

FUTURE OF THE INDIAN CITRUS INDUSTRY

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As in the case of most other Indian fruits, the Indian Citrus industry is full of anomalies intrinsic in any unorganised growth. To the outside world, India is not known as an important citrus producing country and has been classed as outside the 'ideal' citrus growing belt. Actually, however, India produces about as much citrus as Spain, the leading citrus exporting country in the world ; and from point of average production per acre is perhaps next in importance to only the United States of America, South Africa and perhaps one or two other countries. The Presidency of Madras alone has an area of over 20,000 acres, which is about equal to the pre-war citrus acreage in Palestine, one of the leading citrus producing countries. Almost the same area is believed to be under this fruit in the Bombay Presidency, Central Provinces, Coorg and Mysore. If to these are added the area in Assam, the Punjab, North-West Frontier Province, the United Provinces, Orissa and lower Himalayan ranges including Nepal and Sikkim, the total area is expected to be well over 100,000 acres which is certainly not an inconsiderable figure as compared to the chief citrus producing countries of the world.

Within this vast country, there are tracts where the average citrus production per acre can well withstand favourable comparison with the highly specialised producing centres in America and South Africa. In point of view of fruit quality, certain types of Indian citrus as the Malta and Sathgudi orange and Nagpur and Coorg Santras have been considered to be equal in quality to the best grown elsewhere. The cost of production in certain rain-fed tracts like Coorg and Agency tracts is perhaps the lowest in the world. Despite these advantages, it is a well-known fact that Indian citrus-growing is still in a primitive stage. Our production is very much below demand, and we have therefore to actually import certain varieties from abroad. The cost the consumer has to pay is far beyond his capacity in respect of certain varieties. There is a great preponderance of low grade fruits in citrus orchards and the defects in the disposal of these produce are so varied and numerous and the methods of orchard raising and maintenance are so demonstrably defective and unsystematised in a vast number of cases that, it is only a few growers who find this industry a paying proposition. The rapid fall in prices of citrus fruits in a few areas during the past decade shows that the industry is fast reaching a critical stage in its development.

It is not possible to stem the tide of depression by effecting an improvement of marketing alone, or in fact by any one single measure. In a crop like citrus, for the extension of which there is abundant scope, and which even in its present stage has furnished conclusive evidence of its being one

of the most remunerative of the Indian crops, but nevertheless is coming face to face with a growing competition from imported citrus fruits and by-products, it is essential to examine every aspect of the industry before one can offer any suggestion for the future.

A review of the present status of the citrus industry indicates that certain fruits like loose jacket oranges of the Santra type can be produced at a very low cost in Coorg, Agency tracts and Lower Palni hills of the South India parts of Orissa and perhaps also in a small area in Khasi Hills of Assam. In some of these tracts particularly in South India, acid limes also grow with the minimum of care and, therefore, will be available at the lowest rates possible to the consumer. The Santras in Bombay and Central Provinces are much more expensive to grow, but the existence of better transport facilities makes them available in a larger area at competitive rates than those raised in the rainfed tracts. If better transport facilities are provided for the rainfed Santras and limes of South India, not only will it be possible to open up extensive areas under these fruits, but also to market these fruits at most favourable rates to the consumers. The recent tendency of the Nagpur Santra growers is to exploit the markets of South India, but it appears that Northern and Central Indian markets will be the most profitable marketing centres for the future of these fruits as well as of those produced in Orissa, while the South Indian markets will be of easier access and more profitable to the Coorg and Agency tract Santras. In regard to limes, South India at present possesses the largest area and it is doubtful if there is much room for expansion of the area under this fruit, unless a vigorous attempt is made to develop the lime beverage industry.

In regard to tight jacket oranges, the Madras Presidency, the Punjab and Bombay are the leading producing centres. The Malta and Blood Orange of the Punjab, North West Frontier Province, Western United Provinces and Sind, though of excellent quality, are very expensive to produce, with the high irrigation charges, high cost of protective measures against frosts, dust and hail storms. The Mosambi of the Bombay Presidency is fairly expensive and does not command a ready market except in the local and Hyderabad (Deccan) markets. The Batavian and Sathgudi oranges from seedling trees of South India are the least expensive to produce but so varied in quality that a thorough system of standardisation is necessary before it can meet the fancy of distant consumers. With the development of research in orchard maintenance and on standardisation of rootstock and scion varieties, it appears possible that South India will assume the premier position in the production of this type of orange. Not only there is very vast field for exploitation by the South Indian orange growers in their own Province but there is also a very great scope for marketing these oranges profitably in a great part of Central and Eastern India and even in some parts of Western and Northern India. Their low cost of production and excellence in quality should outweigh the high transportation charges to extra-provincial markets at least to a certain extent.

Another unique advantage that the Sathgudi and Batavian orange growers of South India enjoy is their ability to produce fruits practically all through the year. Although these oranges are largely marketed in two main seasons as those grown in Bombay and Central Provinces, the South Indian oranges can be had almost in every month in small quantities. The future of the Citrus industry in North and North West India suffers from the serious disability of a short seasonal production. Selection of choice, regular, off-season bearing, and high-yielding parent trees and extensive popularisation of their progenies after adequate tests should, therefore, prove a most profitable venue of work for the development of the South Indian Orange industry.

There appears to be very little future for grape-fruits, pomeloes, citrons, lemons, and other minor types of citrus in this country. Lime has established itself as an universally popular fruit but the production being already abundant, its future is not as bright as that of the Santras and tight jacket (sweet) oranges unless manufacture of cordials and squashes is extensively taken up. Introduction and trial of reputed varieties from abroad, selection of promising indigenous strains bearing in the regular and off-seasons, selection and standardisation of most promising types of rootstocks and finding out the most economic methods of orchard maintenance constitute the major problems of the citrus industry that await solution. As in the case of mangoes, future development of this industry should be based on the results of these above mentioned investigations and in due regard to the economy of production in the various tracts of India, and particularly in regard to the extension of the bearing season. Much room for improvement no doubt exists in the shape of provision of cold storage facilities and improved transport and marketing conditions, but these, by themselves will not stabilise the industry in its present stage nor will they ensure a sound and bright future. A rational plan of development will cover a number of distinct fields of work. In any case, it is impossible to point out the details of such work till the results of the All-India citrus Survey that is being conducted by the Imperial Council of Agricultural Research become available and the Provincial horticultural research workers put their heads together to work out a feasible and co-ordinated plan for the benefit of the Indian citrus industry.

EXTRACTS

Soil Losses from Indian Forest Grasslands and Farms. By R. MacLagan Gorrie, D. Sc., I. F. S.

Reliable run-off figures for forest and grassland are now available for the first time for Indian conditions. A technique of volumetric analysis of water and silt was worked out by the Punjab Irrigation Research Institute Staff at Madhopur in 1936 for a type of small isolated square of undisturbed soil $3\frac{1}{2}$ square feet in area. This method was described in the *Indian Forester* of December 1937, pp 839-846, and has been followed in forest plots at Nurpur in the Kangra district. A battery of six plots gave three pairs of grass, grass and shrubs, and bare soil on a slope of 1 in 4 on an eroded hillside of poor Siwalik