Cutch and its Adulterants.

Cutch and the method of making it is so well-known to all the readers of this Journal, that I do not intend to describe at any length the process of its manufacture, but will content myself with a very short description.

The heart wood of the cutch tree (Acacia catechu the *Shabin* of Burma and *Khair* of India) is cut up into small chips. These chips are first all boiled in water in earthen pots for about 12 hours, the solution is poured off and boiled again with fresh chips. After this process has been repeated several times the red solution thus obtained, is poured out into an iron cauldron which contains about 12 gallons. In this it is slowly boiled until the liquid assumes the consistency of a thick paste; that is to say it is boiled in the iron pan from 10 to 12 hours. The paste thus obtained, which has a brownish black colour, is then poured out into square or oblong moulds formed usually of leaves and allowed to cool. The resulting mass is the cutch of commerce. Good cutch should be brittle and break with a dark brown or black fracture. In addition to Burma, cutch is also extensively manufactured in Oudh and Kumaon.

The amount of cutch obtained daily varies very much according as the supply of cutch wood is plentiful and near, or far off and scarce. A yield of 15 viss daily from one cauldron would be very good, a yield of 9 viss bad, but I have known cases where as few as 7 viss daily was an average yield.

The price of cutch at the present time in the local market at *Thayetmyo is* :—

For hard cutch	...	...	Rs.	50	per 100 viss.
„ Soft „	...	...	„	35	„ „ „
„ adulterated cutch	..	...	„	16	„ „ „

As the license for 1 cauldron for the year (without a reserve) is only Rs. 20; in a good locality, an enormous profit must be made. As an example of what can be made where cutch is plentiful nothing further is needed, than to say, that in one of the Tharrawaddy reserves this year, the price paid for the license for the year amounted to Rs. 660 per caldron.

The uses of the Cutch prepared as above described are numerous; by the natives of India and Burma it is largely used for chewing with the betel leaf. It is also exported extensively to Europe and America where it is used for dyeing and tanning. Medicinally, it forms a powerful astringent which is largely used in fever and other maladies.

Having given the above imperfect description of the making and more important use of cutch, it might be of interest to refer to the results of Dr. Warth's experiments made whilst on furlough in Europe during 1889-1890.

It had long been known that the makers ot Kattah, as cutch is called in India, refused or were chary in using wood which contained no white spots in the heart wood. Externally they

could not tell whether the trees they were about to cut contained them or not. To determine this they cut into the trees, if the spots mentioned were not present they left them unused, thus doing much damage to the forests.

A preliminary examination made in India, shewed that the trees with the white spots yielded more of the extract than those trees which had not got them.

The active principle of cutch is tannin. The tannin of catechu forms a greenish brown compound with ferric salts. Catechin as a rule is also present, in fact pure kattah is almost entirely catechin, and it is on account of the presence of this latter that it is chewed with the betel and lime.

Catechin is soluble in hot, but not in cold water, like tannin into which it can be easily changed. Tannin however cannot be changed into catechin. Owing to this property, the two principles can be separated, but even after long standing a little of the catechin remains.

From two specimens sent from Burma, Dr. Warth obtained but 6 per cent of catechin. From the wood of the same tree that this cutch was extracted from, Dr. Warth, by a rapid treatment with concentrated solutions, obtained a mean of 22 per cent of catechin in the extract. The two specimens from Oudh, one of which contained the white spots and one of which did not, gave a mean of 38 per cent in the extract.

From the above, Dr. Warth calculated the total yield of catechin in the wood to be as follows:—

Burma.	...	...	3½% catechin from the wood.
Oudh.	...	...	7% " "

F. J. BRANTHWAITE.