

Marketing of Fruits with Special Reference to Grapes in the Madura District and Suggestions for its Improvement. ✓

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Introduction. Of late, there has been a cry from scientists and leaders of thought "Grow more fruits" and "Eat more fruits". Experts in dietetics are also of opinion that at present the use of fruits as one of the items of our daily food is quite inadequate and that deficiency of fruits and fruit products in the diet is highly detrimental to the health of the people. The backwardness of the Indian farmer in adopting scientific methods of fruit growing is recognised as an impediment to the production of fruits on a large scale. The lack of marketing facilities and the proverbial ignorance of marketing conditions by the fruit grower, add to the deterioration of the fruit-growing industry. It is, therefore, considered necessary that for ensuring and stimulating the health of our people, improvements in scientific farming must go hand in hand with the improvement in the method and disposal of the produce. The marketing of fresh fruits, their transfer from the producers to the consumer, is an important and indispensable activity. It involves a varied and often complex distribution and sales system, and it is usually costly. It is due to the uncertainties of the trade, the risks involved and the various services performed in modern distribution and marketing. Accordingly the difference in price between what the grower receives for his product and what the consumer pays is often considerable indeed. Marketing of fruits is attended by various groups of people, buyers, wholesalers, jobbers, retailers, etc. Each successive middleman specialises to some extent in a particular function and service. There is, however, considerable overlapping in the activities of the various agencies and a continuous adjustment in methods of distribution especially since the advent of the use of motor bus, lorries and train service in transportation. The system is sometimes made simpler by a "link" or middleman being dropped out, but occasionally it becomes more complex due to the necessity of interposing a new agency between the existing ones.

Taking fruit marketing in the aggregate one may recognise three general ways of disposing of the crop. (1) selling at home or locally; (2) marketing at a distance in the city and (3) exporting to foreign markets. If circumstances justify, the grower may use only one type of marketing continuously and profitably.

An attempt is made in this paper to present in detail the existing system of production and distribution of grapes and to suggest improvements in the organisation of its disposal. In the Madras Presidency, grapevine is cultivated on a large scale in and around Michaelpalayam village in

Nilakottai of the Madura District, Krishnagiri in the Salem District and Penukonda in the Anantapur District. These three areas are peculiarly favoured with a climate suitable for the production of grapes.

Grapes were first introduced in and around Michaelpalayam by the Jesuit Fathers about 50 years ago. Vine growers are mainly *Vanniya* Christians. Especially during the last twenty years, the Agricultural Department has been in close touch with grapevine cultivation in that area. Co-operation of the grower with the Department has resulted in increased out-turn of produce to about 400 baskets (each basket weighing 25 lb.) per acre in the two fruiting seasons, and also in the yearly increase in acreage under cultivation. March to June and October to December are the two grape harvesting seasons, seven months being the period of harvest in a year.

In and around Michaelpalayam, each cultivator invariably raises grapes in about 40 to 50 cents of his holding. The maximum extent of the garden will be about 3 acres. Through proper care and attention the grapevine gardens once started can be kept on for about 30 years. The vines begin to yield even from the second year. But regularly heavy harvests are obtained between the seventh and twenty-fifth year. Of the two harvests in a year, the summer crop is always heavy and sweeter than the cold season crop. The yield per acre of a vine garden in a year is about 400 baskets or 10,000 lb. in both the seasons put together.

All the fruits produced are usually railed for sale to various towns in this Presidency. The fruits are sent up to Calicut, Mangalore and Trivandrum in the South and as far as Rajamundry in the North. For short distances fruits are sent in baskets only and to distant places mud pots are used as containers. The whole quantity of fruits are disposed off with the help of fruit merchants at the producing centre who are merely forwarding agents employed by the wholesale merchants in towns and cities. These forwarding agents are also owners of grapevine gardens. Before the commencement of the harvest season, the forwarding agents borrow money from the wholesale fruit merchants in towns and cities like Madras, Trichinopoly, Tanjore and Madura, and distribute it to the gardeners for their expenses with the stipulation that they should sell their produce to them. It thus happens that each forwarding agent at the place of production has a number of gardeners as his debtors, who in turn are expected to show some concession to the forwarding agents in the matter of price. The forwarding agents either purchase the standing crop on contract outright or periodically purchase the fruits at fixed rates from these gardens. In either case they advance a certain amount of money before hand and settle the accounts of the gardeners part by part even till the next harvest. In most cases they do not pay the gardeners in full as per contract, but withhold large sums of money on the pretext that they have incurred losses in the transactions. It is only very rarely that the amounts are paid in full as per agreement.

The forwarding agents are in turn exploited by the wholesale fruit merchants in towns and cities. The forwarding agents have to keep up to their contract to supply fruits to the particular merchants who have advanced them money and to accept the price quoted in the invoice. The agents have to spend large sums of money daily towards freight, packing and incidental charges on the consignments of fruits despatched. In most cases the fruit merchants in towns and cities carry on this business on commission basis. The rate of commission goes up to three annas in the rupee on the sale proceeds in addition to deductions like charity, *mahimai*, etc. To add to all these the accounts that these merchants render to the agents are anything but satisfactory. Usually the invoice received from the fruit merchants do not give the actual price of sales. For instance a basket might have been sold for Rs. 2 and in the invoice the selling price may be Rs. 1-8-0 only. The forwarding agents have no other course but to accept the invoice as correct and true.

Thus it will be seen that the gardeners do not receive the equivalent of their labour and outlay. The remuneration that these forwarding agents receive is inadequate for the trouble and worry to which they are subjected. The individuals who obtain the maximum benefit are the fruit merchants in towns because they cleverly manage to pool and control the supply of fruits, to keep the producer and forwarding agents under their thumb and to regulate the market to suit their trade and purpose. In spite of all these drawbacks the vine-gardeners were able to realise fairly good income before the year 1932 as fruits were selling at Rs. 4 to 6 per basket according to the season. But during the years 1932 to 1938 the position became alarmingly serious as the price fell down to as low as one rupee per basket. The gardeners were unable to meet the ordinary expenditure like the renewal of *pandals* manuring and irrigation charges.

It was in course of time realised that by proper organization and efficient control attempts should be made to systematise the sale of grapes for the benefit of the producers and to regulate the market prices for the benefit of the consumers as well. Upon the success of such an organization depends the prosperity of the grower by the elimination of the middle men, brokerage and other wastage. This aspect of the problem and the enormous loss to the Indian agriculture came to the notice of the Royal Commission on Agriculture in India.

Guided by the above principles, attempts were made in the marketing of grapes in Michaelpalayam area during the early parts of 1938. A Co-operative Marketing Society called "The Michaelpalayam Fruit Growers' Co-operative Society" was formed with the help of the Provincial Marketing Officer, Madras. To start with, there were about 105 members. The Society was affiliated to the Madras Provincial Marketing Society. Necessary financial help was given by the Madura—Ramnad Central Co-operative Bank. Sufficient publicity was given to all the fruit merchants in the various towns regarding this new organization and the conditions of its business.

Kodaikanal Road Railway Station being the nearest booking station, the office of the Society was located there so as to enable easy transaction of business. The produce of the members was pooled daily near the station premises and were despatched to various merchants according to indents received from them day to day. The Society in consultation with the General Body and Directors selected merchants whom they knew already in the consuming centres. Only such selected merchants were supplied with fruits for sale on commission basis at one anna per rupee on the sale proceeds. Deductions like charity, *mahimai*, etc., were not permitted. In order to verify the price given in the invoices, the Agricultural Demonstrators in the various towns were circularised and requested to periodically report the prevailing prices for grapes in their respective places. The moneys realised by the sale of fruits were distributed to the members every week according to the number of baskets sold by each of them through the Society, after meeting the incidental charges and working expenses. During the season ending June 1938, 350,000 lb. of fruits worth about Rs. 23,000 were handled by the Society within a short period of 4 months, commencing from March to end of June. Towards the end of April there was a severe glut in the market since the produce of many gardens came to harvest at more or less the same time. During this period of glut, the prices fell down so low that in some instances the railway freight exceeded the price realised from the sale of the produce. The fruits had to be sent only through Mail trains, wherein, arrangements for free circulation of air, was absent.

Towards the beginning of the season, in order to see whether better prices could be secured by tapping new and fresh markets, the Society sent a few consignments of fruits to some of the North Indian towns like Lahore, Patna, Allahabad and Calcutta. But the Chaman grapes proved a formidable competitor to the South Indian grapes in the matter of price as well as quality and therefore further consignments to the North Indian markets had to be stopped. In spite of severe competition the gardeners who operated through the Society got decently fair price two to four annas more per basket over the sale price of non-members and ready cash for their fruits week after week. Towards the close of the season, some of the outstandings with the merchants could be collected only with some difficulty. Though the organization was in its infancy, the experiences gained in its actual working for one season has indicated the directions in which we have to bestow our attention further to reach perfection.

The following suggestions are worth considering :—

1. Reduction of railway freight. Considering the large quantity of grapes now sent by rail and the probable increase in the transport of this fruit the railway fares should be reduced to half the present rate. By doing so the Company may not lose much of its income because the transport of fruits and perishables in lorries and also on bus tops could be diverted to rail.

2. In the railway vans arrangements for holding the fruit baskets in rows with sufficient space between for ventilation should be provided as against the present system of piling up baskets one over the other in a cramped up limited space resulting in the speedy rotting and decay of the commodity.

3. In order to prevent glut and many gardens coming to harvest at one and the same time the gardeners should be persuaded to so adjust the pruning operation that a regulated and limited supply of fruits are available on the market.

4. The merchants at the consuming centres should be *forced to take* out licenses and only men of status should be authorised to trade in fruits so that losses due to cheating can be minimised to the least possible level.

5. Efforts should also be made to eliminate competition between the Society and the non-members. All the garden owners should be persuaded to join the Society. There can be no doubt about the huge benefit that can be conferred upon the growers in their union in a co-operative organization.

Rural Sanitation.

By GULAM DASTHAGEER.

The old aphorism that "God made the country" would be blasphemous if we attribute to God the creation of the Indian villages as they are now. God did make the villages but only man made them insanitary. In a country like India where nearly 90 % of the people live in villages, the question of rural sanitation is of very great importance. The condition of the people of India as a whole cannot be bettered without paying due attention to the sanitation of the villages and the health of the large mass of village dwellers.

Though there has been a great deal of improvement in recent years, the condition of the villages in India is still very deplorable. The high death rate and the low average length of life in India is in no small measure due to the insanitary conditions prevailing in the villages.

There is dirt everywhere—potential breeding places for health destroying germs; the cattle are not kept in clean places; the wells or tanks which supply water for drinking purposes are used for washing and bathing; even the very person of the villager is not free from injurious and harmful dirt. The attention of the villagers should be drawn to these points and in them should be inculcated clean habits which would be conducive to good health. This will lead to better devotion to work and ultimately to prosperity all round.

The problem will be solved if each villager is meticulously careful about the cleanliness of his own person and dwellings. Personal hygiene will naturally play an important part in this. Bathing and wearing clean clothes, (not necessarily costly) and otherwise keeping the body clean will

give an impetus to keep other things also clean. Comfortable but cheap dwellings should be built allowing sufficient light and air into the houses. The houses ought to be kept clean and no waste allowed to accumulate either inside or outside them. Everything arranged in an orderly manner in the house will lead to clean habits.

The disposal of rubbish and excreta ought not to be a problem at all. There is money in all these waste materials, such as plantain leaves, rags, sweepings and excreta. If all the rubbish collected from the house is dumped into big pits along with dung, etc., and covered with earth, after sometime the harmful waste materials will be converted into useful manure for the fields. Bore-hole latrines can be constructed cheaply and used by all the people including the children who should not be allowed to defaecate in streets, a very nasty and unhealthy habit which is chiefly responsible for the high incidence of the hook-worm disease in our villages. From these latrines valuable manure can be obtained if they are closed after sometime and others dug for use.

The villager must be taught to eat wholesome food which is absolutely essential for his well being. A correct appreciation of the value of food stuffs will enable the villager to get a balanced diet even for the very small amount he usually spends for his food. The necessity for consuming more milk and milk products must be emphasised. Water used for drinking purposes should first be filtered and well boiled as many diseases such as cholera, typhoid, dysentery and diarrhoea are spread by contaminated water. The villager must be made to realise the harm done by drinking toddy and other intoxicants.

Merely keeping the village and the villagers clean will not solve the problem of rural sanitation if medical facilities are not made available within the reach of every villager. There are many diseases which in spite of best precautions attack the people and sometimes take a heavy toll of life from the population. For preventing this there should be isolation of people suffering from contagious and infectious diseases. They should not be allowed to mix with other people, and proper medical aid should be given to them. Pools, marshes and all other places which allow water to stagnate in them should be filled up with earth so that mosquitoes may not breed.

Cattle should not be kept in small overcrowded houses where their excreta make the place filthy and detrimental to the health of the people. Separate sanitary sheds should be erected for the cattle which should be always kept clean. Their excreta should be removed and dumped into pits along with rotting leaves and other rubbish which ultimately provide very good manure. There should be a number of separate plots where the cattle can graze. These plots can be used by turns when the fodder in one gets exhausted. The cattle being well fed will do more work for the farmer.

Now, there remains only a very small part of the problem if each one of the villagers is particular about the cleanliness of himself, his dwelling, surroundings and his cattle. No one should dump all the rubbish from his house near the house of his neighbour in order to keep all the dirt away from his house. If every one does so there will accumulate near every house rubbish from his neighbour's house instead of rubbish from his own house and none would be any the better. By common consent and co-operation, the streets and lanes can be kept clean and all the rubbish removed to a big dump or for reclaiming marshy waste land. It is certainly necessary that the village as a whole should be clean if everyone is to be healthy. The wells and roads should be under the control of the whole village for without co-operation they cannot be kept in good condition. For achieving all this, literacy of the villagers is essential. Healthy surroundings and healthy life will make the villager hard working and happy. Happiness will in its turn psychologically improve the health of the people and this cycle will be going on to produce a race of villagers who will be the pride and the benefactors of a glorious regenerated India.

SELECTED ARTICLE

Plant Genetics as Applied to the Agricultural Industry in India.

"I trust that the day will come when humanity will take as great an interest in the creation of superior forms of life as it has taken in past years in the perfection of superior forms of machinery". So wrote Henry A. Wallace, the secretary of the United States Department of Agriculture in the sumptuous Year-Book of the Department for 1936 devoted to exploring the creative development of new forms of life through plant and animal breeding after a survey of superior germ plasm. Wallace's observations are of special import to India which is mainly an agricultural country. Its prosperity depends, therefore, to a great extent on the advancement made in efficient crop culture. The wide range of weather conditions in India distinguishes the different climatic tracts and the cultivation of varied food and industrial crops is rendered possible. Rice, sugarcane, wheat and cotton are some of the important crops and the less prominent ones include the millets, oil seeds and pulses. With the modern needs for intensive cultivation consequent on the limits imposed on the availability of cultivable land and the ever increasing pressure of the population, there is the necessity to turn to practical use the knowledge gained in the pure and applied sciences relating to agriculture.

The classical researches of Lawes and Gilbert on the mineral nutrition of plants have led the way for the augmentation of production by the application of artificial manures. The rediscovery in 1900 of Mendel's laws of inheritance has not only advanced the methods of plant breeding, but has also laid the foundations of modern genetics. Since then, a vast amount of intensive work has been done on the fruit fly *Drosophila* by T. H. Morgan and his school. The cytological researches conducted in the same fly and in maize and other plants enabled the deeper understanding of the science of genetics, with the establishment of the chromosome theory of heredity and the formulation of the 'gene' as the ultimate biological unit responsible for the expression of life in its various manifestations. ✓