

## Co 13 : A NEW HIGH YIELDING PHOTOINSENSITIVE LAB-LAB VARIETY

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### ABSTRACT

The new lablab variety Co 13 (CoLT 21) is a hybrid derivative of Co 9 (a bushy type) x Florikifield (trailing type) with desirable attributes viz., early duration (110 to 120 days) photoin sensitivity, high pod yield and high quality pods. It gives an average yield of 10 tonnes of green pods per ha.

KEY WORDS : Co13, bushy vegetable lablab, photoin sensitive

Lablab is an important pulse crop cultivated commercially for vegetable purpose. In Tamil Nadu, it is widely grown in all districts except the Nilgiris. There are two distinct groups viz., garden lablab (*lablab purpureus* var. *typicus*) and field lablab (*lablab purpureus* var. *Lignosus*). Garden lablab or *avarai* is grown for green vegetables and field lablab or *mochai* is grown for grain purpose in kitchen gardens. Several photoin sensitive varieties of bushy vegetable *avarai* viz., Co 6, Co7, Co 8, Co 9, Co 10, Co 11 and Co 12 have been released with distinct novel pod characters with less fibre and without beany odour. Co 13 is one such variety released for its long favourable pod character. It is a hybrid derivative of the cross between bushy vegetable and photoin sensitive type (Co 9) and photoin sensitive garden bean a trailing type (Florikifield).

### MATERIALS AND METHODS

Artificial cross pollination was done between Co 9 (natural mutant of Ms 9867) and female parent and Florikifield (trailing type) as male parent in order to combine the desirable features of Co 9 (early duration of 120 days and photoin sensitivity) and Florikifield (green, long, slender pods). The

Table 1. Overall performance of *Avarai* culture CoLT 21

Trials	Green pod yield (kg/ha)	
	CoLT 21	Co 12
Location trials (9)	10,961	9,543
MLT (5)	10,691	9,476
OFT/ART (46)	8,103	7,547
Overall mean	9,918	8,853
% increase over Co 12	12.0	

Figures in parantheses are number of trials

MLT : Multilocation trials; OFT : On - farm trials ; ART : Capture research trials.

objective of the experiment was to combine photoin sensitivity and bushy plant type with the characteristics of Florikifield (trailing type) viz., green, long, tender pods and fibrelessness. This hybrid derivative CoLT 21 was isolated in 1988 from F6 generations. Based on the consistent performance in the preliminary yield trial (PYT) and university varietal trial (UVT) it was proposed for multilocation trial (MLT) in 5 locations during 1992-93. Later, it was proposed for adaptive research trials (ART)/on-farm trials (OFT) in Dindigul, Coimbatore, Periyar and Salem districts from 1993 to 1995.

### RESULTS AND DISCUSSION

CoLT 21, a hybrid derivative of a cross between Co 9 x Florikifield was obtained through pedigree selection and was found promising in its yield performance with desirable pod characteristics. It has recorded an overall green pod yield of 9.92 t/ha as against 8.8 t/ha recorded by Co 12 variety with an yield increase of 12.0 per cent (Table 1).

In MLT during 1992-93, CoLT 21 registered a mean tender pod yield of 10.69 t/ha which was 12.8

Table 2. Performance of *Avarai* culture CoLT 21 in MLT

Location	Green pod yield (Kg/ha)	
	CoLT 12	Co 12
Coimbatore	10,795	9,025
Bhavanisagar	11,432	10,478
Periyakulam	9,847	8,925
Tindivanam *	1,905	1,811
Vannan *	2,450	1,946
Overall mean	10,691.33	9,476
% increase over CO 12	12.83	

\* data not included for calculation of mean.

MLT : Multilocation trials.

Table 3. Performance of *Avarai* culture CoLT 21 in OFT/ART

Districts	No. of trials	Green pod yield (Kg/ha)	
		CoLT 21	Co 12
1993-94 (OFT)			
Dindigul Anna	8	7671.9	6835.3
Coimbatore	3	10016.7	10050.0
1994-95 (ART)			
Dindigul Anna	10	8749.0	8445.5
Madurai	7	9085.6	8740.7
Periyar	6	7385.8	6554.0
1995-96 (ART)			
Dindigul Anna	10	7588.0	6856.0
Salem	2	6008.5	4393.0
Overall mean		8103.0	7547.0
% increase over Co 12			7.4

OFT : On - farm trials; ART : Adaptive research trials.

per cent increased yield over Co 12 (9.47 t/ha) (Table 2). The OFT and ART conducted from 1993-94 to 1995-96 revealed the superiority of CoLT 21 over the check Co 12 (Table 3). During 1994-95 in one of the ART conducted in Madurai district, in a place called Niraikudam a maximum yield of 16,885 kg/ha and 15,110 kg/ha was recorded for CoLT 21 and Co 12, respectively. This revealed the genetic potential of bushy, photoinensitive genotypes. CoLT 21 was less affected by anthracnose compared to Co 12.

The pods are attractive, long and green in colour. More over, CoLT 21 has scored high value for acceptability with respect to cooking characters (Table 5). It also contains more protein and less fibre than Co 12 (Table 6).

The morphological description of CoLT 21 is as follows :

Habit	: Bushy and erect
Plant height	: 50.0- 75.0 cm
Pigmentation	: Green
No. of branches	: 3-6
Leaves	: Simple, trifoliate, medium size, light green.
Inflorescence	: Axillary and terminal raceme

Table 4. Incidence of major diseases and pests in CoLT 21

S. No.	Entries	Root rot (%)	Anthracnose (1-5 grade)	Pod borer (%)
1.	CoLT 21	10.00	3	15.50
2.	Co 12	10.00	4	15.38

Table 5. Organoleptic evaluation of CoLT 21 (score in 9 point scale)

Characteristics	CoLT 21	Co 12
Colour and appearance	8.50	7.00
Flavour	7.50	6.50
Texture	7.90	6.00
Taste	8.70	7.50
Overall acceptability	8.15	6.75
Cooking time (min)	7	9

Table 6. Protein and fibre content of CoLT 21

Entries	Protein (%)		Crude fibre (%)
	Green pod	Seed	Green pod
CoLT 21	5.5	24.6	2.0
Co 12	5.2	24.0	3.0

Flower colour	: White
Pods	: Whitish green, flat and long
Pod length	: 14.0 - 16.0 cm
Pod breadth	: 1.8 - 2.3 cm
No. of pods/plant	: 25 - 35
Seeds per pod	: 3 - 5
Seed colour	: brown
100 seed weight	: 35.2 g
Days to 50%	
flowering	: 40 - 45
Days to maturity	: 110 - 120
Maturity group	: Early

By virtue of the above superior characters and attractive pod type, the culture CoLT 21 was released as an improved variety. Co 13 and released during January 1997 for general cultivation under irrigated conditions throughout Tamil Nadu.

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