1879-83 was about 50 millions of kilogrammes (110 million lb), the average value about £1,560,000. The vines whose fruit is intended, for table use as grapes or raisins are trained on espaliers or on trees, especially the nettle-tree *(Celtis australis).*

Among fruit-trees the first place belongs to the olive, which is estimated to cover about 3 per cent. of the surface, and accordingly about an equal area to that occupied by the vine. Its range in Spain embraces the whole of the southern half of the tableland, the greater part of the Ebro valley, and a small strip on the west coast of Galicia. Along the base of the Sierra Morena from Andujar to the vicinity of Cordova there run regular forests of olives, embracing hundreds of square miles. The annual production of oil is estimated at 55 millions of gallons, and might be greatly increased in quantity and improved in quality if more attention were bestowed upon the cultivation of the trees and the prepara­tion of the oil. Oranges, excluded from the plateau by the severity of the winter cold, are grown in great quantity on the plains of Andalusia and all round the Mediterranean coast; and figs, almonds, pomegranates, carobs, and other southern fruits are also grown abundantly in all the warmer parts, the first two even in central Spain and the more sheltered parts of the northern maritime provinces. In these last, however, the prevailing fruit- trees are those of central Europe, and above all the apple, which is very extensively cultivated in Asturias, the Basque Provinces, and Navarre. The date-palm is very general in the south-eastern half of the kingdom, but is cultivated for its fruit only in the province of Alicante, in which lies the celebrated date-grove of Elche. In the southern provinces flourish also various subtropical exotics, such as the banana, the West Indian cherimoya, and the prickly pear or Indian fig *(Opuntia vulgaris),* the last frequently grown as a hedge-plant, as in other Mediterranean countries, and extend­ing even to tho southern part of the tableland. It is specially abundant on the Balearic Islands. The agave or American aloe is cultivated in a similar manner throughout Andalusia. Cotton is now cultivated only here and there in the south; but, on the other hand, sugar-cane, the cultivation of which was introduced by the Arabs in the 12th century or later, and was of great importance in the kingdom of Granada at the time of the expulsion of the Moors at the close of the 15th century, but has since undergone great vicissitudes, first in consequence of the introduction of the cane into America, and afterwards because of the great development of beet- sugar in central Europe, is now becoming every year more and more of a staple in the provinces of Granada, Malaga, and Almeria. The annual production on the Spanish mainland is estimated at about 75,000,000 lb. Such prosperity as this branch of agriculture at present enjoys is largely due to the protection which it receives at the hands of the Spanish Government. A duty imposed on all imported sugars in 1876, while inflicting a severe blow on the Spanish colony of Cuba, has had the desired effect of stimulat­ing the native production, but according to the law at present in force (passed on June 30, 1882) the amount of this duty, as far as regards the produce of the Spanish colonies, is being gradually reduced, and the duty will be entirely abolished on July 1, 1892.

Among the vegetable products not yet mentioned the most important are the mulberry, grown in almost all provinces, but principally in those bordering on the Mediterranean, and above all in Valencia, the chief seat of the Spanish silk production and manufacture ; hemp and flax, grown chiefly in Galicia and other northern provinces ; among dye-plants, madder, saffron, woad *(Isatis tinctoria),* and wild woad or dyer’s weed *(Reseda luteola) ;* ground-nuts *(Arachis hypogæa),* grown for their oil, for the pre­paration of which the nuts are exported in considerable quantity to France ; liquorice, cummin, colocynth, &c.

The rearing of animals has likewise been receiving in recent years increased attention at the hands of both Government and people, though here also we are without recent official statistics to show the consequent advance. The middle of the present century appears to have been the time when this industry was at its lowest point, and the following table (IV.) shows the increase in numbers that has taken place at certain subsequent dates for which official returns or estimates are obtainable :—

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1858. | Enumeration Sept. 24, 1865. | Estimate 1878. |
| Horses | 298,722  499,172 | 672,559  1,001,878  1,290,814  2,904,598  22,054,967  4,429,576  4,264,817  3,104 | 700,000  1,200,000  1,300,000  3,000,000  23,000,000  4,500,000  4,500,000 |
| Mules |
| Asses | 496.516  1,557,033  16,443,950  3,034,701  1,272,978 |
| Cattle |
| Sheep |
| Goats |
| Swine |
| Camels |

In 1865 horses were reared chiefly in the provinces of Seville, Coruña, and Cadiz, mules in Toledo, Cuenca, Teruel, Saragossa,

and Badajoz, asses in Badajoz, Toledo, Murcia, Seville, and Granada, cattle in Oviedo, Coruna, Leon, and Pontevedra, sheep in Badajoz, Leon, Teruel, Soria, and Saragossa, goats in Caceres and Badajoz, camels mainly on the Canary Islands, the total number on the Spanish mainland at the date of the enumeration being less than a hundred. Badajoz was the richest of the pro­vinces in live-stock of all kinds, containing about one-fourteenth of the total number of domestic animals in the kingdom.

The only animals belonging to Spain still noted for their excellence are mules and asses, which are recognized as the best to be found anywhere. The quality of the horses has been greatly improved, however, since the establishment of Government studs more than forty years ago. Besides the cattle reared throughout the kingdom for field-labour and (in the northern provinces) for regular dairy farming, bulls for the great national pastime of bull­fighting are specially reared in many parts of the country, par­ticularly in the forests of Navarre, the mountains separating the two Castiles, the Sierra Morena, and the Serrania de Ronda in Granada, and also in separate enclosures on the islands of the Guadalquivir. Spanish sheep, which in former times enjoyed so high a reputation and formed so important a part of the national wealth, are far from having the same relative importance at the present day, though sheep-rearing also is sharing in the general rise of agricultural and other industries. The most famous breeds of Spanish sheep are the merinos or migrating sheep, which once brought immense revenues to the state as well as to the large proprietors to whom they mostly belonged. These sheep, which are distinguished by their long slim legs and still more by their long wool, are pastured in different districts in summer and winter. Their winter quarters are in the lower parts of Leon and Estremadura, La Mancha, and the lowlands of Andalusia, their summer quarters the more mountainous districts to the east and north (Plasencia in the province of Caceres, Avila, Segovia, Cuenca, Valencia), which are not so much affected by the summer droughts of the Peninsula. The mode of the migration and the routes to be followed are prescribed by law. Each herd consists of about 10,000 individuals, under the command of a *mayoral,* and is divided into sections containing about 1000 each, each section under the charge of an overseer *(capataz),* who is assisted by a number of shepherds *(pastores)* attended by dogs. The shepherds, rudely clad in a sleeveless sheepskin jacket, the wool outside, and leather breeches, and loosely wrapped in a woollen mantle or blanket, are one of the most striking and characteristic objects in a Spanish landscape, especially on the tableland. The migration to the summer quarters takes place at the beginning of April, the return at the end of September. At one time the owners of merino herds enjoyed the right of pasturing their herds during their migrations on a strip of ground about 100 yards in breadth bordering the routes along which the migrations took place, a strip which had accordingly to be left uncultivated; but this right (the *mesta,* as it was called) was abolished in 1836 as prejudicial to cultivation. Since that date the migrating sheep have been compelled to keep the roads. The average quantity of wool exported in the five years 1879-83 was about 9,000,000 lb. Even in the best of the years (1883-84) the total export of Spanish wool to all countries was only about one-thirtieth of the total average import of that commodity into the United Kingdom during the corresponding period.

Bees are reared chiefly on the cistus heaths and the districts abounding in *tomillares* (see p. 297). The rearing of the silkworm on the mulberry trees of the Mediterranean provinces has already been referred to ; the total annual production of raw silk in Valencia is estimated at 1,500,000 lb, in Murcia at 500,000 lb, and in Cata­lonia at 200,000 lb. The rearing of the cochineal-insect, which was introduced into southern Spain in 1820, is being carried on with more and more success, especially round Malaga, Velez-Malaga, and Motril.

*Fisheries.—*The catching of tunnies, sardines, anchovies, and salmon on the coasts employs large numbers of fishermen, and the salting, smoking, and packing of the first three give employment to many others. Spanish fishermen likewise dive for coral on the coasts of Andalusia and the north of Africa. The fishermen of Catalonia and Valencia have the greatest reputation for their skill. The centre of the principal tunny fisheries of Spain is a small rocky islet called Cristina about three leagues from the mouth of the Guadiana. The fishing lasts from May to August, that of sardines from August to the end of January. The average value of the export of fish in 1879-83 was nearly £120,000.

*Minerals.—*The mineral resources of Spain are vast and varied, but are as yet far from being adequately turned to account. No European country produces so great a variety of minerals in large amount, and in the production of copper ore, lead ore, and quick­silver Spain heads the list. In the production of salt and silver it is excelled only by Austria-Hungary, and, as regards silver, not always even by it. The following table (V.) gives particulars regarding the production of some of the principal minerals in the years named :—