

as we ought to do when speaking of the produce of the whole island of Cuba, that, in soils of average fertility, the *caballeria* (at 13 hectares) yields 1500 arrobas of refined sugar (mixed with *blanco* and *quebrado*), or 1330 kilogrammes per hectare, it follows that 60,872 hectares, or nineteen five-fourths square sea leagues, (nearly a ninth of the extent of a department of France of middling size), suffice to produce the 440,000 cases of refined sugar, furnished by the island of Cuba for its own consumption and for lawful and illicit exportation. It seems surprising that less than twenty square sea leagues should yield an annual produce of more than the value of fifty-two millions of francs (counting one case, at the Havannah, at the rate of twenty-four piastres). To furnish coarse sugar for the consumption of thirty millions of French, (which is actually from fifty-six to sixty millions of kilogrammes,) it requires within the tropics, but nine and five-sixths square sea leagues cultivated with sugar-cane; and in temperate climates, but thirty-seven and a half square sea leagues cultivated with beet-root. A hectare of good soil, sown or planted with beet-root, produces in France from ten to thirty thousand kilogrammes of beet-root. The mean fertility is 20,000 kilogrammes, which furnish $2\frac{1}{2}$ per cent., or five hundred kilogrammes of coarse sugar. Now, one hundred kilogrammes of that sugar yield fifty kilogrammes of refined sugar, thirty of sugar *vergeoise*, and twenty of *muscovade*; consequently, a hectare of beet-root produces 250 kilogrammes of refined sugar.

A short time before my arrival at the Havannah, there had been sent from Germany some specimens of beet-root sugar, which were said "to menace the existence of the Sugar Islands in America." The planters had learned with alarm that it was a substance entirely similar to sugar-cane, but they flattered themselves that the high price of labour in Europe, and the difficulty of separating the sugar fit for crystallization from so great a mass of vegetable pulp, would render the operation on a grand scale little profitable. Chemistry has, since that period, succeeded in overcoming those difficulties; and, in the year 1812, France alone had more than two hundred beet-root sugar factories working with very unequal success, and producing a million