

## Co.9 A High Yielding Early Mutant Lablab for Tamil Nadu

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An early and economic natural mutant lablab (*Lablab niger* Medikus Var. *typicus*) has been identified from garden bean lablab germplasm type M.S. 9867 and released as CO. 9 lablab for general cultivation. The derived natural mutant is of photo - insensitive with bushy nontrailing habit and can be raised throughout the year. It matures in 120 days and yields 75 quintals of green pod/ha. The pods are flat, green, with good flavour and texture contributing to good cooking quality.

The green pods of Co. 6, Co. 7 and Co. 8 lab lab strains (Veerasamy *et al.* 1973) have slightly odorous characteristics of the field lablab, because they are derivatives between *lablab niger* Var. *typicus* and *lablab niger* Var. *lignoses*. Keeping the duration and plant stature as the same, an investigation has been made to evolve strains with better cooking quality combined with high pod yield at Pulses Breeding Station, Tamil Nadu Agricultural University, Coimbatore and the results are presented in this paper.

### MATERIALS AND METHODS

During 1974 monsoon season a natural mutant was identified in a *Pandal Avarai* (*lablab niger* var. *typicus*) germplasm type (M.S. 9867 from Mandapam, Ramanathapuram district, Tamil Nadu State). The germplasm type M.S. 9867 is of a longer in dura-

tison (250 days) with trailing habit and highly photosensitive. The mutant plant was short, bushy, non-season bound and possessing superior and green flat pods and matured in 120 days. The selfed seeds from this mutant were raised during summer 1975; and they were found breeding true, for all the economic characters. The seeds from all the plants were collected and bulked and used as the source of seed material for further studies. Comparative Yield Trials during 1975 monsoon, 1976 summer and 1976 monsoon seasons at Pulses Breeding Station and the district trials were organised during 1976 summer and monsoon seasons. The experiment was conducted in a randomised block design replicated six times, the size of the plot being 3.6 x 3.0 m with a spacing of 30 cm between plants. Organoleptic test was conducted for mutant lablab in comparison with Co. 6, Co. 7

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and Co. 8 standards by the department of Food Technology, Tamil Nadu Agricultural University Coimbatore-3. The total protein content of green pod was analysed by the Department of Agricultural Chemistry.

## RESULTS AND DISCUSSION

The results of the yield trails conducted at Pulses Breeding Station, Coimbatore are presented in Table I. It was found that the early mutant lablab has recorded consistently increased yield over all the standard strains *viz.*, Co. 6, Co. 7 and Co. 8 lablab in all the three seasons, of experiment.

TABLE I. Yield performance of early mutant lablab in at Pulses Breeding Station, Coimbatore

Varieties	Mean green pod yield in kg/ha			Mean
	1975M	1976S	1976M	
Co. 6	5638	5666	6442	5915
Co. 7	6271	6580	5831	6227
Co. 8	6671	5159	4489	5440
Mutant lablab	8196	6993	7311	7500
% on Co. 6	145.4	123.4	129.0	132.6
% on Co. 7	130.7	106.9	125.4	121.0
% on Co. 8	122.9	135.6	162.9	140.5
C.D.	1871	743	2485	

The yield increase of early mutant lablab was significant over all the strains. The percentage of yield increase ranged from 22.9 to 45.4; 6.9 to 35.6 and 25.9 to 62.9 during 1975 Monsoon, 1976 Summer and 1976 Monsoon respectively by over standard strains. In the over all performance

the early mutant had recorded the mean yield of 7500 kg/ha which was 32.6, 21.0 and 40.5 per cent increase over Co. 6, Co. 7 and Co. 8 lablab standard strains respectively.

TABLE II. Yield performance of early mutant lablab at farmers holdings

Varieties	Yield of green pods in kg/ha		Mean
	1976 summer	1976 monsoon	
Co. 6	5750	6825	6288
Co. 7	5915	6230	6078
Co. 8	6650	6850	6750
Early mutant	7250	7675	7463
% on Co. 6	126.6	112.5	119.5
% on Co. 7	122.4	123.2	122.8
% on Co. 8	109.0	112.0	110.5

The yield data of the district trials have indicated the superior performance of early mutant. It registered high pod yield consecutively in the two seasons over the standard strains. The yield increase ranged from 10.5 to 22.8 per cent over the three strains with an average green pod yield of 74.6 quintals/ha.

TABLE III. Organoleptic test (cooking quality test) and crude protein content of early mutant lablab

Varieties	Colour score	Texture score	Taste score	Overall score	Crude protein content (%)
Co. 6	39	23	42	212	18.1
Co. 7	43	28	33	220	23.3
Co. 8	42	27	29	198	25.6
Early mutant lablab	47	45	48	275	26.3

The cooking quality test conducted by department of food technology Tamil Nadu Agricultural University, Coimbatore revealed that the mutant lablab was far superior than the standard in colour, texture of the pod and taste (Table III). The overall rank of

TABLE IV. Varietal Characteristics of Early Mutant Lablab Co. 9

Particulars	morphological Characters
Plant Pigmentation	Green throughout
Flower colour	White with purple pigment at fur of the standard petal
Seed colour	Chocolate
Pod colour and taste	Light green and sweet taste
Mean pod length	8.7 cm
Mean pod breadth	2.5 cm
Protein content of pod	<u>26.3%</u>
Mean days to 50% Flowering	45 - 47
Mean days to first harvesting	60 - 65
Total number of pickings	11 - 12
Peak picking period	90 - 95 days
Mean green pod yield	7500 kg/ha
Grain yield kg/ha	1500 kg/ha

early mutant lablab was 275 as against the score value of 212, 220 and 198 recorded by CO. 6, CO. 7, CO. 8 res-

pectively. The crude protein content of green pod was also high in early mutant lablab (Table III). The varietal identity characters of early mutant lablab are presented in Table IV.

Based on the overall superiority of this early mutant lablab for green pod yield and good cooking quality, it was named as CO. 9 lablab and released for large scale cultivation.

The cultivation of CO. 9 lablab on a large scale will not only produce sweet flat pods (Avarai) all round the year but also increase the vegetable production in the state.

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#### REFERENCE

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