

Economic Possibilities of Lemongrass Oil Industry on the West Coast

By

C. RAMAN MOOSAD

Assistant Marketing Officer, Coimbatore

Fifty years ago cultivation of this grass was practically unknown on the West Coast. Today it is cultivated in an area over 30,000 acres about 85% of which being in the State of Travancore Cochin, and the rest in Malabar district. The industry originally started with the distillation of oil from Lemongrass growing wild on the hill slopes and the product was mostly used for medicinal and perfumery purposes. Gradually this oil found its way to Foreign markets like New York and London and began to attract better prices. Within the past 25 years the foreign demand for this oil, which has come to occupy an important place in foreign trade of India has increased progressively which in its turn has resulted in a corresponding increase in the production of this commodity. When the demand for oil outgrew the supply from natural growth, regular cultivation of the crop was started first in Travancore Cochin and later on in Malabar and still later in parts of South Kanara bordering on Malabar. In the wild state two distinct types of grasses were found one having a whitish stem and the other pinkish one. It was soon found out that the grass with pinkish stem (*Cymbapogon flexuosus*) yields an oil of much better quality than the one with whitish stem (*Cymbapogon Citratus*), the difference being mainly in the Citral Content of the oils which determines the prices in the foreign markets. While the pink stemmed grass gives an oil containing 75 to 83% citrical, the oil from the white stemmed grass contains hardly 10% citral. As a result of this discovery and the Foreign markets fixing a definite standard which insist on a minimum of 78% Citral in the oils for export, care is now being taken to eliminate the white stemmed grass from cultivated fields. The oil from *C. Citratus* growing wild is, however, extensively used for mixing with oils of higher Citral Content than the required minimum so as to bring the same to the minimum level. Its economic importance can be seen from the fact that next to the Mysore Sandal Wood Oil, the Cochin Lemongrass Oil occupies the foremost place among the Indian essential oil exported to foreign countries. It has also turned out to be one of the important dollar earning commodities along with the other West Coast products like pepper, tea, rubber and cashewnut oil and kernal. In India the cultivation of this grass is confined to the West Coast regions of Travancore Cochin and the districts of Malabar and parts of South Kanara. It is a crop that is admirably suited to the waste lands and hill slopes of the West Coast where no other annual crops would grow

so satisfactorily. As the distillation requires large quantities of water and firewood, it would not pay to cultivate this crop where water facilities are lacking and firewood is scarce.

Methods of Cultivation: The land is cleared of scrub jungle by burning the area in February - March and dug once or ploughed two or three times with the help of summer showers and got ready for sowing in the beginning of the South West Monsoon rains. Seeds collected from plantations having only the pinkish stemmed variety is sown broadcast at 15 to 20 lbs. per acre with the first soaking rains in April - May and lightly covered by a brush harrow. Germination is complete in about 10 - 15 days. One combined operation of weeding, thinning and filling up gaps with the thinned seedlings is done a month after germination. No further cultural or manurial operation is done to this crop except burning the stumps during summer once in 2 or 3 years with a view to rejuvenate the crop. The life of the crop varies from 5 to 8 years according to the fertility of the land.

The first cutting can be taken 3 to 4 months after sowing according to the fertility of the soil. In no case should the crop be allowed to flower before cutting as the oil yield of leaves is reduced considerably after flowering. Normally 5 cuttings can be taken from the crop in a year at intervals 6 to 8 weeks. The crop yields practically no cuttings from January to May due to the drought conditions prevailing on the West Coast during this part of the year. From one acre 12 to 18 bottles of oil can be obtained in the first year and 30 to 36 bottles in the 2nd and 3rd years. The yield of oil goes down progressively in the subsequent years.

Distillation: The oil is distilled in crude country stills made of copper by direct firing method. One charge in the standard still takes about 300 lbs. of fresh grass cuttings which yields 8 to 10 oz. of oil. The distillation takes about 4 hours in all and therefore 3 or 4 charges are distilled per day in a still during busy seasons. The work starting with cutting and transporting of the grass and finishing with the separation of oil is mostly done on contract basis which helps in promoting efficiency and reducing cost. The oil which floats on water is carefully separated and filtered through fine filter paper before despatch. The containers used for despatch to foreign markets are 40 - 60 gallon steel barrels.

The place of Cochin Lemongrass oil in the world market: The world production of Lemongrass oil is estimated to be about 60 tons of which nearly 80% is produced in the West Coast states and districts of South India. Though this industry is faced with competitions from other countries like Indo-China, Java, Sumatra, Eretrea, Madagascar and the Central American States, the Cochin oil continues to get high preference in

the world market due to its higher Citral content. The chief importing countries of Cochin lemongrass oil are U. S. A., U. K., France and Germany. The production and export of lemongrass oil reached their peak level in 1951 due to the high prices offered by American purchasers as can be seen from the following statements :-

Export of Lemongrass oil from India to Europe and U. S. A.

<i>Years</i>	<i>Export in gallons</i>	<i>Value in Rupees</i>
1944—'45	1,21,629	32,12,243
1945—'46	1,50,790	70,13,862
1946—'47	1,33,390	1,07,45,131
1947—'48	84,053	30,56,595
1948—'49	95,824	24,07,677
1949—'50	82,166	42,07,165
1950—'51	1,09,762	1,13,42,668
1951—'52	1,25,600	1,60,00,000 (approximately)

Price fluctuations of Lemongrass oil in Cochin Market

<i>Year</i>	<i>January</i>	<i>February</i>	<i>March</i>	<i>April</i>	<i>May</i>	<i>June</i>
1949 Rs.	66-3	66-13	69-8	70-2	67-10	70-15
1950 ..	153-2	147-4	144-0	126-8	117-9	104-13
1951 ..	310-10	319-13	324-11	293-3	265-7	211-13
1952 ..	127-8	126-7	90-13	85-13	82-5	84-1

<i>Year</i>	<i>July</i>	<i>August</i>	<i>September</i>	<i>October</i>	<i>November</i>	<i>December</i>
1949 Rs.	78-14	89-7	100-4	146-6	136-15	144-12
1950 ..	117-1	151-8	179-8	174-0	184-8	250-8
1951 ..	198-2	235-0	250-0	226-5	197-11	148-8
1952 ..	79-1	70-1	65-20			

The price which is usually expressed in terms of a unit of 12 bottles of 22 oz. each was the highest ever recorded in 1951 due to the American stock piling said to be for synthesising of vitamins. The price of oil has since come down still further to the present level of about Rs 66/- per doz. bottles. Due to the comparatively low cost of cultivation even Rs. 80/- will be an economic price for the oil. The fluctuations in the prices of Lemongrass oil in Cochin market have been quite remarkable, the variations within recent years being between Rs. 60/- and Rs. 325/- per doz. bottles. These wide fluctuations have been due to the variations

in foreign demands and the somewhat artificial slump created from time to time by the Exporters who are mostly European Firms like Messrs Pierce Leslie & Co., Messrs Volcart Brothers, etc. The export trade has been the monopoly of these big Foreign Firms till recently and the producers were kept in complete ignorance of the foreign market trends. Of late, however some Indian Firms have also come into the picture to the advantage of the growers. Organisations of Growers Co-operative Societies in the important centres may go a long way in saving the producers from the tyrannies of the wholesale exporters who often manipulate prices to their advantage.

Mal-Practices in Trade: Mixing of inferior oils from white stemmed varieties and even Kerosene oil with oils of high Citral Content, till the same is brought to the minimum level, is being resorted to by unscrupulous producers and petty traders. In addition to this, colouring of oils with artificial dyes to give appearance of superior oils is also reported to be in vogue in recent times as the American buyers who were purchasing the oil for synthesis of vitamins were particular about the colour of the product. There have also been a few cases of absolute duping by filling part of the drums with water before exporting to give the weight. Such malpractices are sure to spoil the reputation of Indian oils in foreign markets and ought to be prevented by the State exercising some sort of quality control.

Uses of Lemongrass Oil: In early days the oil was mostly used as a cheap soap perfume and for pharmaceutical preparations like pain balms and disinfectants. Later on separation of 'ionons' from the oil with the aid Electrical appliances was discovered, the ionons being 4 to 5 times more costly as perfumes than the original oil. The latest use, however, is reported to be for the manufacture of vitamins and this was presumably the main purpose with which the American had purchased this in such large quantities at extraordinarily high prices during the stock piling period following the out-break of hostilities in Korea in 1950. Thus lemongrass oil has transformed itself into a strategical War material from the position of a cheap soap perfume.

Scope for Extension of Cultivation: There is almost an unlimited scope for the expansion of this industry on the West Coast as this crop is particularly well suited to the extensive waste-lands of those regions including hill slopes of comparatively shallow soils of low fertility. As the oils produced in the other parts of the world do not come up to the standard of the oil produced in this region the West Coast of India almost enjoys a monopoly of this product in the world market.

As setting up of a pilot plant in Travancore-Cochin for the separation of ionons is under contemplation of the Government of that State,

there is likely to be better demand for the oil in the home market also. Above all, its potential value as a basic raw material for the manufacture of vitamins holds out new promise for the future of this industry. The Indian Council of Agricultural Research has also of late bestowed some thought on the development of this industry along with the other important dollar earning commodities like popper, cashewnut, ginger, etc. and their detailed investigations are in progress. All this should encourage the expansion of this industry in the West Coast as well as other suitable regions.

Summary: Lemongrass oil Industry has a good future and rather wide scope for expansion on the wastelands and hill slopes of the West Coast States and districts. The lemongrass—*Cymbapogon flexuosus*—comes up well even in comparatively shallow and poor soils and hill slopes, even in places where other crops like modan paddy or tapioca fail to grow well.

The cultivation methods are comparatively easy and less expensive than other crops and a crop once raised remains in the field for 5—6 years giving 25 to 30 cuttings in all. Care has however to be taken in selecting the right type of seed material for eliminating the admixture of the inferior white stemmed variety of grass *c. citratus* which yields an oil of very low citral content. As *C. flexuosus* grown in India gives a superior oil with high citral content ranging from 75 to 85% compared with the oil produced in other countries like Central American States, Indonesia, Eretrea, Madagaskar etc. Indian oil is likely to get preferential claims in U. S. and continental markets for a long time to come. The periodical slumps often artificially created by vested interests and the consequent wide fluctuations in the market rates can be combated to a great extent if the producers and local merchants organise themselves properly and improve their staying power. Above all the prospects of development of 'ionon' and other industries in India with the help of the Central and State Governments following the investigations by the Indian Council of Agricultural Research should enthuse and encourage the producers to increase their production.
