

Boil the cream and sugar (without stirring) until the threading stage is reached; add the honey; when syrup will make a soft-ball when dropped into cold water, remove from the fire and beat into it the well-whipped white of an egg; add the nut-meats; when firm and creamy whip into balls.

26. *Peanut carrot fudge.*

1 cup carrot pulp	1 table-spoon butter
1 cup corn syrup	1 lemon
2 cups sugar	1 orange
$\frac{1}{2}$ cup peanut meal	1 tea-spoon vanilla or almond extract

Bake some nice, yellow carrots until tender; pass through a sieve; to a cupful of this pulp, add all the ingredients except the extract; pour into buttered pans, and when cool cut into cubes; use both the juice and half the grated peel of the lemon and orange.

✓ 27. *Peanut coffee.*

$\frac{1}{2}$ cup peanuts	$\frac{1}{2}$ cup wheat
$\frac{1}{2}$ cup cowpeas	

Roast all to a rich coffee brown, grind and make as for postum. To those who like a cereal coffee, this will be quite acceptable, even delicious. To more or less habitual coffee drinkers, one-third or one half real coffee will make the above recipe more acceptable.

✓ 28. *Salted peanuts.* Parch, rub and winnow out the brown hulls; put in pan with just a speck of butter; heat gently, shaking all the time; when buttered sprinkle with fine salt.

Note. The above recipes are only a few of the many ways in which this wholesome nut can be prepared for human consumption.

Maintenance of Purity of *Cumbu* Strains under Large Scale Seed Multiplications. ✓

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In no phase of agriculture there is greater need for careful planning than in the maintenance of the purity of the improved strains of crops during the course of their multiplication and distribution. It is more so in the case of crops which are mainly cross-fertilized. The criterion of the methods adopted should be such as to combine minimum cost with efficiency in ensuring against cross-fertilization with other varieties. Otherwise, costly methods of selfing followed in the seed nucleus plots would soar to a staggering amount when adopted for large scale seed farms. Lack of cheap and suitable methods for protecting the purity of the crop have all along proved a serious handicap for the rapid spread of high yielding *cumbu* strains in the black soils of the Tinnevelly District.

Cumbu flowers being protogynous are easily susceptible to out-crossing. Due to this feature of out-crossing with local inferior varieties the

cumbu strains distributed hitherto, have tended to degenerate in yield as well as in purity in the course of a few seasons. Much head way could not therefore be made in the distribution of the improved strains so far. So a definite method of plant isolation to ensure purity of the superior strains in the seed farms had to be devised for their rapid multiplication and distribution on a wider scale. The present note deals with the possible ways of attaining this object under large scale seed expansion.

Cumbu being essentially a cross-fertilized crop, the planning consists in locating the seed farm areas in the midst of the other two crops viz, cotton and fodder *cholam*, which are commonly cultivated in these black soils. The belt of cotton or fodder *cholam* crop around the *cumbu* strain grown can prevent cross-fertilization with the inferior varieties usually grown by the *ryots* elsewhere in the village. The system of crop rotation and zoning followed in the black soil area lends itself to easy control of out-crossing. The rotation in vogue is either of the two courses detailed below:

- (i) *Cumbu* following cotton.
- (ii) Fodder *cholam* following cotton or four course like, *cumbu*—cotton—fodder *cholam*—cotton.

Under the above system the *ryots* in a village co-operate and adjust their cropping in such a way that one portion of the village is relegated to *cumbu*, another to *cholam* fodder and a third to cotton. Such a procedure undertaken on a co-operative basis, enables them to have a common watch for the two crops at minimum charges during the cropping season, besides facilitating, sowing, harvesting and transporting at a particular time for each of the crops. It is in the midst of such cotton or fodder blocks in the village that the proposed *cumbu* seed farms will be run.

To ensure further purity a width of 10 feet all round the perimeter of the *cumbu* block will be harvested as outskirts. Stray rogues that may possibly be found will be weeded out. The produce from the central portion or the inner block will be harvested separately and reserved for seed. The above method of protection from cross-fertilization will reduce the cost of roguing to the minimum. A high degree of homogeneity in the crop is assured as there will be only scope for inter-crossing between plants of the same variety or strain. The strain thus multiplied will be descendents of a single plant selected and isolated years ago.

The crop proposed to be multiplied is *cumbu* strain No. 8 evolved at the Agricultural Research Station, Koilpatti. It has been found to yield 10 to 15 per cent. more than locals in the Koilpatti Farm and in the trial plots. In the first year a block of five acres, will be raised as seed farm in each of the 'central villages' in the midst of cotton or *cholam* fodder zones. In the second year the produce from five acres will be distributed in the entire *cumbu* area of the village. Proceeding on the above lines seed farms in other villages will be organised and the seeds distributed till the entire

tract is flooded with the strain. At the same time a seed farm area of five acres will be continued in each of the 'central villages' year after year to meet any possible demand for the variety elsewhere in the tract. The project proposed thus envisages a rapid spread of the improved strain over the entire *cumbu* area of the tract in over 170,000 acres in the course of three or four years.

The millets section at Koilpatti had evolved a high yielding strain of *cumbu* about eight years ago, but due to the protogynous nature of the crop the strain could not maintain its purity and its performance was not as impressive as in the first year of its introduction. As soon as I joined duty at Tinnevely as District Agricultural Officer, I was also confronted with the same problem of maintaining its purity. After serious study of the problem, I arrived at a practical solution and workable plan of getting over this difficulty. I drew up a scheme for the black soil area of the Tinnevely District on the lines indicated above.

There are extensive areas of black soils in other parts of this and other provinces where similar strains suited to those areas could also be raised, their purity maintained and quantity multiplied.

My thanks are due to the Collector of Tinnevely, Mr. V. S. Hejmadi, I. C. S. and to Mr. S. Sundaram, M. Sc., Senior Cotton Assistant at Koilpatti Research Station for the help rendered in this connection.

Grading of Sathukudi Oranges.

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The growers of *Sathukudi* oranges of Rajampet Taluk. used to send their fruits to Madras, from where The Madras Provincial Co-operative Marketing Society and other commission agents at Madras used to send the fruits to all mufussil stations. The Provincial Society grades the oranges as per size, viz. $3\frac{1}{2}$ " , $3\frac{1}{4}$ " , 3" , $2\frac{3}{4}$ " and $2\frac{1}{2}$ " , while other commission agents consign only the ungraded fruits to Southern districts.

It was more logical and economical to grade the fruits at the place of production and consign such graded fruits directly to the consuming areas. By this method one more handling at Madras would be saved, fruits would reach the consumer in a shorter period and consequently in a more fresh condition and it would be cheaper to get fruits directly from the production area. The aforesaid peculiarities drove the Kodur Fruit Growers' Co-operative Society to take up the grading of oranges in Rajampet taluk itself. With the co-operation of the Provincial Marketing Officer and the Registrar of Co-operative Societies, an Orange Grading Station was opened at Kodur on 1st September 1941 by Mr. S. Ranganathan, O. B. E., I. C. S., Collector