PROFILE OF COCOA COLLECTIONS AT CPCRI, RESEARCH CENTRE, KANNARA

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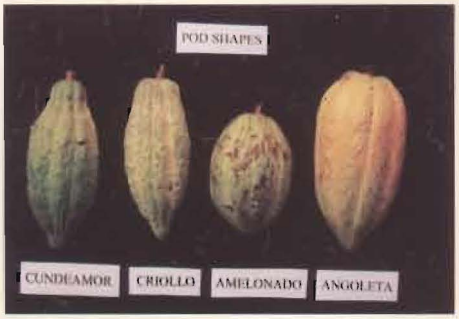
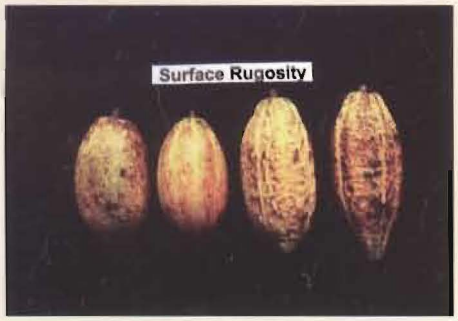
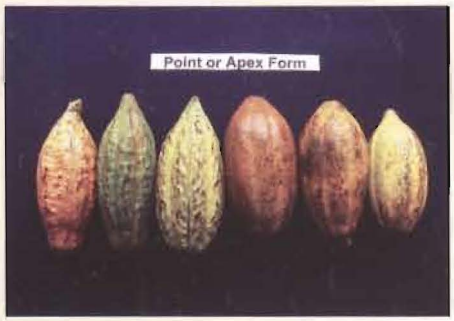
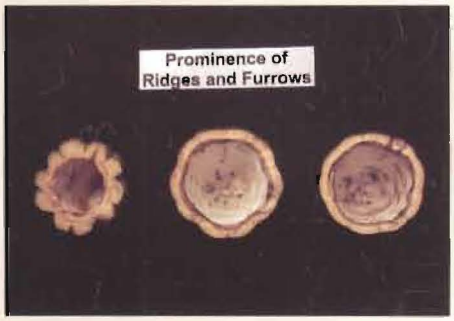
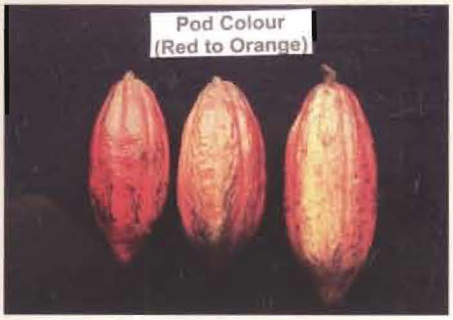
REPRESENTATION OF CHARACTERS











BRIEF HISTORY

The Research Centre at Kannara, Thrissur district, Kerala state was established in 1958 by the Indian Central Arecanut Committee as one of its Regional Arecanut Research Stations. Later with the abolition of Indian Central Arecanut Committee, the station was brought under the control of Indian Council of Agricultural Research (ICAR). In 1970, the Central Plantation Crops Research Institute (CPCRI), Kasaragod was formed and since then, the station at Kannara is functioning as one of its Research Centres.

Location

The Research Centre is located on the banks of Manali River, 19 Km. east of Thrissur Railway Station and 3 Km away from the NH-47, on the Pattikkad - Peechi road.

Climate and Soil

The centre lies at an elevation of 49.6 M above MSL. The upper layers of the soil are mainly of alluvial type with a good admixture of sand and silt and the lower layers are lateritic. The soil is generally acidic with pH ranging from 5.6 to 6.8. The climate is warm and humid with an average maximum temperature of 31.1°C and minimum temperature of 21.3°C. Average rainfall recorded is about 2400 mm per year.

Area and Cultivation

The Centre has an area of 14.2 Ha. and is divided into seven blocks each comprised of several crops.

Blockwise Area and Crop Distribution

Block	Area in Ha	Crops
I	1.6	Coconut, Clove and Nutmeg
II	2.0	Cocoa, Coconut and Nutmeg
III	1.8	Cocoa and Coconut
IV	2.1	Coconut, Arecanut and Nutmeg
V	2.8	Coconut and Arecanut
VI	1.7	Meteorological Observatory + Coconut
VII	2.2	Office cum Laboratory and Residential Buildings + Coconut + Pepper + Banana
Total	**14.2 Ha**	

DETAILS OF COCOA EXPERIMENT

Experiment	Year of planting	Design (RBD)	No. of accessions	No. of plants
I	1989	6 x 6 x 2	6	72
II	1990	24 x 6 x 2	24	288
III	1991	23 x 6 x 2	23	276
IV	1993	11 x 6 x 2	11	132
			Experimental trees	768
			Border trees	218
			Total	986

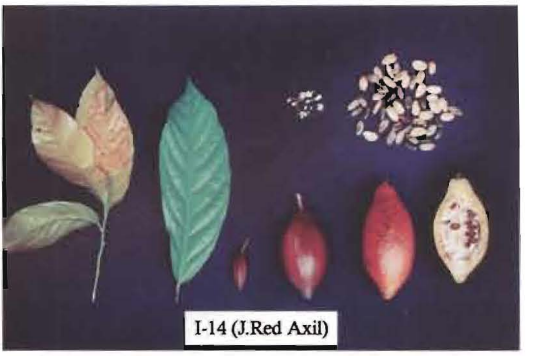
LIST OF CLONES

1	I-14	29	V-7
2	II-51	30	V-10
3	II-65	31	V-12
4	IV-84	32	V-13
5	II-67	33	NC-9
6	II-46	34	NC-12
7	IV-20	35	NC-15
8	III-105	36	NC-20
9	III-35	37	NC-30
10	I-21	38	NC-31
11	I-56	39	NC-39
12	SIAL-93	40	NC-41
13	EET-272	41	NC-42
14	ICS-6	42	NC-45
15	ICS-89	43	NC-63
16	ICS-95	44	NC-64
17	ICS-96	45	G I- 4/8
18	IMC-10	46	G I- 9/2
19	IMC-67	47	G I- 11/7
20	NA-31	48	G I- 15/5
21	NA-33	49	G II- 95
22	NA-242	50	G VI- 185
23	SCA-6	51	G VI- 186
24	SCA-12	52	G VI- 187
25	V-1	53	G VI- 188
26	V-3	54	G VI- 189
27	V-5	55	G VI- 191
28	V-6	56	G VI- 192

DESCRIPTION ON CHARACTERS

Plant Habit	Erect, Intermediate and Pendulous growth habits
Leaf characters	
Base Apex Petiole	Acute/Obtuse/Rounded/Cordate Short acuminate/Long acuminate Pulvinated/Non-pulvinated
Colour of young leaves	Shades of green and purple
Compatibility Reaction	Self compatible, self incompatible and cross compatible
Fruit characters	
Shape	Oblong/Elliptic/Obovate/Orbicular
Basal Constriction or Bottle Neck	Absent/Slight/Intermediate/Strong/Wide shoulder
Apex Form	Attenuate/Acute/Obtuse/Rounded/Mammelate/Indented
Surface Rugosity	Absent/Slight/Intermediate/Intense
Prominence of Ridges and Furrows	Slight/Intermediate/Distinct
Husk Hardness	Soft/Intermediate/Hard
Colour	Green to Yellow Purple or Red to Orange
BPD	Black Pod Disease
VSD	Vascular Streak Dieback
VTLC	Vittal Cocoa

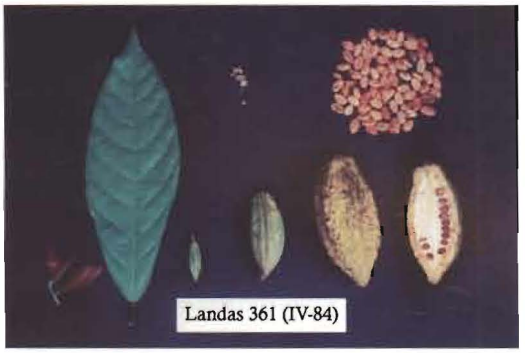
PASSPORT DATA ON COCOA CLONES



1	Clone Name	I-14
2	Institute No.	VTLC-1
3	Pedigree/ Parentage	Jerangau Red Axil (JRA)
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect, Intermediate and Pendulous trees available
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Slight purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Elliptic
	Basal constriction	Intermediate
	Apex	Mammelate
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Red to Orange
9	Yield Potential	
	No. of pods/tree/year	51.4
	Dry Bean Yield (kg/tree/year)	2.32
10	Quality	
	Bean size (g)	0.96
	Shelling (%)	11.0
	Fat content (%)	52.1
11	Tolerance to BPD	Moderate
12	Special Feature	Heavy bearer, vigorous, parental line for hybridization, have red axil marker

1	Clone Name	II-51
2	Institute No.	VTLC-2
3	Pedigree/ Parentage	Landas-356
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Oblong (Amelonado)
	Basal constriction	Slight
	Apex	Obtuse / Mammelate
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	51.4
	Dry Bean Yield (kg/tree/year)	2.32
10	Quality	
	Bean size (g)	0.96
	Shelling (%)	11.0
	Fat content (%)	52.1
11	Tolerance to BPD	Susceptible
12	Special Feature	High bearer, vigorous

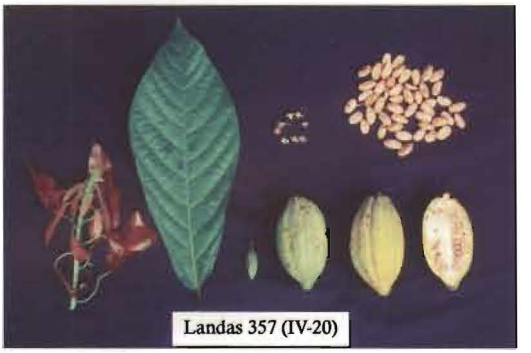
1	Clone Name	II-65
2	Institute No.	VTLC-3
3	Pedigree/ Parentage	Landas-358
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Absent
	Apex	Rounded
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	37.0
	Dry Bean Yield (kg/tree/year)	1.00
10	Quality	
	Bean size (g)	1.50
	Shelling (%)	12.0
	Fat content (%)	44.9
11	Tolerance to BPD	Susceptible
12	Special Feature	High yielder, heavy bean size



1	Clone Name	IV-84
2	Institute No.	VTLC-4
3	Pedigree/ Parentage	Landas-361
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Intense
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	34.8
	Dry Bean Yield (kg/tree/year)	1.08
10	Quality	
	Bean size (g)	0.94
	Shelling (%)	15.0
	Fat content (%)	45.7
11	Tolerance to BPD	Susceptible
12	Special Feature	High yielder

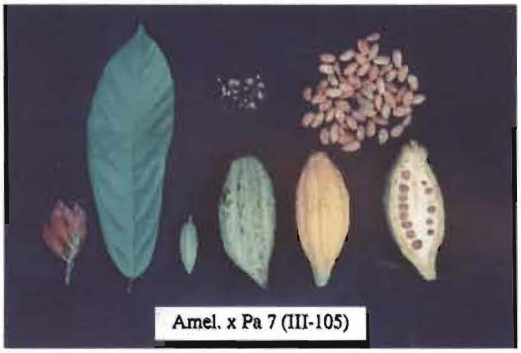
1	Clone Name	II-67
2	Institute No.	VTLC-5
3	Pedigree/ Parentage	Landas-364
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Slight purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Intense
	Prominence of ridges	Intense
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	50.7
	Dry Bean Yield (kg/tree/year)	2.16
10	Quality	
	Bean size (g)	1.10
	Shelling (%)	13.0
	Fat content (%)	52.1
11	Tolerance to BPD	Moderate
12	Special Feature	General combiner, pollen parent

1	Clone Name	II-46
2	Institute No.	VTLC-6
3	Pedigree/ Parentage	Landas-365
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Intermediate to erect
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate/ Oblong
	Basal constriction	Intermediate
	Apex	Mammelate
	Surface rugosity	Intermediate
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	39.6
	Dry Bean Yield (kg/tree/year)	1.50
10	Quality	
	Bean size (g)	0.90
	Shelling (%)	15.0
	Fat content (%)	48.0
11	Tolerance to BPD	Susceptible
12	Special Feature	Heavy bearer, vigorous

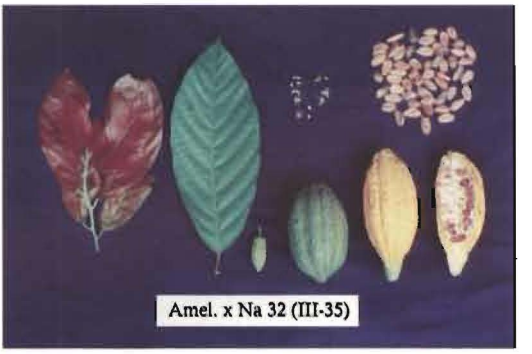


Landas 357 (IV-20)

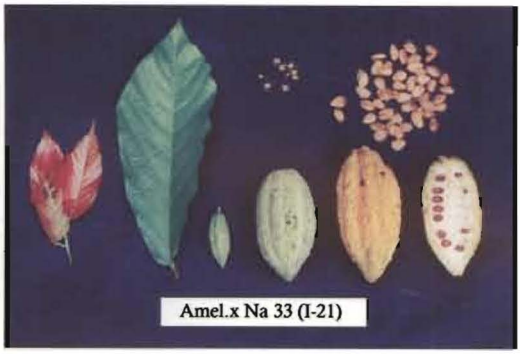
1	Clone Name	IV-20
2	Institute No.	VTLC-7
3	Pedigree/ Parentage	Landas-357
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong (Angoleta)
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	47.2
	Dry Bean Yield (kg/tree/year)	1.20
10	Quality	
	Bean size (g)	1.06
	Shelling (%)	15.0
	Fat content (%)	46.6
11	Tolerance to BPD	Moderate
12	Special Feature	High yielder, general combiner



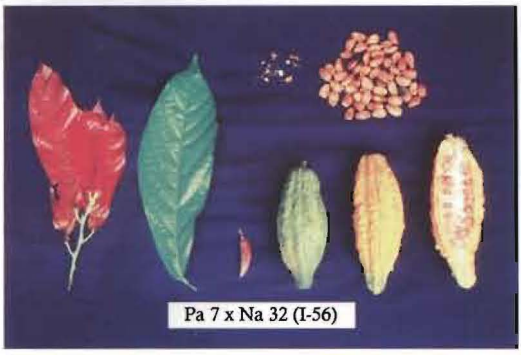
1	Clone Name	III-105
2	Institute No.	VTLC-8
3	Pedigree/ Parentage	Amelonado x Parinari-7
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Intense
	Prominence of ridges	Distinct
	Hardness	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	45.5
	Dry Bean Yield (kg/tree/year)	1.61
10	Quality	
	Bean size (g)	0.98
	Shelling (%)	16.0
	Fat content (%)	53.0
11	Tolerance to BPD	Moderate
12	Special Feature	High yielder Parental line in hybridization



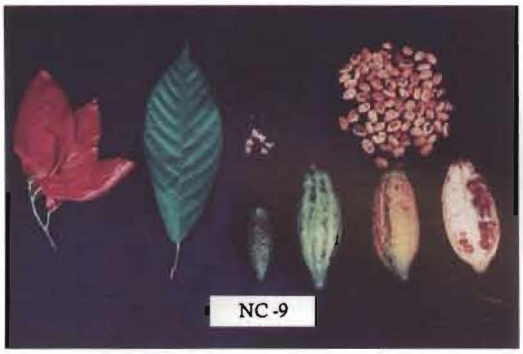
1	Clone Name	III-35
2	Institute No.	VTLC-9
3	Pedigree/ Parentage	Amelonado x Nanay-32
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	65.6
	Dry Bean Yield (kg/tree/year)	3.00
10	Quality	
	Bean size (g)	1.09
	Shelling (%)	16.0
	Fat content (%)	55.0
11	Tolerance to BPD	Moderate
12	Special Feature	High yielder Parental line in hybridization



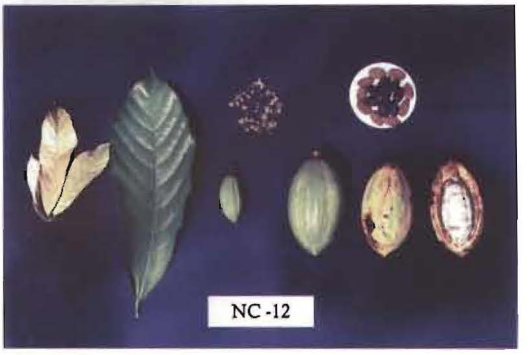
1	Clone Name	I-21
2	Institute No.	VTLC-10
3	Pedigree/ Parentage	Amelonado x Nanay-33
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Elliptic (Angoleta)
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	46.0
	Dry Bean Yield (kg/tree/year)	1.51
10	Quality	
	Bean size (g)	1.03
	Shelling (%)	11.0
	Fat content (%)	48.9
11	Tolerance to BPD	Moderate
12	Special Feature	Heavy bearer, parental line for hybridization, drought tolerant



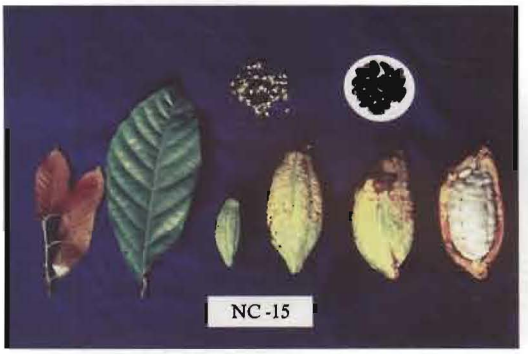
1	Clone Name	I-56
2	Institute No.	VTLC-11
3	Pedigree/ Parentage	Parinari-7 x Nanay-32
4	Centre of Distribution	Landas Estate, Sabah, Malaysia
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Intense
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	46.8
	Dry Bean Yield (kg/tree/year)	2.00
10	Quality	
	Bean size (g)	1.20
	Shelling (%)	14.0
	Fat content (%)	52.2
11	Tolerance to BPD	Moderate
12	Special Feature	Potential high yielder, Parental line Bigger bold beans



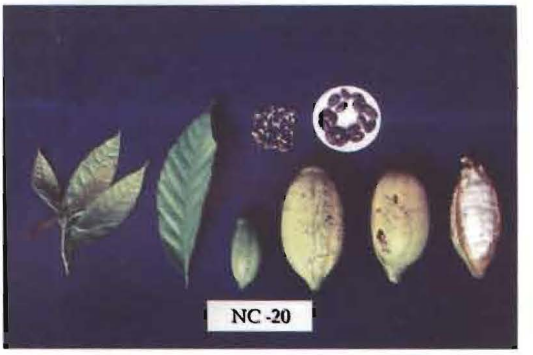
1	Clone Name	NC-9
2	Institute No.	VTLC-49
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic (Angoleta)
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	34.7
	Dry Bean Yield (kg/tree/year)	0.96
10	Quality	
	Bean size (g)	1.04
	Shelling (%)	16.7
	Fat content (%)	38.5
11	Tolerance to BPD	Susceptible
12	Special Feature	-



1	Clone Name	NC-12
2	Institute No.	VTLC-46
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Absent
	Apex	Obtuse
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	58.1
	Dry Bean Yield (kg/tree/year)	2.24
10	Quality	
	Bean size (g)	0.92
	Shelling (%)	17.3
	Fat content (%)	43.4
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

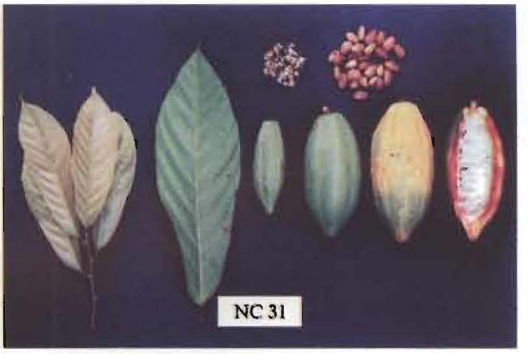


1	Clone Name	NC-15
2	Institute No.	VTLC-44
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Slight purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate (Angoleta-Smooth)
	Basal constriction	Absent
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	38.0
	Dry Bean Yield (kg/tree/year)	0.91
10	Quality	
	Bean size (g)	0.97
	Shelling (%)	18.1
	Fat content (%)	42.6
11	Tolerance to BPD	Moderate
12	Special Feature	Attractive pods

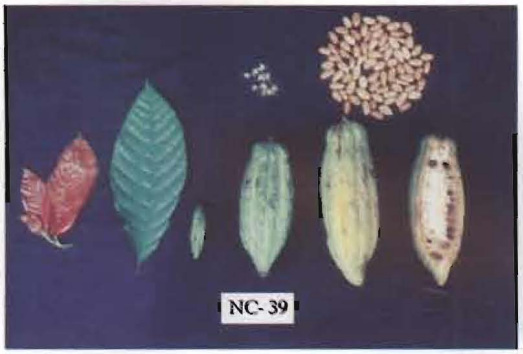


1	Clone Name	NC-20
2	Institute No.	VTLC-13
3	Pedigree/ Parentage	P-4 x P-1
4	Centre of Distribution	Nigeria
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong (Cundeamor-Smooth)
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	45.1
	Dry Bean Yield (kg/tree/year)	1.05
10	Quality	
	Bean size (g)	0.92
	Shelling (%)	17.3
	Fat content (%)	43.4
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

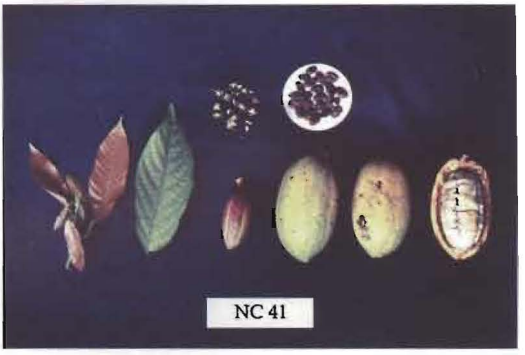
1	Clone Name	NC-30
2	Institute No.	VTLC-20
3	Pedigree/ Parentage	P-3 x P-4
4	Centre of Distribution	Nigeria
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Slight
	Apex	Obtuse
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	40.3
	Dry Bean Yield (kg/tree/year)	1.93
10	Quality	
	Bean size (g)	1.26
	Shelling (%)	13.3
	Fat content (%)	36.9
11	Tolerance to BPD	Moderate
12	Special Feature	Vigorous



1	Clone Name	NC-31
2	Institute No.	VTLC-21
3	Pedigree/ Parentage	P-12 x P-3
4	Centre of Distribution	Nigeria
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Slight
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Absent
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	40.5
	Dry Bean Yield (kg/tree/year)	1.24
10	Quality	
	Bean size (g)	1.01
	Shelling (%)	16.9
	Fat content (%)	52.7
11	Tolerance to BPD	Moderate
12	Special Feature	Drought tolerant

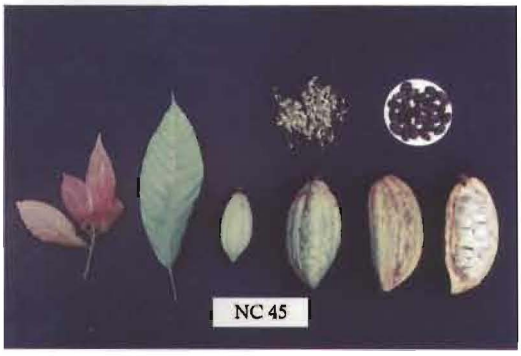


1	Clone Name	NC-39
2	Institute No.	VTLC-27
3	Pedigree/ Parentage	T-7/12 (Trinitario)
4	Centre of Distribution	Nigeria
5	Plant Habit	Erect
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Elliptic (Criollo)
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	19.82
	Dry Bean Yield (kg/tree/year)	0.64
10	Quality	
	Bean size (g)	1.00
	Shelling (%)	18.2
	Fat content (%)	41.1
11	Tolerance to BPD	Susceptible
12	Special Feature	Drought tolerant

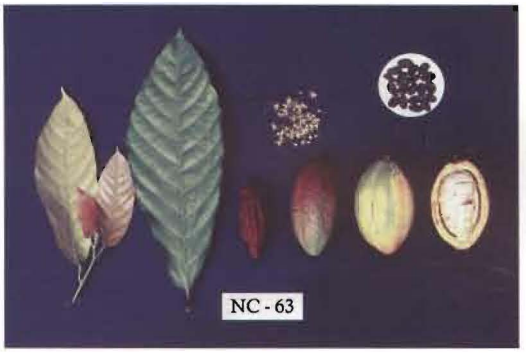


1	Clone Name	NC-41
2	Institute No.	VTLC-29
3	Pedigree/ Parentage	T-65/7
4	Centre of Distribution	Nigeria
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Rounded
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Oblong (Amelonado)
	Basal constriction	Absent
	Apex	Mammelate
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	15.46
	Dry Bean Yield (kg/tree/year)	0.49
10	Quality	
	Bean size (g)	0.86
	Shelling (%)	14.3
	Fat content (%)	45.0
11	Tolerance to BPD	Susceptible
12	Special Feature	-

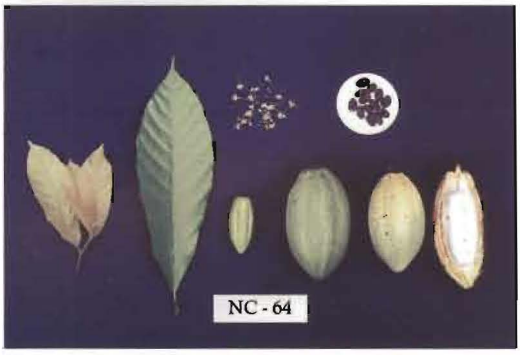
1	Clone Name	NC-42
2	Institute No.	VTLC-30
3	Pedigree/ Parentage	T-86/2
4	Centre of Distribution	Nigeria
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Intermediate
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	23.2
	Dry Bean Yield (kg/tree/year)	0.54
10	Quality	
	Bean size (g)	0.85
	Shelling (%)	15.5
	Fat content (%)	36.5
11	Tolerance to BPD	Moderate
12	Special Feature	Drought tolerant



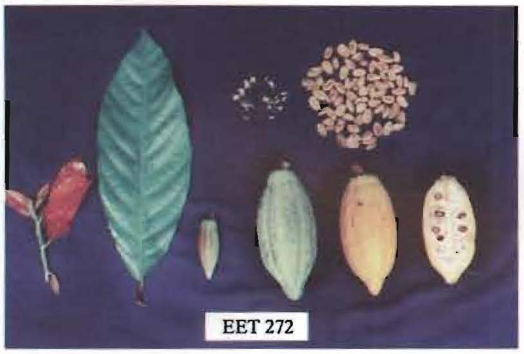
1	Clone Name	NC-45
2	Institute No.	VTLC-32
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Compatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	47.7
	Dry Bean Yield (kg/tree/year)	1.03
10	Quality	
	Bean size (g)	0.96
	Shelling (%)	16.0
	Fat content (%)	51.5
11	Tolerance to BPD	Tolerant
12	Special Feature	Vigorous



1	Clone Name	NC-63
2	Institute No.	VTLC-220
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Orbicular (Amelonado)
	Basal constriction	Slight
	Apex	Rounded
	Surface rugosity	Slight
	Prominence of ridges	Absent
	Hardness	Intermediate
	Colour pattern	Red to Yellowish orange
9	Yield Potential	
	No.of pods/tree/year	38.6
	Dry Bean Yield (kg/tree/year)	0.80
10	Quality	
	Bean size (g)	0.88
	Shelling (%)	10.1
	Fat content (%)	55.3
11	Tolerance to BPD	Moderate
12	Special Feature	Vigorous



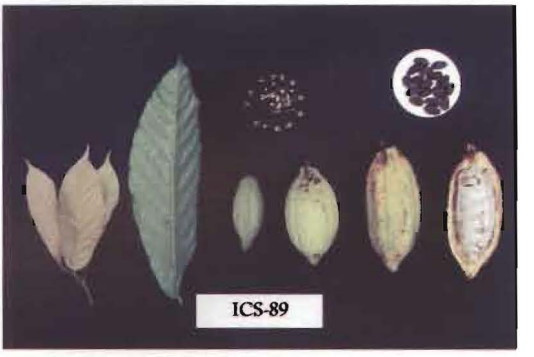
1	Clone Name	NC-64
2	Institute No.	VTLC-129
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	Nigeria
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Absent to Slight
	Apex	Obtuse
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	22.2
	Dry Bean Yield (kg/tree/year)	0.79
10	Quality	
	Bean size (g)	0.99
	Shelling (%)	16.1
	Fat content (%)	29.5
11	Tolerance to BPD	Moderate
12	Special Feature	-



1	Clone Name	EET-272
2	Institute No.	VTLC-58
3	Pedigree/ Parentage	Estacion Experimental Tropical (Ecuador)
4	Centre of Distribution	Kew Garden, England
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate/ Oblong
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	40.3
	Dry Bean Yield (kg/tree/year)	0.80
10	Quality	
	Bean size (g)	0.87
	Shelling (%)	20.0
	Fat content (%)	40.6
11	Tolerance to BPD	Susceptible
12	Special Feature	-

1	Clone Name	SIAL-93
2	Institute No.	VTLC-56
3	Pedigree/ Parentage	Selecao Institute Agronomico do Leste (Brazil)
4	Centre of Distribution	Kew Garden, England
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Rounded
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Elliptic
	Basal constriction	Slight
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	44.9
	Dry Bean Yield (kg/tree/year)	1.20
10	Quality	
	Bean size (g)	0.93
	Shelling (%)	15.0
	Fat content (%)	46.2
11	Tolerance to BPD	Moderate
12	Special Feature	Moderately resistant to *Phytophthora*

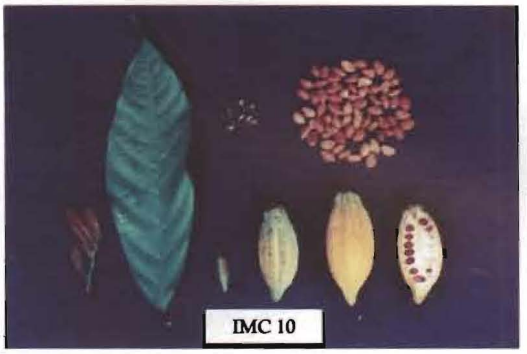
1	Clone Name	ICS-6
2	Institute No.	VTLC-61
3	Pedigree/ Parentage	Imperial College Selection (Trinitario)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Elliptic
	Basal constriction	Intermediate
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	41.4
	Dry Bean Yield (kg/tree/year)	1.50
10	Quality	
	Bean size (g)	1.06
	Shelling (%)	15.0
	Fat content (%)	51.8
11	Tolerance to BPD	Not known
12	Special Feature	Short statured trees



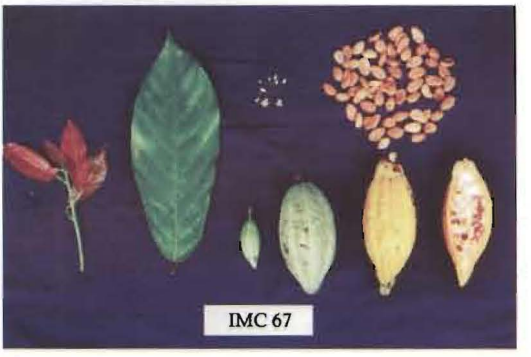
1	Clone Name	ICS-89
2	Institute No.	VTLC-69
3	Pedigree/ Parentage	Imperial College Selection (Trinitario)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	22.5
	Dry Bean Yield (kg/tree/year)	0.65
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	25.0
	Fat content (%)	33.4
11	Tolerance to BPD	Susceptible
12	Special Feature	-

1	Clone Name	ICS-95
2	Institute No.	VTLC-62
3	Pedigree/ Parentage	Imperial College Selection (Trinitario)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Compatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	31.6
	Dry Bean Yield (kg/tree/year)	0.70
10	Quality	
	Bean size (g)	0.73
	Shelling (%)	21.0
	Fat content (%)	41.4
11	Tolerance to BPD	Moderate resistant
12	Special Feature	Moderate resistant to VSD

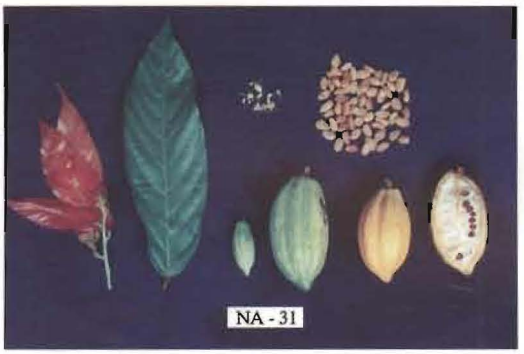
1	Clone Name	ICS-96
2	Institute No.	VTLC-246
3	Pedigree/ Parentage	Imperial College Selection (Trinitario)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong (Angoleta)
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Intermediate
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	25.7
	Dry Bean Yield (kg/tree/year)	0.65
10	Quality	
	Bean size (g)	0.70
	Shelling (%)	25.0
	Fat content (%)	33.4
11	Tolerance to BPD	Susceptible
12	Special Feature	-



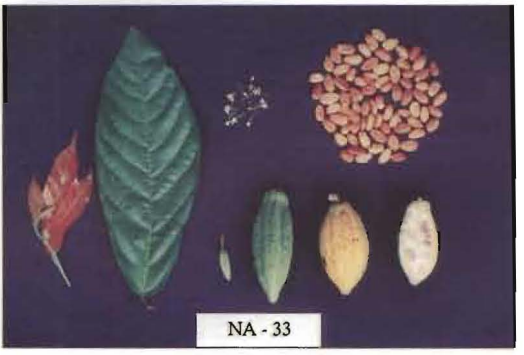
1	Clone Name	IMC-10
2	Institute No.	VTLC-57
3	Pedigree/ Parentage	Iquitos Mixed Calabacillo (Upper Amazon Forastero)
4	Centre of Distribution	Kew Garden, England
5	Plant Habit	Pendulous/ Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Strong
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	36.4
	Dry Bean Yield (kg/tree/year)	1.00
10	Quality	
	Bean size (g)	1.15
	Shelling (%)	15.0
	Fat content (%)	46.7
11	Tolerance to BPD	Susceptible
12	Special Feature	Bigger beans



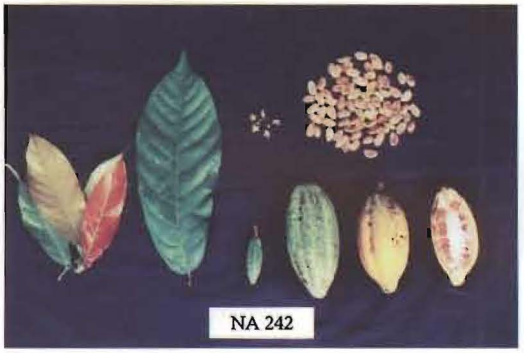
1	Clone Name	IMC-67
2	Institute No.	VTLC-65
3	Pedigree/ Parentage	Iquitos Mixed Calabacillo
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Elliptic (Cundeamor)
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Intense
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	43.2
	Dry Bean Yield (kg/tree/year)	1.10
10	Quality	
	Bean size (g)	1.17
	Shelling (%)	15.0
	Fat content (%)	50.9
11	Tolerance to BPD	Susceptible
12	Special Feature	High yielder, *Ceratocystis* tolerant



1	Clone Name	NA-31
2	Institute No.	VTLC-63
3	Pedigree/ Parentage	Nanay (Upper Amazon Forastero)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Oblong/ Oblong
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	30.5
	Dry Bean Yield (kg/tree/year)	0.75
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	25.0
	Fat content (%)	35.4
11	Tolerance to BPD	Susceptible
12	Special Feature	-



1	Clone Name	NA-33
2	Institute No.	VTLC-64
3	Pedigree/ Parentage	Nanay (Upper Amazon Forastero)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Erect
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Oblong (Angoleta)
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Intense
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	24.1
	Dry Bean Yield (kg/tree/year)	0.66
10	Quality	
	Bean size (g)	0.76
	Shelling (%)	25.0
	Fat content (%)	45.8
11	Tolerance to BPD	Susceptible
12	Special Feature	Drought tolerant line

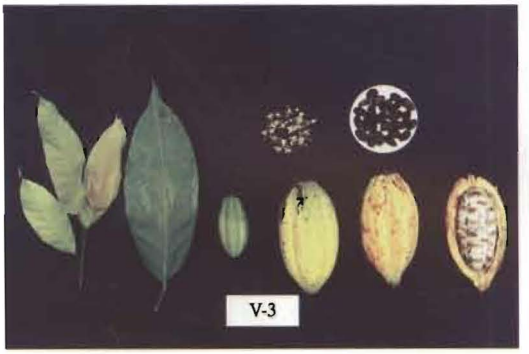


1	Clone Name	NA-242
2	Institute No.	VTLC-59
3	Pedigree/ Parentage	Nanay (Upper Amazon Forastero)
4	Centre of Distribution	Kew Garden, England
5	Plant Habit	Erect
6	Leaf Character	
	Base	Cordate
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Light purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	47.3
	Dry Bean Yield (kg/tree/year)	1.50
10	Quality	
	Bean size (g)	1.06
	Shelling (%)	15.0
	Fat content (%)	41.0
11	Tolerance to BPD	Susceptible
12	Special Feature	High yielder, drought tolerant

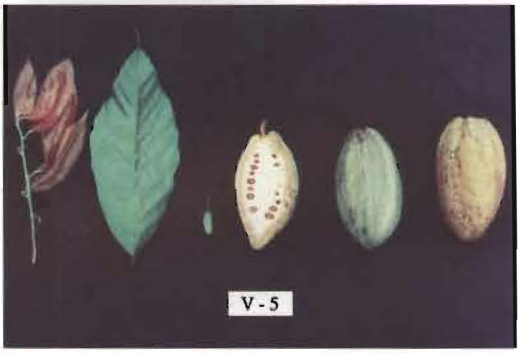
1	Clone Name	SCA-6
2	Institute No.	VTLC-66
3	Pedigree/ Parentage	Scavina (Peru)
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Obovate (Angoleta)
	Basal constriction	Absent
	Apex	Mammelate
	Surface rugosity	Absent
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	35.5
	Dry Bean Yield (kg/tree/year)	0.81
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	15.0
	Fat content (%)	50.0
11	Tolerance to BPD	Susceptible
12	Special Feature	Medium canopy

1	Clone Name	SCA-12
2	Institute No.	VTLC-67
3	Pedigree/ Parentage	Scavina
4	Centre of Distribution	Kew Garden thro. Lal Baugh, Bangalore
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Oblong (Angoleta)
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	42.0
	Dry Bean Yield (kg/tree/year)	1.06
10	Quality	
	Bean size (g)	1.10
	Shelling (%)	14.0
	Fat content (%)	52.9
11	Tolerance to BPD	Not known
12	Special Feature	Tolerant to VSD

1	Clone Name	V-1
2	Institute No.	VTLC-70
3	Pedigree/ Parentage	T-76/1224/1201 Amazon
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale Purple to Green
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Orbicular (Amelonado)
	Basal constriction	Absent
	Apex	Obtuse
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	32.4
	Dry Bean Yield (kg/tree/year)	0.87
10	Quality	
	Bean size (g)	0.83
	Shelling (%)	16.4
	Fat content (%)	42.6
11	Tolerance to BPD	Susceptible
12	Special Feature	-

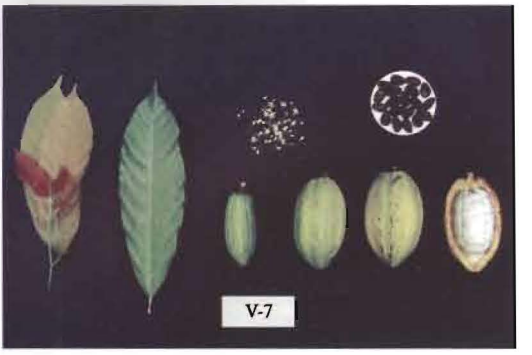


1	Clone Name	V-3
2	Institute No.	VTLC-72
3	Pedigree/ Parentage	TF-20/19
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Rounded
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate/ Oblong
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Smooth
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	30.0
	Dry Bean Yield (kg/tree/year)	0.65
10	Quality	
	Bean size (g)	0.75
	Shelling (%)	16.2
	Fat content (%)	41.5
11	Tolerance to BPD	Susceptible
12	Special Feature	-

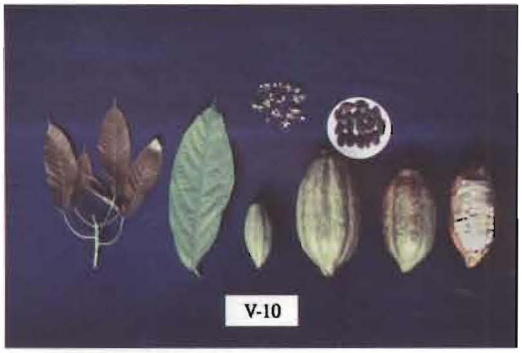


1	Clone Name	V-5
2	Institute No.	VTLC-73
3	Pedigree/ Parentage	T-12/613/972
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Slight
	Apex	Obtuse
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	26.3
	Dry Bean Yield (kg/tree/year)	0.59
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	16.6
	Fat content (%)	40.0
11	Tolerance to BPD	Susceptible
12	Special Feature	-

1	Clone Name	V-6
2	Institute No.	VTLC-74
3	Pedigree/ Parentage	IMC-60/31
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Absent
	Apex	Rounded
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	26.07
	Dry Bean Yield (kg/tree/year)	0.51
10	Quality	
	Bean size (g)	0.77
	Shelling (%)	16.2
	Fat content (%)	43.2
11	Tolerance to BPD	Susceptible
12	Special Feature	-

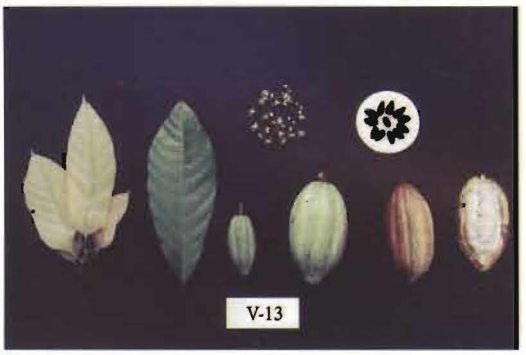


1	Clone Name	V-7
2	Institute No.	VTLC-75
3	Pedigree/ Parentage	T-72/1559 Nanay Iquitos
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Acuminate
	Petiole	Pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self & Cross Compatible
8	Fruit Character	
	Shape	Orbicular (Amelonado)
	Basal constriction	Absent
	Apex	Rounded
	Surface rugosity	Smooth
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	37.6
	Dry Bean Yield (kg/tree/year)	0.63
10	Quality	
	Bean size (g)	0.78
	Shelling (%)	16.1
	Fat content (%)	45.5
11	Tolerance to BPD	Susceptible
12	Special Feature	-

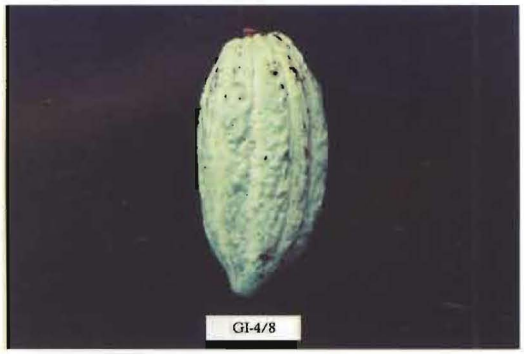


1	Clone Name	V-10
2	Institute No.	VTLC-78
3	Pedigree/ Parentage	T-63/967/61
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Intermediate
	Hardness	Hard
	Colour pattern	Pale red to Yellowish orange
9	Yield Potential	
	No.of pods/tree/year	22.70
	Dry Bean Yield (kg/tree/year)	0.61
10	Quality	
	Bean size (g)	0.75
	Shelling (%)	16.5
	Fat content (%)	42.0
11	Tolerance to BPD	Susceptible
12	Special Feature	-

1	Clone Name	V-12
2	Institute No.	VTLC-79
3	Pedigree/ Parentage	W- 41/1768
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Absent
	Apex	Rounded
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	28.5
	Dry Bean Yield (kg/tree/year)	0.51
10	Quality	
	Bean size (g)	0.72
	Shelling (%)	17.0
	Fat content (%)	41.5
11	Tolerance to BPD	Susceptible
12	Special Feature	-



1	Clone Name	V-13
2	Institute No.	VTLC-80
3	Pedigree/ Parentage	ICS-1/1037
4	Centre of Distribution	KAU, Vellanikkara
5	Plant Habit	Erect
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green with anthocyanin tinge
7	Compatibility Reaction	Self Incompatible & Cross Compatible
8	Fruit Character	
	Shape	Obovate (Amelonado)
	Basal constriction	Absent
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green/ pale red to Yellowish orange
9	Yield Potential	
	No.of pods/tree/year	25.5
	Dry Bean Yield (kg/tree/year)	0.64
10	Quality	
	Bean size (g)	0.83
	Shelling (%)	16.0
	Fat content (%)	48.3
11	Tolerance to BPD	Susceptible
12	Special Feature	-



1	Clone Name	GI-4/8
2	Institute No.	VTLC-131
3	Pedigree/ Parentage	T-63/971/1278
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong (Angoleta)
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	29.0
	Dry Bean Yield (kg/tree/year)	0.79
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	16.4
	Fat content (%)	43.8
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GI-9/2
2	Institute No.	VTLC-77
3	Pedigree/ Parentage	T-79/501/1494 (V-9)
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	27.0
	Dry Bean Yield (kg/tree/year)	0.70
10	Quality	
	Bean size (g)	0.78
	Shelling (%)	19.5
	Fat content (%)	44.7
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GI-11/7
2	Institute No.	VTLC-105
3	Pedigree/ Parentage	T-48/1716 (V-11)
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	25.0
	Dry Bean Yield (kg/tree/year)	0.58
10	Quality	
	Bean size (g)	0.75
	Shelling (%)	15.5
	Fat content (%)	41.0
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GI-15/5
2	Institute No.	VTLC-106
3	Pedigree/ Parentage	T-16/613/972
4	Centre of Distribution	KAU
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Elliptic
	Basal constriction	Intermediate
	Apex	Attenuate
	Surface rugosity	Intermediate
	Prominence of ridges	Intermediate
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	35.0
	Dry Bean Yield (kg/tree/year)	1.10
10	Quality	
	Bean size (g)	0.90
	Shelling (%)	14.5
	Fat content (%)	45.5
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GII-95
2	Institute No.	VTLC-132
3	Pedigree/ Parentage	Unknown
4	Centre of Distribution	KAU
5	Plant Habit	Pendulous
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self incompatible
8	Fruit Character	
	Shape	Oblong (Amelonado)
	Basal constriction	Slight
	Apex	Obtuse/ Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Soft
	Colour pattern	Green to Yellow
9	Yield Potential	
	No. of pods/tree/year	22.0
	Dry Bean Yield (kg/tree/year)	0.60
10	Quality	
	Bean size (g)	0.65
	Shelling (%)	25.0
	Fat content (%)	30.0
11	Tolerance to BPD	Susceptible
12	Special Feature	-

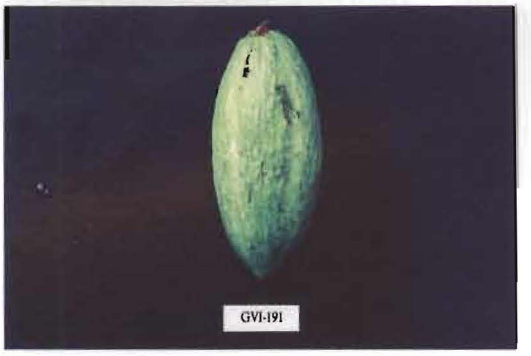
1	Clone Name	GVI-185
2	Institute No.	VTLC-88
3	Pedigree/ Parentage	LCT/EEN 162/1010
4	Centre of Distribution	KAU
5	Plant Habit	Erect
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Absent
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	30.0
	Dry Bean Yield (kg/tree/year)	0.91
10	Quality	
	Bean size (g)	0.80
	Shelling (%)	16.8
	Fat content (%)	41.0
11	Tolerance to BPD	Susceptible
12	Special Feature	Small canopy

1	Clone Name	GVI-186
2	Institute No.	VTLC-100
3	Pedigree/ Parentage	MAN-15-2
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Pale purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Slight
	Apex	Acute
	Surface rugosity	Intermediate
	Prominence of ridges	Distinct
	Hardness	Hard
	Colour pattern	Green to Orange
9	Yield Potential	
	No.of pods/tree/year	36.0
	Dry Bean Yield (kg/tree/year)	0.80
10	Quality	
	Bean size (g)	0.87
	Shelling (%)	17.0
	Fat content (%)	40.5
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GVI-187
2	Institute No.	VTLC-89
3	Pedigree/ Parentage	MAN-15-60
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Obtuse
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Slight
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Intermediate
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	31.0
	Dry Bean Yield (kg/tree/year)	0.88
10	Quality	
	Bean size (g)	0.86
	Shelling (%)	15.4
	Fat content (%)	33.4
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GVI-188
2	Institute No.	VTLC-133
3	Pedigree/ Parentage	PA-7
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Absent
	Apex	Obtuse
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	30.0
	Dry Bean Yield (kg/tree/year)	0.65
10	Quality	
	Bean size (g)	0.75
	Shelling (%)	16.4
	Fat content (%)	38.0
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy, Moderate resistant to VSD

1	Clone Name	GVI-189
2	Institute No.	VTLC-91
3	Pedigree/ Parentage	PA-56
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Long acuminate
	Petiole	Pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Obovate
	Basal constriction	Intermediate
	Apex	Acute
	Surface rugosity	Intermediate
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	26.0
	Dry Bean Yield (kg/tree/year)	0.66
10	Quality	
	Bean size (g)	0.74
	Shelling (%)	16.3
	Fat content (%)	40.4
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

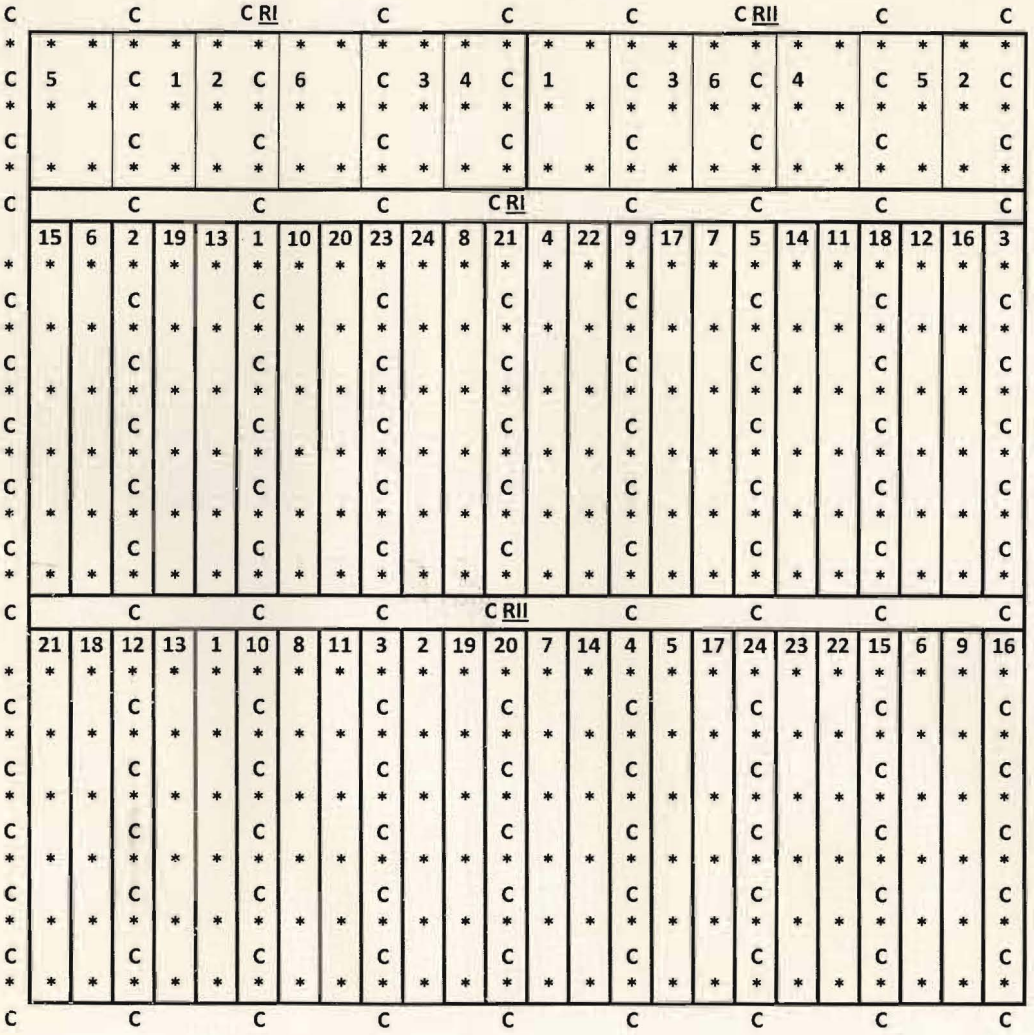


1	Clone Name	GVI-191
2	Institute No.	VTLC-92
3	Pedigree/ Parentage	TJ-1
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Rounded
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Purple
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Qrbicular
	Basal constriction	Slight
	Apex	Obtuse
	Surface rugosity	Absent
	Prominence of ridges	Slight
	Hardness	Hard
	Colour pattern	Green to Yellow
9	Yield Potential	
	No.of pods/tree/year	25.0
	Dry Bean Yield (kg/tree/year)	0.62
10	Quality	
	Bean size (g)	0.73
	Shelling (%)	16.5
	Fat content (%)	35.5
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy

1	Clone Name	GVI-192
2	Institute No.	VTLC-134
3	Pedigree/ Parentage	US-221
4	Centre of Distribution	KAU
5	Plant Habit	Intermediate
6	Leaf Character	
	Base	Acute
	Apex	Short acuminate
	Petiole	Non-pulvinated
	Colour of young leaf	Green
7	Compatibility Reaction	Self Incompatible
8	Fruit Character	
	Shape	Oblong
	Basal constriction	Absent
	Apex	Mammelate
	Surface rugosity	Slight
	Prominence of ridges	Slight
	Hardness	Intermediate
	Colour pattern	Green to Orange
9	Yield Potential	
	No.of pods/tree/year	28.0
	Dry Bean Yield (kg/tree/year)	0.61
10	Quality	
	Bean size (g)	0.72
	Shelling (%)	17.3
	Fat content (%)	43.4
11	Tolerance to BPD	Moderate
12	Special Feature	Small canopy, *Ceratocystis* tolerant

WEATHER DATA (1990 - 2003)

Year	Minimum temperature	Maximum temperature	Rainfall
1990	17.38	31.50	244.67
1991	18.44	32.88	258.45
1992	19.84	33.42	258.32
1993	19.68	33.64	206.77
1994	21.44	32.31	269.22
1995	21.87	32.61	219.29
1996	22.38	31.81	203.86
1997	22.44	32.14	236.84
1998	23.28	32.68	255.51
1999	22.80	32.52	219.01
2000	21.98	31.65	176.49
2001	22.89	31.59	184.85
2002	22.64	32.35	185.92
2003	22.91	32.12	199.09



Venue: Block II

Design: RBD

Replications: 2

No.of trees: 6/ block

Experiment I

Date of planting: 21.9.1989

Treatments: 6

1. I-14
2. I-56
3. III-105
4. NC-42/94
5. ICS-6
6. SCA-6

Experiment II

Date of planting: 12.9.1990

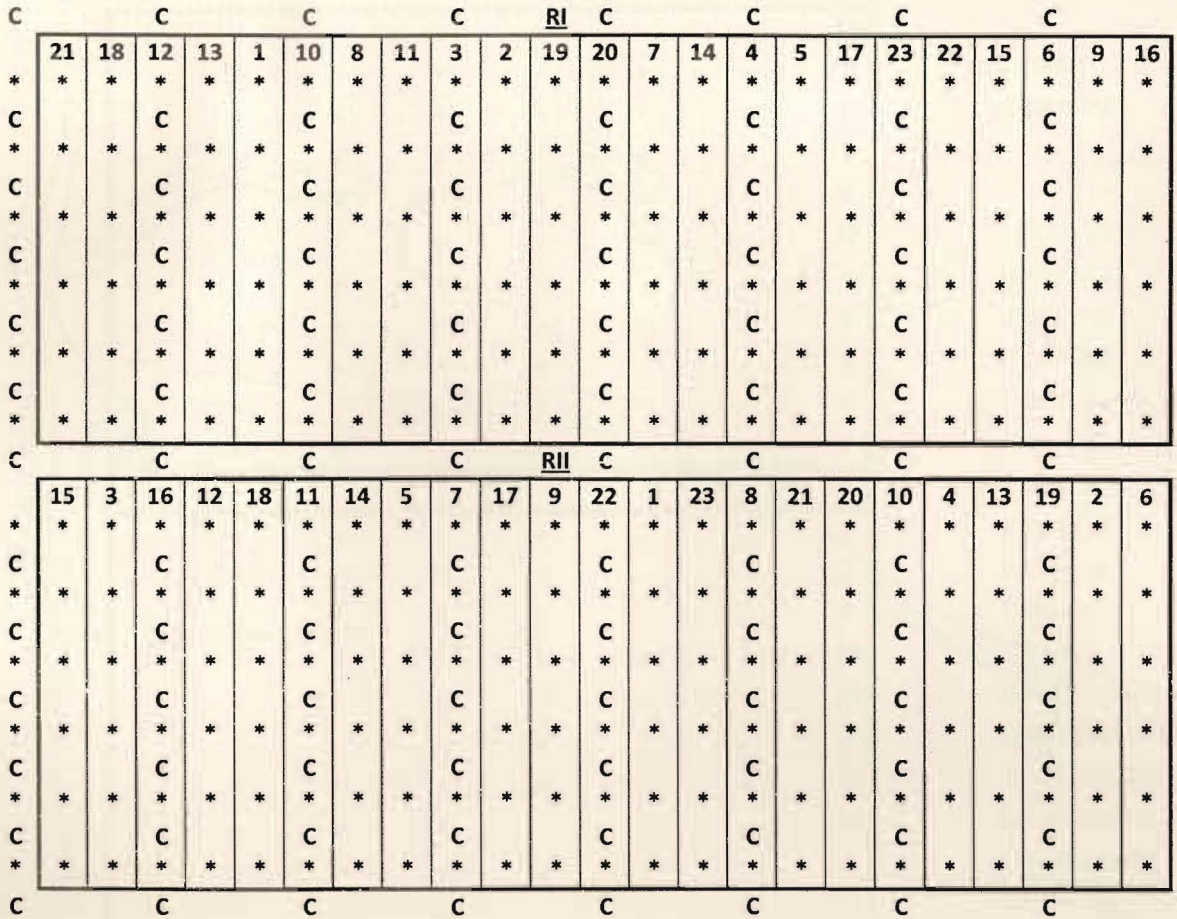
Treatments: 24

1. JRA
2. III-105
3. III-35
4. I-21
5. I-56
6. II-51
7. IV-20
8. II-65
9. IV-84
10. II-67
11. II-67
12. ICS-6
13. IMC-10
14. IMC-67
15. EET-272
16. NA-31
17. NA-33
18. NA-242
19. SCA-6
20. SCA-12
21. SIAL-93
22. ICS-95
23. ICS-96
24. I-14

C Coconut

* Cocoa

FIELD MAPS



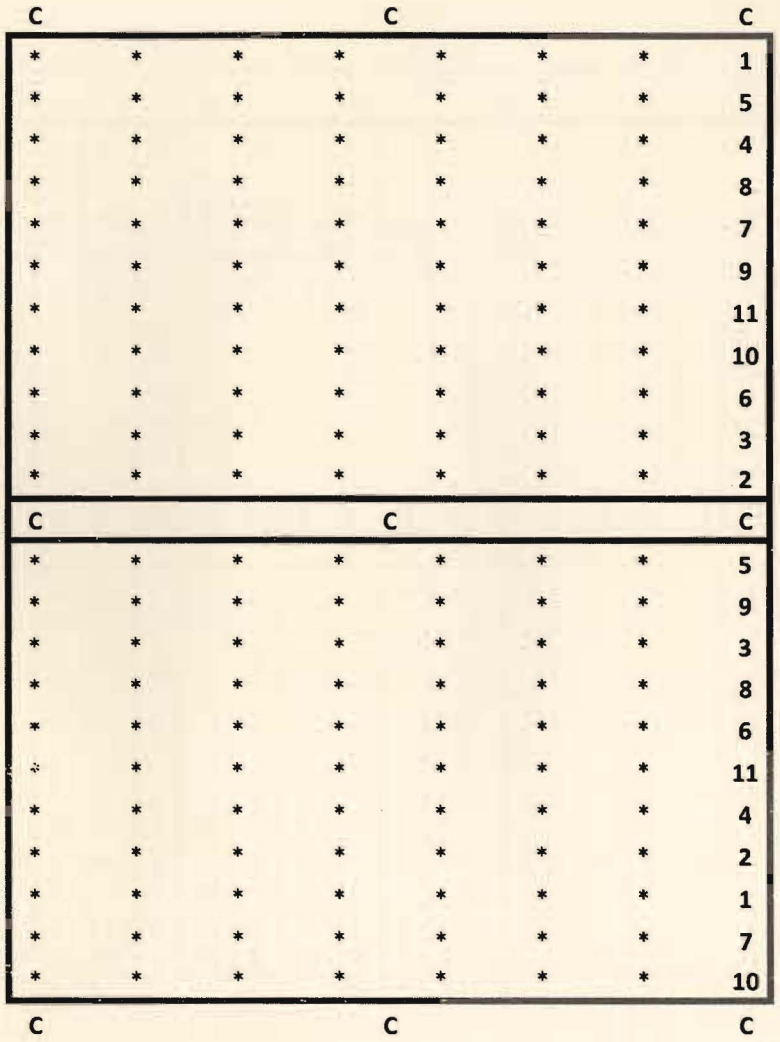
Venue: Block III
Design: RBD
Replications: 2
No.of trees: 6/ block

Experiment III

Planting Date: 12.9.1990
Treatments: 23

1. V-1
2. ICS-89
3. V-5
4. GII-95
5. V-13
6. V-6
7. V-12
8. V-3
9. V-10
10. V-7
11. NC-45
12. NC-12
13. NC-42
14. NC-30
15. NC-15
16. NC-31
17. NC-41
18. NC-63
19. NC-39
20. NC-9
21. NC-64
22. NC-20
23. I-14

C Coconut
*** Cocoa**



Venue: Block I

Design: RBD

Replications: 2

No.of trees: 6/ block

Experiment IV

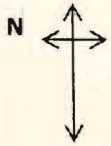
Planting: Sep, 1990

Treatments: 11

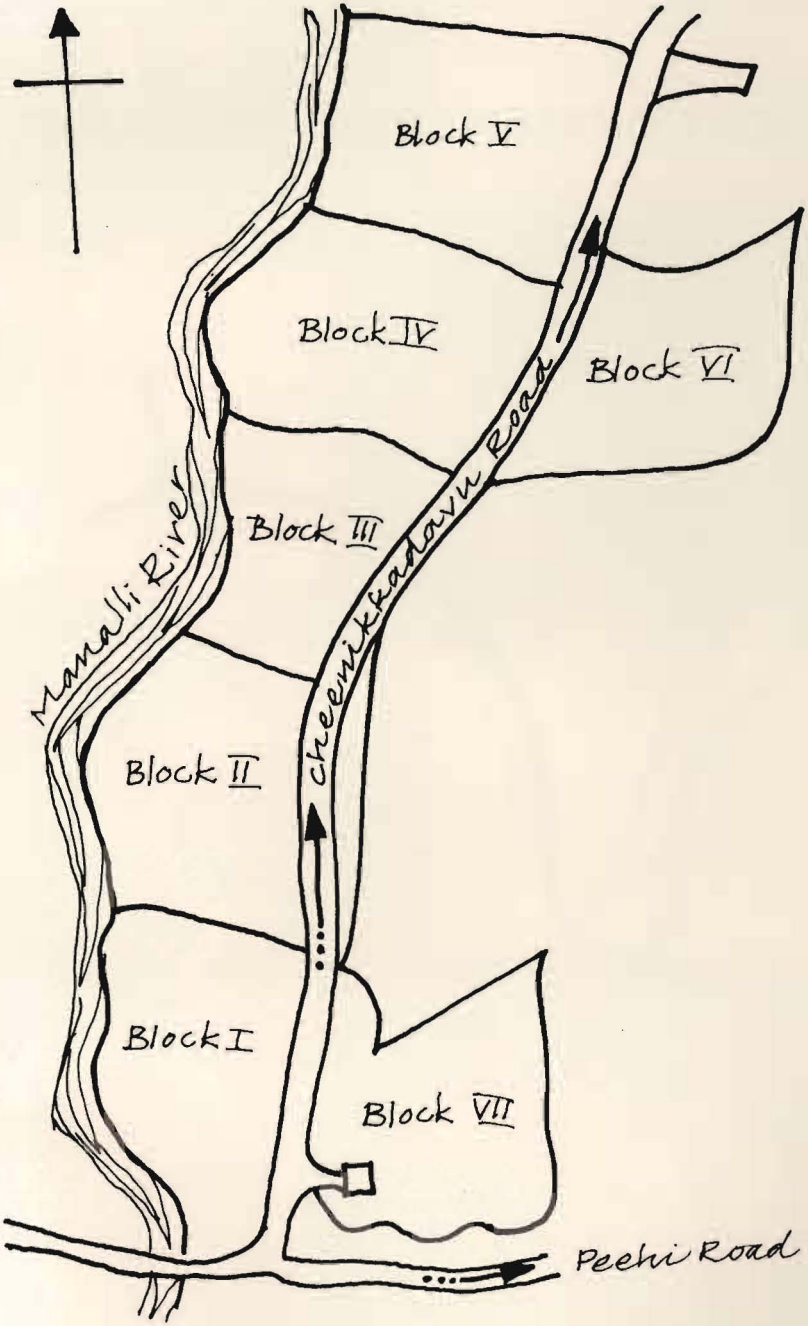
1. GI-4/8
2. GI-9/2
3. GI-11/7
4. GI-15/5
5. GVI-185
6. GVI-186
7. GVI-187
8. GVI-188
9. GVI-189
10. GVI-191
11. GVI-192

C Coconut

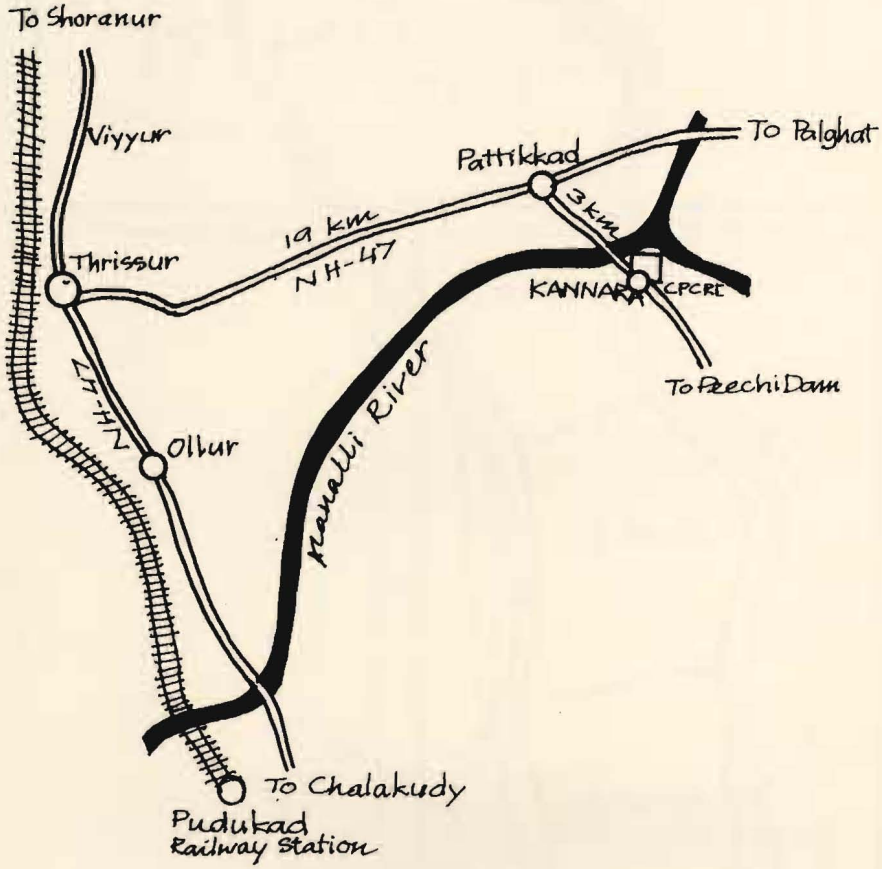
*** Cocoa**



LAY OUT OF CPCRI, RC, KANNARA



LOCATION MAP CPCRI, RC, KANNARA



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