Hispaniola (San Domingo). The instrument, described by Oviedo (*Historia de las Indias Occidentales,* Salamanca, 1535), consisted of a small hollow wooden tube, shaped like a Y, the two points of which being inserted in the nose of the smoker, the other end was held into the smoke of burning tobacco, and thus the fumes were inhaled. This apparatus the natives called “ tabaco but it must be said that the smoking pipe of the continental tribes was entirely different from the imper­fect tabaco of the Caribees. Benzoni, on the other hand, whose *Travels in America* (1542-1556) were published in 1565, says that the Mexican name of the herb was “ tabacco.”

The tobacco plant itself was first brought to Europe in 1558 by Francisco Fernandes, a physician who had been sent by Philip II. of Spain to investigate the products of Mexico. By the French ambassador to Portugal, Jean Nicot, seeds were sent from the Peninsula to the queen, Catherine de’ Medici. The services rendered by Nicot in spreading a knowledge of the plant have been commemorated in the scientific name of the genus *Nicotiana.* At first the plant was supposed to possess almost miraculoùs healing powers, and was designated “ herba panacea,” “ herba santa,” “ sana sancta Indorum “ divine tobacco ” it is called by Spenser, and “ our holy herb nicotian ” by William Lilly. While the plant came to Europe through Spain, the habit of smoking was initiated and spread through English example. Ralph Lane, the first governor of Virginia, and Sir Francis Drake brought with them in 1586, from that first American possession of the English crown, the implements and materials of tobacco smoking, which they handed over to Sir Walter Raleigh. Lane is credited with having been the first English smoker, and through the influence and example of the illustrious Raleigh, who “ tooke a pipe of tobacco a little before he went to the scaffolde,” the habit became rooted among Elizabethan courtiers. During the 17th century the indulgence in tobacco spread with marvellous rapidity throughout all nations, and that in the face of the most resolute opposition of statesmen and priests, the “ counterblaste ” of a great monarch, penal enactments of the most severe description, the knout, ex­communication and capital punishment.

*Botany.*—There are about fifty species of *Nicotiana,* nearly all of which are natives of America. Few, however, are of economic importance. The great bulk of the tobacco supply is derived from

*N. tabacum,* the Virginian tobacco, a native of some part of Central or South America and now cultivated in almost all temperate and warmer countries. It is a coarse rank-growing annual, with a simple, unbranched, cylindrical stem which attains a height of 6 ft. and upwards, terminating in a panicle of pink or rose-coloured flowers and an elongated corolla tube (fig. 1). The plant has alternate, simple, oblong-lanceolate leaves, those at the lower part of the stem being slightly stalked, and of large size, reaching to 2 ft. in length, while the upper are semi-amplexicaul and of variable outline. The seeds are brown in colour, with a rough surface, of minute size, and exceedingly numerous; as many as 1,000,000 may be produced by a single plant. The whole of the green parts of the plant are covered with long soft hairs which exude a viscid juice, giving the surface a moist glutinous feeling. The hairs are multicellular, and of two kinds, one branching and ending in a fine point, while the other, unbranched, terminates in a clump of small cells. Stomata occur on both surfaces of the leaves, and, with the peculiar hair structure render the microscopic appearance of the plant highly characteristic.

From this species the tobaccos of Cuba, the United States, the Philippine Islands and the Latakia of Turkey are derived, and it is also largely cultivated in India; the variety *macrophylla* is the source of the Maryland tobaccos. *N. persica,* Persian tobacco, the source of the famous Shiraz tobacco, is regarded as only a variety of *N. tabacum,* and an introduction from America. East Indian, or Green, tobacco is the product of another species, *N. rustica,* a smaller plant with a much-branched stem and greenish-yellow flowers with a short, broad tube. It is a native of Mexico, and now widely cultivated in southern Germany, Hungary and the East Indies.

*Cultivation.—*Tobacco is cultivated in localities scattered over almost the whole world, ranging as far north as Quebec, Stockholm and the southern shores of Lake Baikal in one hemisphere, and as far south as Chile, the Cape of Good Hope and Victoria in the other. Whilst, however, the plant adapts itself to a great variety of climatic conditions and will grow on almost all kinds of soil, the flavour and quality of the produce are profoundly affected by variations in these two factors. Very slight differences in climate appear to cause very great differences in the quality of the tobacco, and ordinary meteorological records are of little use in determining the suitability or not of a region for a particular kind of leaf ; this essential point must be determined by experiment. In general, tropical and semi- tropical conditions as to temperature, with a comparatively dry climate, give the best results.

Given suitable climatic conditions, the type of tobacco produced is determined mainly by the soil, and particularly by its mechanical or physical condition. Speaking generally, clay soils retentive of moisture produce heavy-cropping tobaccos which cure to a dark brown or red colour. Sandy soils produce tobaccos with a thin leaf, curing to a yellow or bright red colour. In the same locality, i.e. under the same climatic conditions, quite different kinds of tobacco may be produced in direct relation to the character of the soil. Thus the bright yellow tobacco used for cigarettes, &c., is largely produced in Virginia and N. Carolina on a loose porous sand, which must be at least a foot deep, and contains usually about 8 % of clay; this sand is underlaid by a clay subsoil, and, as Mr Milton Whitney points out in *Tobacco Soils* (U.S.A. Dept. of Agriculture, Farmers’ Bulletin, No. 83), this clay is the same as that on which the heavy manufacturing and export tobacco is grown. Where the clay is exposed on the surface the heavy type of tobacco is produced, and bright tobacco where the clay is covered by from 12 to 20 in. of sand. Tobacco soils should be well drained and contain a large percentage of humus.

Tobacco being cultivated over such a large area of the world, under very varying climatic conditions, and by many different races of mankind, the methods employed in its production naturally differ very considerably. As the United States of America produce more tobacco than any other country it will be best to deal generally with conditions there and to refer to marked differences in dealing with production in other countries.

The seed is sown in nursery beds, and the plants set out in the field later. Tobacco seeds are very small, and it is estimated that about 300,000 to 400,000 seeds go to the ounce. Allowing for those which fail to germinate (perhaps 25%), loss in transplanting, weak and backward plants, &c., one ounce of seed should yield about 40,000 plants.

The greatest possible care is bestowed on the preparation of the