The Wood Oil Trade in China

Manufacturing and Marketing Methods Susceptible to Improvement

MANY of China's industries owe their prosperity to foreign enterprise, without which her export trade would be much less than it is to-day. The assistance and advice given to Chinese farmers in the cultivation of tobacco have largely been the cause of the improvement of Chinese tobacco and a proportionate increase in her trade, both local and export. The same co-operation and improvement as regards wood oil have not yet materialised, although there is no reason why this should not be possible. Even without foreign assistance wood oil has become an important item of China's export trade, as the following table shows:

EXPORTS OF WOOD OIL FROM CHINA

Exported to:	1923. Piculs.	1923. Value.	1924. Piculs.	1924. Value.	1925. Piculs.	1925. Value.
Hongkong	107,825	1,343,127	73,948	1,026,406	29,030	407,650
Great Britain	48,731	1,076,848	53,404	1,063,424	38,587	736,608
Norway	755	16,573	1,291	25,459	675	13,164
Sweden	.....	.....	1,096	22,101	968	18,963
Denmark	2,173	48,354	4,177	84,350	2,623	52,267
Germany	65,032	1,440,041	79,283	1,590,299	63,470	1,233,761
Netherlands	5,134	113,501	7,969	160,234	10,407	203,944
Belgium	745	16,462	2,646	53,027	2,665	51,271
France	6,644	146,648	16,437	328,835	14,226	272,082
Italy	1,959	43,359	6,140	124,417	4,454	86,417
Japan	399	8,225	11,902	242,849	6,008	109,313
Canada	1,448	32,189	8,651	176,740	10,406	208,640
U.S.A.	593,624	13,162,949	627,040	12,774,698	706,093	13,970,761
Australasia	992	22,052	1,212	24,761	2,912	55,598
Total, includ. others	836,887	17,477,421	896,038	17,714,713	894,073	17,450,104

1 Picul=133⅓ lbs. 1 Haikwan Tael (all above values in Haikwan Taels)=1923, 79c. 1924, 85c. 1925, 80c.

NOTE.—Statistics taken from the Chinese Maritime Customs' returns.

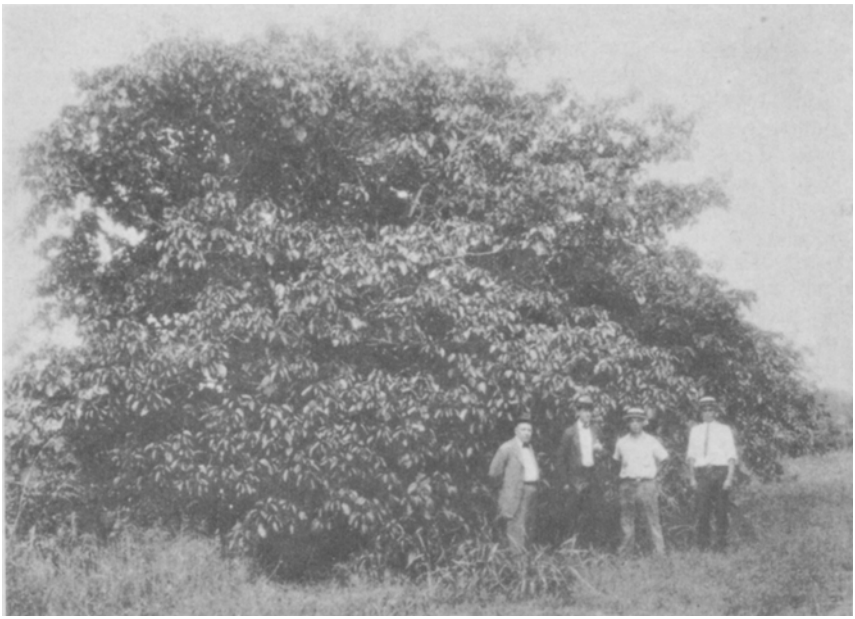
America Principal Market

According to recent news from Hankow, which is the centre of the wood oil trade in China, exports to America—the principal buyer of this commodity—of wood oil for the first half of this year have shown an increase of 5,000 tons over that of the previous year. This information is of particular interest, as it proves that, no matter how disturbed conditions may be in China —and Central and Western China have always been hotbeds of trouble —business continues even under difficulties. Buyers of wood oil have of late been somewhat anxious about adequate supplies and about the constant fluctuations in price, which has varied from 8 taels (a tael is to-day about 60c) to 29 or even 32 taels per picul (133 1/3 lb.). The conditions of crops and the demands of foreign markets contribute largely to this wide fluctuation in price seen in recent years. Imposition of internal and transit taxes ("likin") by Governors of various provinces in China where wood oil is produced, who require additional revenue wherewith to conduct their campaigns, are also causes.

Supply Is Ample

As to the question of adequate supplies and the cost of production of crude wood oil, China could pro-

duce more than sufficient to supply both her own needs and those of all other countries if only better and more up-to-date methods were known and practised in the cultivation of the "tungyu" tree, in the selection of seeds for cultivation, and were modern machinery employed for extracting the maximum of oil possible. There are numerous small native factories, each with its own equipment to produce oil, but the "machinery" used is extremely crude; drying on a brick structure ("k'ang"), grinding in a mill or grinding stone, steaming, wrapping, and then pressing and packing in barrels or tin containers (often empty kerosene tins), all these operations requiring little capital and not very much skill, as quality does not figure to the mind of the average Chinese of the same consequence as to the exporter and to the buyer. So far, the Chinese have not produced any uniformly high quality wood oil which can compare favorably with that produced from nuts grown in America. But there is no reason why this should not be possible with the aid of foreign guidance and instruction. As in the case of tobacco cultivation, American seeds might well be exported to China for the purpose of achieving this. These seeds could be distributed to farmers, advice given as to plantation, and the supplier undertaking to buy the whole crop at a reasonable price. The Chinese farmer is the most conservative of all classes in China, but he is open to conviction by results. Experimental plantations under foreign supervision would do much to convince the Chinese, and even help to sell foreign machinery for extracting the maximum of oil



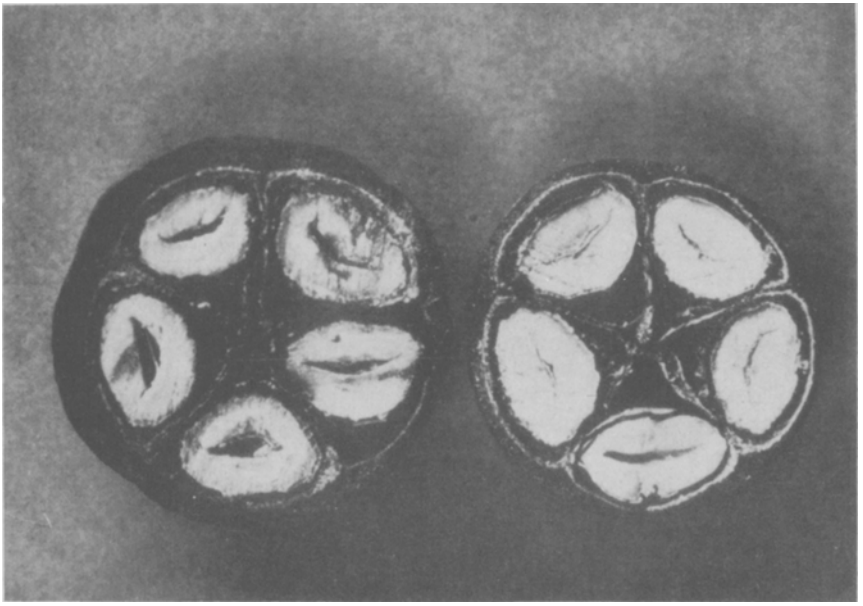
Tung oil tree in full bloom

possible. At present the Chinese obtain only about 19 per cent to 21 per cent of oil from the seeds, whereas with modern hydraulic presses 33 per cent to 38 per cent would be possible.

Many Go-Betweens

One of the difficulties of introducing better ways of production of wood oil in China is that of getting into close touch with the Chinese producer. At present there are too many intermediaries in this trade, and production is carried on on a very small scale by a host of small factories, each working with an outfit costing, perhaps, $50 to $100! These small "factories" sell their oil to oil shops or dealers, who bring it to the larger towns, where they sell it to brokers specialising in this commodity. These get into touch with the foreign exporters at Hankow, and sell to them on the basis of "spot cargo." As soon as a transaction for a certain quantity of wood oil is arranged between the foreign exporter and the Chinese dealer (generally through the medium of the "Compradore," sort of go-between, who is employed specially for the export side of every foreign business in China, another "Compradore" attending to the import part) the buyer has to make an advance payment ranging from 40 per cent to 60 per cent of the value, the balance being payable on delivery of the "spot cargo." This may take anything from a few days to a month to deliver. The "Compradore" receives a commission on each transaction, and is responsible for delivery, etc. Most firms buy spot cargo, and, although some "forward" business has been done in the past, it is generally considered safer to engage in the former. The problem of transportation is still a factor of some importance in the wood oil trade in China. But, with the increasing popularity of motor transport and

Mature Tung Oil Fruit



Cross section of tung oil fruit showing the seeds of nuts which contain the oil

its wider use, tne navigation of the Yangtsze River by more foreign steamers (this river passes through the centre of the wood oil producing areas), transportation facilities are bound to improve in the course of time. As political conditions become more settled (or, rather, more normal, since in China they are never quite "settled"), construction of railways will continue, and also help to improve means of communication.

Hankow Trade Center

At present there are twenty-three wood oil refineries in Hankow, seven British, eight German, four Japanese, two French, one American, and one Chinese. What is really required is a large foreign firm specialising in wood oil only, maintaining direct touch with the small Chinese manufacturers and growers, assisting and advising them how to produce the best results and obtain the maximum percentage of oil out of the seeds. These small Chinese producers and factors cannot afford to keep the nuts for any length of time before extracting oil. This is a disadvantage, as it has been found that, by keeping nuts from two to four months, a ton of nuts will yield three-quarters of a ton of oil instead of only half a ton when using fresh nuts. A large foreign firm established on the spot and maintaining close contact with the Chinese is certain to be a commercial success, and at the same time to benefit buyers abroad. It should, however, be always borne in mind that, in order to be able to get into direct touch and trade with small Chinese producers, one must win their confidence. The best and surest way to do this is by learning to speak the local dialect, discussing matters with them direct, and not merely through interpreters or

"compradores." Every foreigner living in China or intending to settle down there for any length of time should acquire at least a speaking knowledge of the dialect spoken in his district, and it is for the firm to insist upon this. Most of the difficulties (commercial, political, "military," etc.) which constantly arise in China (both among foreigners and Chinese) can be settled by means of discussions, by give-and-take, for compromise plays an important part among the Chinese, who are always open to friendly negotiations, but not to "lose face."—*Oil and Colour Trades Journal.*

(*Concluded from page* 344)

The cost of filtration operations is reduced by filter-aids in two ways. The increased capacity of the filter press equipment results from the higher rates of flow secured. This means that a larger quantity of finished product may be produced with a given size of equipment in a given time.

In many cases where filter-aid may now be used, the total filter-aid consumption can be reduced by employing the grade best suited to the individual problem at hand. In filtering sugar liquors, for instance, the total quantity of liquor put through each square foot during each cycle of filtration has been doubled in many cases by using a higher grade product.

In this work, "pre-coating," or coating the filter cloth with a thin film of filter-aid before each filtration cycle is started, is ordinarily employed. Lengthened cycles mean less precoat charges, so that the longer cycles secured by using the higher grades often reduce the total filter-aid consumption 25 to 35 per cent.

Rate of Flow

One of the controlling factors in filtration operations is the rate of flow. When a filter press is started on a new cycle this rate declines sooner or later to a point beyond which it is uneconomical to continue operation. The press is then opened up and cleaned in preparation for another cycle.

No marked falling off in the rate of flow over an extended period of time would be exhibited by a liquid with an absolutely free-filtering precipitate. In actual practice, however, the liquids which must be filtered exhibit a falling off in rate of flow as filtration proceeds and the filter cake builds up in thickness and resistance. The rate of decline in flow depends on the nature of the liquor and the amount and nature of solids present.

The purpose of using filter-aids is to make slow-filtering precipitates (or other solids to be removed) act more like free-filtering precipitates in the filter press, in addition to insuring highest possible clarity of finished filtrates.

A factor which directly effects rate of flow is the percentage of filter-aid used. For instance, it has been found in some cases that a slight increase in the percentage of filter-aid added not only increases rate of flow but also makes longer filtration cycles possible. The result in such cases is that the unit cost of filtration is decreased.

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