

LACQUER TREES OF JAPAN

HOW THEY ARE GROWN, HOW TAPPED, AND HOW SOLD.

TREES THAT YIELD THE BEST SAP—STRANGE IGNORANCE OF WORKERS IN LACQUER WARE—USE MADE OF THE TREES AFTER THE REMOVAL OF THE SAP.

From the London Daily Telegraph.

Under date Tokio, Jan. 18 of the current year, her Majesty's Consul at Hakodate has issued an interesting report on the lacquer industry of Japan. It is, as set forth, intended chiefly as a description of articles of various kinds included under this special industry, collected for the use of the Museum of Economic Botany at Kew. Appended is a very clear and useful explanation of the various processes through which the lacquer passes from the planting of the tree to the completion of decoration in various styles. Great difficulty, it appears, was experienced by Mr. John J. Quin in obtaining reliable information, the artificers being not only for the most part uneducated, but entirely ignorant of the nature of the work executed in other departments of the same industry. The Consul states, as a striking illustration of this peculiarity in the fabrication of lacquer, that a well-known and most intelligent manufacturer, Takel Tosuko, who had been himself for 20 years a worker in gold lacquer, was totally unaware of the mode of tapping and treating the trees, and "had never even seen a cut specimen of the wood until the pieces now forwarded were procured." More remarkable still, this man declared that his head workman, a highly-skilled artisan, hardly knows the name of a single article that he uses. Subjoined are excerpts from the report:

"The *Rhus vernicifera*, the well-known lacquer tree of Japan, is met with all over the main island, and also in smaller quantities in Kiushiu and Shikoku, but it is from Tokio northward that it principally flourishes, growing freely on mountains as well as in the plains, thus indicating that a moderate climate suits the tree better than a very warm one. Since early days the cultivation of the tree has been encouraged by the Government, and as the lacquer industry increased plantations were made in every province and district. The lacquer tree can be propagated by seed sown at the end of January or the beginning of February. The first year the seedlings reach a height of from 10 inches to 1 foot. The following Spring the young trees are transplanted about 6 feet apart, and in 10 years an average tree should be 10 feet high, the diameter of its trunk $2\frac{1}{2}$ inches to 3 inches, and its yield of lacquer sufficient to fill a 3-ounce bottle. A more speedy method is, however, generally adopted. The roots of a vigorous young tree are taken, and pieces 6 inches long and the thickness of a finger are planted out in a slanting direction a few inches apart, 1 inch being left exposed above the ground. This takes place at the end of February and through March, according to the climate of the locality. These cuttings throw a strong shoot off from 18 to 20 inches the first year, and are likewise planted out the following Spring. Under equally favorable circumstances these trees would in 10 years be nearly 25 per cent. larger in girth, some 2 or 3 feet higher, and would yield nearly half as much more sap than the trees raised from seed.

"It has not hitherto been the custom to bestow any special care on the trees after planting them out; but in cases where leaf or other manure has been applied they are much finer. Of late years hill-sides and waste grounds alone have been used for lacquer plantations, as, owing to the rise in the price of cereals and farm produce generally, it does not pay the farmers to have their land cumbered with trees. Those that have been hitherto planted along the borders of the fields are being rapidly used and uprooted, and, where practicable, mulberry trees are planted instead, with a view to rearing silk-worms. Nevertheless, as a good workman is expected during the season to tap an average of 1,000 trees 10 years old, and as the province of Yechizen alone sends out about 1,500 'tappers' yearly to the various lacquer districts, it will be seen that an immense production annually takes place, stimulated, doubtless, by the demand for cheap lacquered articles abroad. It should also be mentioned that to remedy the possible exhaustion of the supply, and in view of the great rise which has taken place in the price of lacquer, several companies are being projected to plant waste lands with the tree. A 10-year-old tree, which some five years ago only cost from 1 to 2 sen, now costs 10 sen, which, allowing even for the depreciation in the value of the paper currency, shows a rise of about 500 per cent. The best transparent lacquer comes from the districts of Tsugaru, Nambu, Akita, and Aidzu. There are some districts the lacquer obtained from which is best for certain kinds of work, but is not so well adapted for others. The kind which is used for transparent lacquer is mixed in large tubs to insure a uniform quality, and being allowed to stand for some time—say a week or 10 days—the best portion, which is ordinarily 70 per cent. of the whole, is skimmed off. This is used for Nashiji and Shu lacquer, while the remainder is used for making inferior mixtures, such as Johana, &c., all described elsewhere. Almost all the various classes of lacquer are similarly dealt with to insure uniformity, as some qualities dry much quicker and are better than others, and the slow-drying qualities would otherwise remain unsold. The whole country produces at present, on an average, from 30,000 to 35,000 tubs per annum, each tub being of about four gallons capacity. Some 70 to 80 per cent. of this total amount is produced from Tokio northward. Nearly one-half of the lacquer produced is sent to the Osaka market, where it is prepared as required, and resold all over the western and southern Provinces, the remaining portion being used up locally and in Tokio. The usual age at which a tree is tapped is 10 years, but in some few cases a tree is tapped when only three or four years old. The best lacquer for transparent varnish is obtained from trees from 100 to 200 years old, as their sap has more body, and is more glutinous. The first tapping takes place about the beginning of June. The standard number of trees allotted to a tapper for the season is 1,000—presuming them to be about 10 years old (the size of the small specimen), about 800 of the size of the large specimen, and so on, less and less according to the size of the trees. Having cleared away the grass from the roots, the workman makes the round of his allotted trees, marking each with small notches about half an inch long. The first of these notches is made about six inches from the bottom of the tree on the right-hand side; the next, one "hand-stretch" higher up on the left-hand side; the next, one "hand-stretch" higher on the right, and so on, alternately as far as the workman can reach. These preliminary markings, which are to determine all the places for subsequent tapping, take fully four days, being at the rate of 250 trees a day. The tapper then goes round, provided with the bark scraper, the ordinary scraping sickle, the Summer spatula, and the pot to hold the lacquer, and, first smoothing the bark where required, gives one cut above and one cut below the two lower marks, and one cut above the remainder of the other marks, the cut being in each case about $1\frac{1}{2}$ inches long. After giving the cut the instrument is reversed and the knife is run along the incision to insure the bark being entirely cut through. This process is repeated every four days, each incision being made a little longer than the preceding one, up to the fifth tapping, inclusive, after which the remaining incisions are made of the same length. At each round, when all the requisite incisions have been made on the tree, the workman gathers the sap which has exuded with the spatula, beginning with the two lowest incisions, and so on to the uppermost cut. Twenty-five is considered the normal number of cuts, which, at the rate of one incision at each place every four days, occupy 100 working days, and allowing for some 20 days of rain, during which the sap cannot be drawn, the season is brought to a close by the end of September. When the full number of incisions has been given, the workman gives an extra long cut underneath all the initial notches on each tree to obtain the sap which has collected there, and another above the uppermost cut of each set. These incisions are called *Ura-me* (back-marks.) The sap obtained from the first five cuts above each notch is poor, containing, as it does, a large proportion of water; the middle 15 cuts produce the best sap, and the sap obtained from the last five incisions is poor, and lacks consistency. Again, the sap obtained from the *Ura-me* (back marks) and *Zomé* (finishing) cuts is very good, and dries quickly. The sap from the first 25 cuts is mixed and sold together, but the *Ura-me* and *Zomé* sap is almost always mixed and sold separately.

"The operations above described kill the tree in one season, but frequently the tree is made to last two years or more by giving only half the number of incisions, and reserving the *Ura-me* and *Zomé* cuts for the final year. The sap obtained the second and following years is, however, of an inferior quality, and this method is only resorted to by private individuals who tap their own trees during the intervals of farming. Ordinarily, a wholesale dealer in lacquer buys so many thousand trees from the owner, and, as a matter of course, extracts the sap with as little delay as possible, making a contract for the purpose with professional tappers. A first-rate workman will receive over 100 yen (equal, at the present low rate of exchange, to nearly £14) for the season, and can collect four and a half tubs (equivalent to 18 gallons,) but the average receives 75 yen, and collect proportionately less. The present price per tub of lacquer ranges from 90 to 100 yen. After the sap has been taken, the exhausted tree, which remains the property of the seller, is cut down by him and is used for firewood, for building purposes, or for making boxes. To show the relative value of the berries and the trees a few years ago, the following may be cited: A wholesale lacquer merchant informed me that five or six years ago he went, as usual, to purchase trees in the district of Aidzu, and among others bought one tree for a yen, (then equal to 4s.) the owner reserving the berries that might be got as his own property. He does not consider the bargain was a cheap one, but the owner realized 80 sen (equal to 8s. 2d.) from that year's yield of the berries alone before cutting down the tree."

The Consul then proceeds to give a detailed history of the various processes for the various classes of work, including lacquering with gold, and the implements and materials used, all of which must be regarded as of considerable value to the home manufacturer.