. "Will you have the kindness, *Señora*, to favor us with a draught of water, and then to tell us which direction we must take to find a path that conducts to a village?" — "Willingly", she replies: "Sit down, meanwhile, on the mat, the air is

cool there." She fetches water from the large jar, in a gourd, and presents it with excuses for having no glass. We examine the dwelling: like all these little ranchos it is extremely simple. At the back, the roof slopes almost to the ground; forming thus a sort of alcove, which serves as the sleeping-apartment. The bedsteads are of bamboo, covered with mats. In the middle of the house the fire burns, and near it are the implements for crushing maize. A few earthen pots, plates and cups, some calabashes and wooden tubs constitute the furniture. An old gun with a flint-lock hangs on the wall, with a shooting-pouch of the skin of the tiger-cat, some cutting implements, and several large fruit branches of the banana. A rope passes transversely from one corner of the hut to the other, from which hangs the supply of dried meat, looking like black strips of leather. The skins of various animals evidence the sylvan prowess of the master.

"Have you lived here very long, my good woman?" we enquire, after having refreshed ourselves with the draught, and thanked with a "*Dios se lo pague* (God reward you for it)." — "Oh! yes, many a long year; my eldest boy was then at the breast, and now he's as tall as his father."

We are further informed by the good donna, to whom the land belongs, and how much they pay to farm it, namely two reals (one shilling) a head, and three fanegas of the *cuartilla*. That is to say, for every animal they pay annually two reals pasture-money, and for a *cuartilla* of maize-ground (about five acres) three fanegas of the produce. We learn also, that behind the trees to the left, lives a brother of the wife, and a little further off two brothers of the man, that they had a grand dance on Sunday, because a nephew married, besides other news of the kind. Presently the husband comes home with four half-savage sons, all wearing coarse blouses, sandals on their feet, and with heavy burthens on their backs. They bring a supply of maize, fire-wood, a jar of water, a basket with manioc and fruits, and a living armadillo, which the youngest boys have caught, and now slaughter and prepare for the kitchen. After greeting the master of the house, we enquire why he does not have his plantation nearer, or remove his dwelling to the vicinity of the plantation. "Ah! you don't understand that", he returns. "My plantation lies down there in a hollow, surrounded by wood, because the soil there is excellent, and the horned cattle can do me no harm; but one can't live there for the intermittent fever, and because there are too many snakes, mosquitos and garrapatas. Besides one can't keep a fowl or a pig there, on account of the numerous foxes, coyotes and lions (*felis concolor*). One must live up here in the pure air; but here I can't plant, because in the dry season, the cattle would leave me no rest by night or day, and would break through the hedges which would here require much labour to repair. The savanna, too, sometimes catches fire, and might destroy my labour in a few moments. Two years ago, the house here was burnt down, with everything in it, whilst we were at the christening of a neighbour's child. I have now effected a clearing round the house, and can leave without anxiety."



THE BULL HUNTING