https://doi.org/10.29321/MAJ.10.A04467

Vellarimathan — a quick-growing cucurbit

By

L. VENKATARATNAM, M. sc.,
Plant Physiologist, Agricultural College, Baptala.

Baptala is situated in the central sandy belt in the east coast in the Guntur district. The water table in this coastal area is very high. The soils are mostly sandy and are of low fertility. Several crops like brinjal, chillies, amaranthus etc., are successfully raised with the aid of high doses of chemical and farmyard manures. A large collection of vegetables was made by the Department of Agriculture for the newly started College Botanic garden with a view to select the best suited for this locality. Among these, a vegetable collected from Malabar, locally known there as Vellarimathan was found to be the best in giving the highest yield in a very short time. Its colour, bulk and cheapness created a keen demand for this vegetable, in this locality. With a view to stimulate interest in the public and popularise this vegetable, a brief note on the morphology, culture, seasonal performance, response to ferttilizer treatments, composition etc., is presented here. The term Vellarimathan implies that it is an intermediate form between 'Vellari' or cucumber (*Cucumis sativus*, Linn) and Mathan or Pumpkin (*Cucurbitu maxima*, Duch). Dosa gummidi is a synonym in recent usage here. The external characters show a close resemblance to *Cucurbita maxima* Duch., and this is considered as a variety of pumpkin. But Krishnamurthy (1948) has reported that this has 36, as the 2n., chromosome number and this does not agree with the count of 40, 2n., chromosome number recorded for *Cucurbita maxima* by Bhaduri and Bose (1947), Whitaker (1933) and Mckay (1930). He opines that this is likely to be a variant obtained by selection. Its exact nomenclature, therefore, still needs confirmation.

Morphology: This is an annual medium herb trailing upto seven or eight feet. Leaves :—Simple with indistinct lobes, slightly unequal halves, cordate base, bear no marking on veins but veins project prominently on the lower side. Stem: Ribbed, fistular. hispid, tendrils branched five-fid. Flowers: Monoecious, solitary, axillary and bright yellow. Male flowers: Calyx fused at the base with corolla, tips linear, filiform; Corolla, campanulate, five-fid, lobes broad and cuspidate; anthers connate, synandrous, much longer than filament. Female flowers: Calyx and corolla as above, style one,

stigma, 3-lobed, sinuous; ovary inferior, 3-celled, parietal placentation. Fruit: Roughly cylindrical, spongy, non-flaring at fruit attachment, cream yellow with very sparse tubercles.

Culture: Cucurbit vegetables are generally raised in well-drained soils in river beds or in shallow soils. They give much bulk and are low-priced, palatable and find a wide use among all classes of people. Vellarimathan is a surface feeder and is eminently suitable for shallow, loamy or sandy soils of low fertility. It is raised in pits of 1½ to 2 feet width and 9 inches deep filled with well rotten cattle manure or tank silt or compost. A spacing of 8 feet either way is adequate and in each pit 4 or 5 seeds can be sown. The root system is very shallow and does not penetrate over 12 inches depth in soil and deep pits are therefore are unnecessary. Daily hand watering can be done and very little after cultivation is necessary. In the young stages the seedlings are attached by red pumpkin beetles (*Aulocaphora* sp.) and dusting with gammexane is found very effective in controlling the pest. Bearing commences within 45 days of sowing and the average yield ranges from fifteen to twenty thousand pounds per acre. A net income of about Rs. 250 can be expected from an acre from this crop. The yield and duration of this crop are found to vary according to the season. For over two years this vegetable was raised at regular intervals in the Agricultural College Botanic garden and the data are presented below.

Period of sowing	No. of days required for flowering from the date of sowing	Mean duration in days	Mean yield per acre, in lbs.	Monthly Mean temperature	
				Max.	Min.
January	35	105	18,500	83·7	66·7
February	37	105	87,25	87·9	70·6
March	40	120	4,000	89·6	72·2
April	42	125	...	92·5	77·8
May	...	...	...	101·7	83·6
June	40	118	11,000	102·8	83·8
July	38	110	23,000	94·8	76·3
August	38	100	16,875	94·2	79·6
September	37	100	16,000	89·4	77·5
October	28	95	14,875	94·5	76·5
November	32	109	13,875	84·2	74·0
December	35	105	18,875	82·8	64·4

Except in the month of May, when the crop succumbed to the heat wave, it did not fail to yield when sown in the other months. The low temperatures prevailing during December to February

seems to have accelerated flowering in the crops sown from October onwards. The flowering period lengthens as the temperature rises and in summer it is found to extend the duration of the crop considerably. Judged from this, it seems probable that the length of day as also the temperature have considerable influence on the duration of this crop.

Effect of manures: The average yield per plant in the unmanured ones was 4 lbs. 9 ozs. as against 5 lbs. 14 ozs. secured from plants raised with 50 lbs of farm yard manure. With an application of 100 lbs of farmyard manure per pit as much as 24 lbs. of fruits were obtained from a single plant. An acre yield of 26,000 lbs. has been recorded from a two-cent plot. This clearly indicates the cropping potentialities of this vegetable and its capacity to respond to manurial treatments.

Nutritive value: This is a heavy–yielding prolific vegetable giving good bulk. The composition of the fruit along with other cucurbits is furnished below in order to give an idea the comparitive nutritive value of each vegetable in this group.

Percentage composition on dry basis.

Popular name, with botanical name	Moisture	Protein	Fat	Fibre	Mineral matter	Carbohydrate
1. Vellarimathan *(Cucurbita sp.)*	95·0	0·5	0·1	0·8	0·5	3·2
2. Ash gourd *(Benicasa cerifera)*	96·0	3.6	0·1	1·2	1·8	16·0*
3. Bitter gourd *(Momordica charantia)*	92·4	1·6	0·2	0·8	0·8	4·2*
4. Cucumber *(Cucumis sativus)*	96·4	0·4	0·1	...	0·3	2·8*
5. Pumpkin *Cucurbia maxima)*	92·6	1·4	0·1	...	0·6	5·3*
6. Snake gourd *(Trichosanthes anguina)*	95·4	0·5	0·3	...	0·7	4·4*
7. Ribben gourd *(Luffa acutangula)*	95·4	0·5	0·1	...	0·3	3·7*

* From Health Bulletin No. 23 of the Nutrition Reserch Laboratory Coonoor, by R. Aykroyd.

It will be seen from the above table, that the composition of Vellarimathan is similar to the most popularly used, common vegetables like snake gourd and ribbed gourd. It can, therefore, at least occupy a similar position like these vegetables even if it is not very nutritious.

Summary: Vellarimathan – a cucurbit from Malabar is found to be a prolific, quick-growing vegetable suited for all seasons and soils of low fertility. Its high yield, easy digestibility and bulk are its noteworthy features. It is therefore recommended for wide cultivation in all parts of the province like the other cucurbits.

Acknowledgment: The author is grateful to Rao Bahadur P. V. Ramiah, Principal Agricultural College for the grant of every facility and to M. R. Balakrishnan, Lecturer in Chemistry, and his Assistants for furnishing the figures of analysis of the vegetable.

LITERATURE.

1. Bhaduri; P. N. and Bose, P. C. 1947. Jour. of Genetics. 48 : 237–256.
2. Krishnamurthy, K. V. 1948. A new cucurbit from Malabar. (Under publication.)
3. McKay J. W. 1930 Bot. Gaz. 89 : 466–7.
4. Whitaker T. W, 1933 Bot. Gaz. 94 : 780–790.

A note on chillies thrips control in seed-bed areas in Guntur district

By

V. THIRUMALA RAO, B. sc. (Ag.)
Crop and Plant Protection Officer (Entomology) Bapatla,

P. RAMANADHA RAO, B. sc. (Ag.)
Agricultural Demonstrator, Guntur

and

M. KOTESWARA RAO, B. sc., (Ag.)
Plant Protection Assistant, (Entomology) Guntur

Chilli Crop in Guntur: There is an area of 67,415 acres under chillies in Guntur district, distributed over Guntur. Sattenapalli, Gurzala (Palnad) and Narasaraopet taluqs. Out of this, Guntur taluq claims an area of 40,000 acres. The crop is grown under rainfed conditions in the mid season, July to February. This is one of the most important commercial spice crops of this district and the income from an acre at present market rates, ranges from anything between Rs. 750/- to Rs. 1,000/-

There are three or four insect pests on this crop and among them, the thrips *(Scirtothrips dorsalis,* Hood*)* is the most important one. It is known to appear since 1920 and is found throughout the