unless thoroughly seasoned, the wood cannot be floated. In Burma, therefore, where the rivers are used to float the timber to the sea­ports, the method of seasoning teak by girdling has been practised from time immemorial. Girdling consists in making a deep circular cut through bark and sap into the heartwood, so as completely to sever communication between bark and sapwood above and below the cut. In teak, as in oak and other trees with well-marked heartwood, the circulation of the sap only takes place in the sap­wood, and the girdled tree therefore dies after a few days if the operation has been effectually performed. But if even the smallest band of sapwood is left connecting the outer layers of wood above and below the girdle, the tree is not killed, and often recovers completely. The girdled tree is allowed to stand one or two years, and longer if a very large-sized tree. Being exposed to the wind and to the action of the sun, the timber of a girdled tree seasons more rapidly and more completely than that of a tree felled green. The teak produced in the presidencies of Madras and Bombay and in the Central Provinces is as a rule felled green, and even when dry it generally is a little heavier than the timber from Burma.1 For a long time to come, the rivers of Burma and Siam will continue to afford the most convenient and most economical routes for the extraction of teak timber from those countries. Indeed, the forests drained by the Salwin and its feeders are not likely ever to be worked otherwise than on the present plan, under which the logs are floated singly over the rapids and are caught and rafted lower down, at the kyodan or rope station, 70 miles above Moulmein.

As already mentioned, teakwood contains an aromatic oil, which gives it a peculiarly pleasant smell and an oily surface when fresh cut. To this oil may probably with justice be ascribed its great durability. In Burma the oil is extracted from the timber on a small scale, to be used for medicinal purposes, by filling an earthen pot, which is placed inverted upon another, with chips of wood, and putting fire round it, upon Which the oil runs down into the lower vessel.

According to the colour and texture of the wood, several varieties of teak are distinguished in India, Burma and Java; in the timber trade, however, these distinctions are of no importance. Teak, as well as other trees, when standing isolated, forms side branches far down the stem, and the wood of such trees is more knotty and wavy, and generally heavier and darker-coloured than that of trees which have grown close together in a dense forest. Apart from the manner in which the tree had grown up in the forest, soil, elevation and climate have a great influence upon the grain and the mechanical qualities of teak as of other timbers. Most of the larger logs brought to market have an irregular crack or hollow in the centre, which commences at the butt and often runs up a long way. There is little doubt that this is generally due to the action of the fires, which scorch and often destroy the bark of young trees. Such external injuries are apt to induce decay in the wood. Moreover, most teak seedlings which come up naturally are cut down to the ground by the fires of the hot season; some are killed, but many sprout again during the rains, and this is generally repeated year after year, until a sapling is produced strong enough to outlive the fire. Such saplings have a very large pith, which dries up, causing a hollow in the heart; or a piece of the old shoot killed by the fire is enclosed by the new wood, and this also is apt to give rise to a hollow.

The leaves of the teak tree contain a red dye, which in Malabar was formerly used to dye silk and cotton. Natives of Burma use the leaves as plates, to wrap up parcels, and for thatching.

In its youth the tree grows with extreme rapidity. Two-year- old seedlings on good sod are 5 to 10 ft. high, and instances of more rapid growth are not uncommon. In the plantations which have been made since 1856 in Burma, the teak has on good soil attained an average height of 60 ft. in 15 years, with a girth, breast high, of 19 in. This is between 16º and 18º N. lat., with a mean annual temperature of 78º F. and a rainfall of 100 in. In the Burma plantations it is estimated that the tree will, under favourable circumstances, attain a diameter of 24 in. (girth 72 in.) at the age of 80. Timber of that size is market­able, but the timber of the natural forests which is at present brought to market in Burma has grown much more slowly, the chief reason being the annual forest fires, which harden and im­poverish the soil. In the natural forests of Burma and India teak timber with a diameter of 24 in. is never less than 100 and often more than 200 years old. In future, the timber grown in plantations and in forests under regular management may be ex­pected to be much faster grown; and there is no ground for antici­pating that rapidly grown timber will be less valuable than that of slow growth, which is at present brought to market.

Like the other trees of the dry deciduous forest, teak does not attain any extraordinary size. The trees are not generally more than 100 to 150 ft. high, even under the most favourable circum­stances, and stems more than 100 ft. to the first branch are not often found. Exceptionally tall trees were measured in 1861 in the Gwaythay forest in Pegu, east of the Sitang river, on gneiss.

The stems had 106 to 114 ft. to the first branch, with a girth, at 6 ft. off the ground, from 7 to 16 ft. Larger girths, up to 25 ft., are not uncommon.

The teak tree does not usually form pure forests. It is associated with bamboos and with a great variety of other trees, which have little market value, and, as a rule, thrives best in such company. Hence in the plantations established in Burma the object has been to raise forests of teak mixed with bamboos and other trees.

Most of the teak timber produced in India is used in the country. The produce of the forests of Travancore, Cochin, the Madras presidency, Coorg, Mysore, Bombay, Berar and the Central Pro­vinces is all so consumed. Formerly there was a considerable export from the ports of the western coast—Malabar,' Kanara, Surat and Broach—but the country at present requires all the teak which its forests can produce'; indeed the demand is in excess of the supply, and considerable quantities arc imported from Burma to Calcutta, Madras, Bombay and other Indian ports. Small quantities are still exported from the ports of the western coast to Arabia and the coast of Africa. The chief export is from Burma, principally from Rangoon and Moulmein. Of the other teak-producing countries, Java exports a little; there have also been exports from Saigon; and since 1882 Bangkok has sent con­siderable quantities to Europe. But the Burma coast is the chief source of supply at present. Rangoon was for a long time an important place for shipbuilding, teak being the chief timber used: between 1786 and 1825 111 European vessels were built at Rangoon, aggregating 35,000 tons. At the same time timber was exported, and, when the country was taken by the British in 1852, teak was the chief article of export. Moulmein became British territory at the close of the first Burmese war in 1826. At that time the place was a large fishing village, and it was mainly through the export of teak timber and the shipbuilding trade that it attained its present importance. From 1829 to 1841 upwards of 50,000 loads of teak timber were exported, and, in addition, 68 vessels were built during that period, aggregating 15,680 tons, and estimated to have required for their construction 24,000 loads of teak timber. The forests from which Moulmein first derived its supplies are situated on the Attaran river, a feeder of the Salwin. In 1836, however, timber began to come down from more distant forests, and in 1841 one-fourth only of the supply was brought from the Attaran forests.

The increase in the export of timber from the Burma ports was slow at first, but has gone on rapidly since Rangoon became a British port. Since that time the timber brought to the Burma ports has come from the following sources:—(1) from the forests in the British coast provinces, Pegu and Tenasserim; (2) from the forests in the former kingdom of Burma, floated to Rangoon down the Sitang and Irrawaddy rivers; (3) from the forests in the Shan states formerly tributary to Burma, from the Karenni country, and from western Siam, whence it is floated to Moulmein by the Salwin river.

The following table shows the figures of the imports and exports of British India for the years 1901-2 to 1905-6:—

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Imports. | | Exports. | |
| Cub. Tons. | Value Rs. | Cub. Tons. | Value Rs. |
| 1901-2.... | 17,842 | 13,03,968 | 60,671 | 71,53,855 |
| 1902-3.... | 32,081 | 24,96,317 | 57,500 | 68,67,879 |
| 1903-4.... | 34.588 | 30,55,695 | 73,913 | 91,45,605 |
| 1904-5.... | 46,915 | 42,46,190 | 46,912 | 60,05,383 |
| 1905-6.... | 71,676 | 62,17,331 | 52,768 | 70,41,660 |
| 1906-7.... | 61,696 | 60,71,557 | 44,202 | 61,48,291 |
| Average.. | 44,133 | 38,98,483 | 55,994 | 70,60,445 |
|  |  | =£259,899 |  | = £470,696 |

Nearly the whole of the imports came from Siam, and of the ex­ports four-fifths were from Burma. The balance of the imports consisted of timber from Java, that of the exports of supplies sent from peninsular ports. Two-thirds of the exports went to the United Kingdom, the other chief markets being ordinarily Germany, Ceylon and Australia. The recent great increase in the general teakwood trade is evidenced by the fact that the imports increased in six years from 17,842 tons to 61,696 tons. But it is noticeable that, whereas in 1901-2 the timber exported very largely exceeded the imports, in 1905-6 and 1906-7 the imports were larger than the exports, evidence of the great increase in Indian demand for teak timber; and, in all probability, of the steady regular outturn of the Indian forests, in comparison with increased imports from Siam, where the forests are not, like those in Burma, under regular working plan, designed to give a permanent annual yield and avoid any danger of exhaustion of the forests.

In British India, including Burma, a large portion of the teak­producing tracts have since 1856 been placed under conservancy management with the object of preventing overcutting and main­taining a permanent and gradually increasing supply. This is the object of the working plans referred to. The area of teak forest

1 It has been erroneously stated that the tree in Burma is tapped for its oil before felling.