

CABBAGE GROWING ON THE NILGIRIS

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Among the "English Vegetables" which are eaten by Indians to a fairly large extent and which can be considered as "established vegetables", cabbage stands only next to potato in importance. Although it has not found a place in the "average village gardens" it is grown by market gardeners in the suburbs of many large towns in this country. The fact that cabbages are sold even in village shandies in recent times shows that the masses too are getting accustomed to the use of cabbage in their food.

Cabbage has been grown on the Nilgiris for over a century. Until a few years ago, it was grown, among other vegetables, in the market gardens in Ootacamud, Wellington, Coonoor and Kotagiri and their immediate surroundings, by small growers, more with the object of meeting the local demands than as a commercial crop. It was almost always grown with other vegetables in small patches of ground of even less than one cent in extent. These market gardens are small holdings and are cultivated intensively as most of the ryots engaged in market gardening are also interested in the supply of milk in towns. They have therefore plenty of cattle manure for the needs of the garden and as the fertility of the soil is thereby maintained, an intensive cultivation is possible.

During the past decade, the production of cabbage even in market gardens has been increasing owing to demands from outside the district. On shandy days baskets containing cabbage and other vegetables are being sent to individual consumers in Madras and other towns and cabbages are also sent by train to these towns packed in gunnies, for sale.

During the past five years despatches of cabbages by rail and lorry from Ootacamund and Mettupalayam to the more important towns of the Madras Presidency have been increasing and as a result of this increase, cabbages are, during the past two years in particular, grown on "field scale". Lorries loaded with cabbages go to Coimbatore, Calicut, Salem, Trichinopoly, and even Madras once a week or oftener according to demands.

The most important reason for the rapid increase in the area under cabbage in recent years has been the fall in prices of potatoes. The chief occupation of the ryots on the Nilgiris is potato cultivation. As it is not sufficiently paying and as unemployment is increasing ryots are resorting to growing cabbages in order to supplement their income. It has been found by experience that growing cabbages

immediately after harvesting a potato crop has been profitable because the expenses and trouble are much less than if they were to grow on other lands. The preparation of the land does not involve much labour and the fences erected for the potato field would serve the cabbage crop also. For the potato crop ryots are using large quantities of fertilisers, the residual effects of which are available for the cabbage crop which follows the potato crop. In some cases the application of the available quantity of farmyard manure might alone be sufficient to produce a satisfactory cabbage crop although in some cases further application of small doses of fertilisers might be beneficial.

But such cultivation on a field scale is not possible on all lands. In the early stages of the cabbage crop, in particular, frequent watering of the plants will be necessary, especially, when rainy days are far apart. Otherwise the plants do not come up very well. Until the "heads" are formed, fairly regular watering will be necessary. Therefore, only such soils, which are near sources of water supply, can be utilised for the cultivation of cabbages. For this reason, only lands on which an irrigated crop of potato is raised are chosen for growing cabbages. The area under such irrigated crop is small and the crops are therefore raised in different months in different parts of the district. The most common seasons are February and July.

The irrigated crop of potatoes which is the most common is the February crop. This crop is harvested in June and as at this time the available supplies of potatoes are small, ryots generally get good prices for the potatoes. On account of this, the area under the irrigated crop has increased in recent years. The harvesting of this crop in June will be followed by cabbages which are planted in July-August. The cabbages come to the market in September to November according to the early or late variety grown.

The other main irrigated crop of potatoes is in July. The crop is harvested in Nov-Dec. Cabbages will follow in December-January and these will come to the market in March to May for the "Nilgiri season".

Besides the above two well marked seasons cabbages are grown on a small scale in other months also, especially in the market gardens.

The area of plots on which cabbage is grown varies considerably. In market gardens it might vary from a fraction of a cent to 2 or 3 cents each. As a field crop the area of the plots will vary between half an acre to two acres. Generally cabbages are grown in the same field only once in two years. There are many villages on the Nilgiris where cabbage is grown as a field crop and the more important of them are Adashola, Kadanad, Anikorai, Kothamudi, Ithalar, Davane, Bygamund, Jagathala, Nedugula, Sulligudu, Hittagal, Koonsholai. It is not possible to give even an approximate idea of the total area under cabbage

in the district but it may be roughly estimated at not less than 300 acres.

The varieties of cabbage differ considerably in the rapidity of growth and they are classified into "early" and "late" varieties. Early varieties generally reach maturity of "head" in 80 to 100 days while the late varieties require 120 to 150 days. They may also be classified according to the shape into "Drumheads" with flattened spherical heads and "Ox-hearts" which have oval or bluntish cone-shaped heads.

Cabbage growers on the Nilgiris generally get their seeds from the seedsmen in Poona. The varieties largely grown are Cape Largest Drumhead and Cape Early Drumhead. The price of seed varies between Rs. 5 and Rs. 6 for 4 oz. Four to six oz. of seed, according to the variety, are required to plant an acre.

A well-drained spot is selected for the seed-bed. A fairly large quantity of cattle manure is thoroughly incorporated with the soil. Seeds are sown broadcast in the prepared bed and the bed is watered. The seed is sometimes sown at intervals of time in such a manner as to provide seedlings for transplanting at intervals so that there may be production of crop for a longer period of time. The seeds generally germinate in 10 days. When the plants have come up well they are thinned out carefully so that there may be no overcrowding. When the plants are about 6 inches high, that is, in 30 to 40 days after sowing, the seedlings are lifted carefully, allowing some soil to adhere to the roots, and then transplanted in the prepared plot. Circles of about 6 inches radius are marked after forking and pulverising the soil, cattle manure is placed within each circle and it is mixed thoroughly with the soil, and then the seedlings are planted at the centre of each circle. The plants are generally 2 to 3 ft. apart according to the variety of the plant.

After transplanting, the plants must be watered frequently, especially in the absence of rains. About a month after transplanting, hoeing is done, and if the plants show poor growth, fertiliser is applied at the rate of 4 to 6 cwts per acre. Sometimes a smaller dose of the fertiliser is applied before transplanting. But this is not general.

After the hoeing and manuring the plants will grow rapidly and in a few days heads will be formed. One more hoeing is given. Heads will mature in 60 to 90 days after transplanting according to the variety. Watering is not necessary after the heads are formed unless there is continued absence of rain for over ten days or a fortnight.

Generally the growth of the plants is not uniform so that, when some plants might be ready to cut, others might be immature. This is an advantage as supplies of cabbage can be had for a fortnight or longer from the same field.

No attempt is made to produce seed and the growers are content with getting their seed from the Poona seedsmen. According to a writer, "this is not greatly to be regretted, because hereditary

influence is not strong in cabbage. A first class variety removed to a different soil and climate soon loses the characteristics for which it is valued, and as the seed is not heavy or costly, it is better to get yearly supplies from a merchant whose business is to know where the best seed is procurable than to try to save seed in India".

The principal insect pest of cabbage on the Nilgiris is the caterpillar which eats the leaves. Besides hand-picking to some extent no other remedy is adopted by the ryots. The "Club-Root" disease is not prevalent in any appreciable extent. The "Black-Rot" disease is sometimes met with. For this also the ryot does not apply any remedy.

The cabbages produced on the field scale do not keep as well as those produced in kitchen gardens or by market gardeners. They have a tendency to rot. Cabbage should therefore be used as fresh as possible.

The cost of production of cabbages on the Nilgiris depends on several factors of which the following are the more important.

1. The expenses for the preparation of the soil for the transplanting of the seedlings will depend on whether the land is cultivated by the owner putting his own labour or by his employing hired labour for the purpose.

2. This will also depend on the nature of the soil and on the time that has elapsed between the harvesting of potatoes and the planting of seedlings and on whether there has been rain in the interval.

3. Raising one's own seedlings is less expensive than to buy seedlings from others. Seedlings cost between 4 annas and 8 annas per 100 according to the season and according to demand and supply.

4. The extent to which manuring with cattle manure and with fertilisers varies considerably. Ryots are aware of the fact that liberal manuring of the cabbage crop with fertilisers tends to produce a heavy crop and the quantity of fertiliser used depends on the ability of the ryots to buy the fertiliser. The extent to which fertiliser is used not only determines the cost of production but also the return which the ryot gets from the crop. It is therefore a very important factor.

5. The weather conditions and the quality of the seedlings produced will determine the extent of watering required. So the expenses under this head are variable.

6. Hoeing at intervals of ten to fifteen days helps the production of large heads. Generally not more than two hoeings are done. Some growers give only one. The expenditure on this item is therefore variable.

7. Transport facilities also affect the cost of production.

Considering all the above factors it is not possible to give any exact estimate about the cost of production of cabbage on the Nilgiris. It ranges between Rs. 100 to 150 per acre. An acre of cabbages would contain between 6000 and 7000 plants according to the variety used.

The marketing of the Nilgiri cabbages has to be made more efficient if cabbage growing on the Nilgiris is to pay. The market gardeners in and around the towns in the district grow cabbages only on a small scale and they always grow it along with other vegetables. The quantity they have to dispose of is not usually large and they generally sell their produce in the local shandies principally to consumers who generally pay fair prices. It is the grower on a large scale that suffers. His crop may be bought outright by some of the vegetable dealers in big towns such as Coimbatore, Salem, Trichinopoly etc. who may either fix a lump sum for the produce in the field and will arrange to cut the crop according to their necessity, and at their expense, or they may undertake to buy the whole crop and pay at an agreed rate for the quantity that they take from time to time. Some middlemen who act as suppliers of vegetables to the important towns in South India may also buy the crop in either of these ways.

Those growers who do not find such buyers take their crop every week to the local shandies and there sell them at the prices prevailing in the market. Merchants from the moffusil or their agents may also buy in large quantities for despatch to the principal towns.

If difficulty is experienced in not getting suitable buyers some growers who have their own lorries take loads to the various towns and there sell the lot at the best prices obtainable. Some others who have no such facilities may take their crop to some mundies at Mettupalayam who undertake to sell them, acting as commission agents. They get a commission of 6 pies per rupee.

The price obtained by the grower depends on several factors. In the months of April to June when the Nilgiri season is on, good prices are obtained because there is a much larger local demand and at that part of the year the competition from local produce in the large towns will also be less. At this period the price obtained by the grower ranges between Rs. 7 and Rs. 10 per 100 cabbages. After July prices go down and at the present time (October 1936) the prices range from Rs. 3 to 5 per 100. Recently one grower who had about 15,000 plants in $2\frac{1}{2}$ acres in Ootacamund town sold his whole crop for Rs. 500. The buyer has to remove the cabbages from the field at his cost. They were bought by a vegetable dealer of Coimbatore who transported the whole produce to Coimbatore taking one or two loads a day. Another grower in a village near Kil-Kotagiri sold his crop of about 20,000 cabbages at the rate of Rs. 3 per 100. The buyer had to remove the crop from the field at his expense and he paid for the quantity removed then and there. At the time of writing, cabbages are sold at the rate of Rs. 2-8-0 to Rs. 5 per 100 at the Ootacamund weekly shandy.

Taking the average cost of cultivation at Rs. 125 per acre and the present selling price as Rs. 3 per 100 and 6000 plants per acre, the profit to the grower comes to Rs. 55 per acre.