

JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH

F. Vegetable crops

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15. Tomato

15.1 Junagadh Tomato 3 (JT 3)

1	Name of crop	Tomato
2	Botanical name	<i>Lycopersicon esculentum</i> L.
3	Name of variety	Junagadh Tomato 3 (JT 3)
4	Parentage with details of its pedigree	The genotype was selection from the local collection made from surrounding area of Kuwadava village of Rajkot district.
5	Breeding method	Pure line selection.
6	Year of release	2007-08
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	JT 3 (JTL 02-7) IC: 565031
9	Potential yield (q/ha)	415.5

10	Average yield (q/ha)	384.6
11	Recommended regions/areas of adoption	The tomato variety is suitable for cultivation under open field condition in late <i>kharif</i> and <i>rabi</i> season for Saurashtra region.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	69.5
	• Plant spread (cm)	36.9
	• Days to flower	47
	• Days to first picking	80
	• Number of branches	5.64
	• Number of locules	4.29
	• Fruit length (cm)	7.45
	• Fruit girth (cm)	16.08
	• Fruit weight (g)	54.9
	• No. of fruit/plant	31.52
	• Fruit yield/plant (kg)	1.731
	• Fruit colour	Red
	• Fruit shape	Flat round
	• Plant habit	Determinate
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : August-September • Spacing: 75 x 60 cm. • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 75 : 37.5 : 62.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The plant is bushy type and heavy fruit bearer, the plant fruit has thick skin, 4-5 locules high T. S. S. content. The fruit is medium in size, flat round in shape with attractive red colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 7.33 • Total soluble sugar (%): 1.85 • Ascorbic Acid (mg/100g) : 25.87 • Carotenoids (mg/100g) : 12.40 • Lycopine (mg/100g) : 4.93 • Acidity (%) : 1.70 • Dry matter (%) : 7.50 • Peel colour (od/g) : 1.39
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The leaf curl virus, leaf blight, and tomato spotted wilt virus are less in the variety. The fruit borer damage is less.
17	Days to last picking/ Maturity group	155/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



15.2 Gujarat Tomato 6 (GT 6)

1	Name of crop	Tomato
2	Botanical name	<i>Lycopersicon esculentum</i> L.
3	Name of variety	Gujarat Tomato 6 (GT 6)
4	Parentage with details of its pedigree	Junagadh Ruby x JT 3 (R-05-6-B-8-6-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2017-18
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GT 6 (JTL-12-07) IC : 625670
9	Potential yield (q/ha)	356.70
10	Average yield (q/ha)	316.05
11	Recommended regions/areas of adoption	Tomato growing area of Gujarat state during late <i>kharif-rabi</i> season
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	64.42
	• Plant spread (cm)	47.59
	• Days to first picking	99
	• Days to last picking	143
	• No. of pickings	10
	• Number of branches	3.20
	• Number of locules	4.08 (3-4)
	• Fruit length (cm)	4.42
	• Fruit girth (cm)	16.15
	• Fruit weight (g)	61.76
	• No. of fruit/plant	52
	• Fruit colour	Red
	• Fruit shape	Flat round
	• Plant habit	Determinate
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : July/August: for late <i>kharif</i> Sep./October: for <i>Rabi</i> • Spacing: 75 x 60 cm. • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 75 : 37.5 : 62.5 kg/ha.
14	Specific attributes/ Describe at least two identifiable characteristics of the variety	<ul style="list-style-type: none"> • Fruits are medium in size, flat round in shape with groove and attractive red colour. • Leaves are slightly broad and slightly green in colour. • Branches are profuse in nature. • Flowers are pale yellow in colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 6.50 • Total soluble sugar (%): 4.06 • Ascorbic Acid (mg/100g) : 21.59 • Lycopine (mg/100g) : 4.73 • Acidity (%) : 0.27 • Protein : 0.39
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction against leaf curl was found less and the damage due to fruit borer and leaf miner was found superior to check varieties.

17	Days to last picking/Maturity group	143 (140-154)/Early maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16. Brinjal

16.1 Junagadh Brinjal Green Round 1 (JBGR 1)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Junagadh Brinjal Green Round 1 (JBGR 1)
4	Parentage with details of its pedigree	The genotype was collection from Ajab village of Junagadh district and was maintained in germplasm as line No. 16 in the year 1999.
5	Breeding method	Pure line selection.
6	Year of release	2005-06
7	Gazette notification	S. O. 2978 (E) & Date: 26.12.2008
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	JBGR 1 (JBGR-99-5) IC: 565030
9	Potential yield (q/ha)	480.71
10	Average yield (q/ha)	401.07
11	Recommended regions/areas of adoption	The brinjal variety is suitable for cultivation during late <i>kharif</i> and <i>rabi</i> season for Saurashtra and Middle Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	63.0
	• Plant spread (cm)	54.98
	• Days to first picking after T.P.	66
	• Number of branches/plant	4.27
	• Fruit length (cm)	14.26
	• Fruit girth (cm)	26.67
	• Fruit weight (g)	193.0
	• No. of fruit/plant	18.06
	• Fruit yield/plant (kg)	3.383
	• Fruit colour	Green
	• Fruit shape	Round
	• Fruit size	Medium to long
	• Plant habit	Semi spreading
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : August-September • Spacing: 90 x 60 cm. • Seed rate: 350 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Fruit are medium to big in size with round shape, attractive green colour and good shining. Calyx and pedicle are green and medium in size. Moderate

		grooves are present on fruits.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 5.88 • Total soluble sugar (%): 3.82 • Acidity (%) : 1.64 • Protein (%) : 1.54 • Glycoalkaloid (od/g.): 0.28 • Peel colour (od/g.): 2.22 • Poly phenol oxidase (od/min/g.): 1.83 • Total phenol (mg/100g.): 50.70
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety showed lower incidence of little leaf, jassids, whitefly, fruit borer.
17	Days to last picking/Maturity group	169/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16.2 Gujarat Junagadh Brinjal 2 (GJB 2)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Gujarat Junagadh Brinjal 2 (GJB 2)
4	Parentage with details of its pedigree	JNDB-67 x Line No. JNDB-N-6
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2009-10
7	Gazette notification	S. O. 2277 (E) & Date: 17.08.2015
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJB 2 (JBR 02-11) IC: 573507
9	Potential yield (q/ha)	423.13
10	Average yield (q/ha)	342.94
11	Recommended regions/areas of adoption	The brinjal variety is suitable for cultivation during late <i>kharif</i> for Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	53.96
	• Plant spread (cm)	60.58
	• Days to first picking after T.P.	60.6
	• Number of branches/plant	4.11
	• Fruit length (cm)	11.88
	• Fruit girth (cm)	14.91
	• Fruit weight (g)	68.4
	• No. of fruit/plant	26.17
	• Fruit yield/plant (kg)	1.790

•	Fruit colour	Pink purple
•	Fruit shape	Medium long
•	Fruit size	Medium
•	Plant habit	Semi spreading
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P.: August for late <i>kharif</i> and October for <i>rabi</i> season. • Spacing: 90 x 60 cm • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Fruit are medium long in shape and size with pink purple colour and good shining. Calyx and pedicle are green and medium in size. White dots are present on fruit tip surface and fruit pulp is white with less seeds.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 7.00 • Total soluble sugar (%): 3.95 • Acidity (%) : 1.85 • Protein (%) : 1.67 • Glycoalkaloid (od/g.) : 0.36 • Peel colour (od/g.): 2.43 • Poly phenol oxidase (od/min/g.) : 1.42 • Total phenol (mg/100g.) : 50.51
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety has good tolerance against little leaf diseases and fruit borer, jassids, whitefly damage is also less.
17	Days to last picking/Maturity group	146/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16.3 Gujarat Junagadh Brinjal 3 (GJB 3)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Gujarat Junagadh Brinjal 3 (GJB 3)
4	Parentage with details of its pedigree	JNDB-37 x JNDB-92 (1999-97-69-25-23-20-19)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2011-12
7	Gazette notification	S.O. No. 261 (E), Dt. 16/01/2018 S.O. No. 4868 (E), Dt. 14/09/2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJB 3 (JBGR 06-7) IC: 589770
9	Potential yield (q/ha)	421.70

10	Average yield (q/ha)	393.88
11	Recommended regions/areas of adoption	The brinjal variety is suitable for cultivation during late <i>kharif</i> season for Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	45.55
	• Plant spread (cm)	61.51
	• Days to first picking after T.P.	75.80
	• Number of branches/plant	3.64
	• Fruit length (cm)	13.43
	• Fruit girth (cm)	22.02
	• Fruit weight (g)	124.8
	• No. of fruit/plant	16.04
	• Fruit yield/plant (kg)	1.903
	• Fruit colour	Green
	• Fruit shape	Oval
	• Fruit size	Medium
	• Fruit cross section	Few groove
	• Fruit position	Pendant
	• Plant growth habit	Semi spreading
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P.: 15th August to 15th September for late <i>kharif</i> season. • Spacing: 90 x 60 cm. • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Fruit are medium to big in size with oval shape. Fruit are green in colour and good shining. Fruit pulp is creamy white with less seeds and fruit surface is smooth.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 9.00 • Total soluble sugar (%): 3.07 • Acidity (%) : 1.41 • Protein (%) : 1.48 • Glycoalkaloid (od/g.) : 0.4 • Peel colour (od/g.): 1.48 • Poly phenol oxidase (od/min/g.) : 1.36 • Total phenol (mg/100g.) : 42.84
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety is good tolerance against little leaf diseases and fruit borer, jassids, whitefly damage is also less.
17	Days to last picking/Maturity group	160/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16.4 Gujarat Junagadh Long Brinjal 4 (GJLB 4)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Gujarat Junagadh Long Brinjal 4 (GJLB 4)
4	Parentage with details of its pedigree	GBL-1 x Junagadh Oblong
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2014-15
7	Gazette notification	S. O. 3666 (E) & Date: 06.12.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJLB 4 (JBL-08-8) IC: 612167
9	Potential yield (q/ha)	448.42
10	Average yield (q/ha)	396.03
11	Recommended regions/areas of adoption	The brinjal variety is suitable for cultivation during late <i>kharif</i> season for Zone VI (Arid western plains of Rajasthan, Gujarat, Haryana and Delhi).
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	62.22
	• Plant spread (cm)	73.15
	• Days to first picking after T.P.	67
	• Number of branches/plant	3.31
	• Fruit length (cm)	13.81
	• Fruit girth (cm)	16.75
	• Fruit weight (g)	102.10
	• No. of fruit/plant	21
	• Fruit yield/plant (kg)	2.140
	• Fruit colour	Light purple
	• Fruit shape of apex	Round
	• Fruit shape of general	Long
	• Fruit size	Small
	• Fruit glossiness at harvest maturity	Strong
	• Fruit stripes and patches	Absent
	• Plant growth habit	Semi spreading
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : 1st to 15th October • Spacing: 90 x 60 cm or 90 x 45 cm. • Seed rate: 400 to 500 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Fruit are medium in size with long shape. Fruit are light purple in colour with good shining. Fruit pulp is white with less seeds and fruit surface is smooth.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 8.50 • Total soluble sugar (%): 3.36 • Acidity (%) : 1.19 • Protein (%) : 1.51 • Glycoalkaloid (od/g.) : 0.34 • Peel colour (od/g.) : 3.35 • Poly phenol oxidase (od/min/g.) : 1.30 • Total phenol (mg/100g.) : 38.85

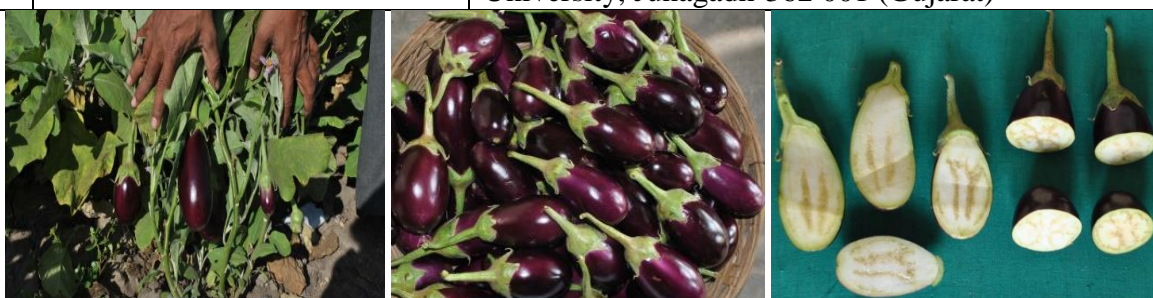
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction as against little leaf diseases and fruit borer, jassids, whitefly damage is also less.
17	Days to last picking/Maturity group	159/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16.5 Gujarat Junagadh Brinjal Hybrid 4 (GJBH 4)

1	Name of crop	Brinjal		
2	Botanical name	<i>Solanum melongena</i> L.		
3	Name of variety	Gujarat Junagadh Brinjal Hybrid 4 (GJBH 4)		
4	Parentage with details of its pedigree	Line No. JBR-2-11 x Line No. JBR-03-16		
5	Breeding method	Heterosis breeding		
6	Year of release	2014-15		
7	Gazette notification	S. O. 3666 (E) & Date: 06.12.2016		
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	Accession	IC No.	
		1) GJBH 4 (JBH-07-1)	612170	
		2) JBR-2-11 (Female)	612171	
		3) JBR-3-16 (male)	612172	
9	Potential yield (q/ha)	547.88		
10	Average yield (q/ha)	428.01		
11	Recommended regions/areas of adoption	The brinjal hybrid is suitable for cultivation during late <i>kharif</i> season for Saurashtra and Middle Gujarat.		
12	Characteristics/Distinguishing morphological in brief:			
	Description of hybrid parents	(GJBH 4) JBH-07-1	JBR-2-11	JBR-03-16
	• Plant height (cm)	54.74	47.19	62.39
	• Plant spread (cm)	69.28	54.94	53.38
	• Days to first picking after T.P.	64	61	51
	• Days to last picking after T.P.	153	146	145
	• Number of branches/plant	3.53	3.87	3.14
	• Fruit length (cm)	14.09	11.25	12.30
	• Fruit girth (cm)	16.24	14.28	17.38
	• Fruit weight (g)	79.30	63.00	85.20
	• No. of fruit/plant	28	26	24
	• Fruit yield/plant (kg)	2.23	1.79	2.04
	• Leaf length (cm)	12.5	19.5	15.0
	• Leaf width (cm)	9.0	7.0	8.0
	• Flower colour	Light purple	Light purple	Dark purple
	• Leaf margin	Pointed	Sinuate	Pointed
	• Leaf colour of vein	Light purple	Purple	Dark purple
	• Fruit colour	Deep yellow	Purple yellow	Yellow
	• Fruit colour of flesh	Greenish	Whitish	Greenish

•	Fruit shape of apex	Flattented	Flattented	Flattented
•	Fruit shape of general	Oblong	Oblong	Oblong
•	Fruit size	Medium	Medium	Medium
•	Fruit glossiness at harvest maturity	Strong	Strong	Medium
•	Fruit stripes and patches	Absent	Absent	Absent
•	Plant growth habit	Erect	Semi-spreading	Erect
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : 1st to 15th October • Spacing: 90 x 60 cm or 90 x 45 cm. • Seed rate: 400 to 500 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha. 		
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Fruit are medium in size with oblong shape. Fruit are pink purple in colour with good shining. Fruit pulp is white with less seeds and fruit surface is smooth.		
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 9.33 • Total soluble sugar (%): 3.33 • Acidity (%) : 1.17 • Protein (%) : 1.48 • Glycoalkaloid (od/g.) : 0.35 • Peel colour (od/g.) : 2.71 • Poly phenol oxidase (od/min/g.) : 1.38 • Total phenol (mg/100g.) : 38.18 		
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction as against little leaf diseases and fruit borer, jassids, whitefly damage is also less.		
17	Days to last picking/Maturity group	153/ Medium maturity group.		
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)		



16.6 Gujarat Round Brinjal 5 (GRB 5)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Gujarat Round Brinjal 5 (GRB 5)
4	Parentage with details of its pedigree	JBR-03-16 x JBGR-06-07 (R-06-7-B-3-2-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2017-18
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GRB 5 (JB-12-06) IC: 625671

9	Potential yield (q/ha)	471.93
10	Average yield (q/ha)	395.04
11	Recommended regions/areas of adoption	Brinjal growing area of the Gujarat state during late <i>kharif-rabi</i> season
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	70.33
	• Plant spread (cm)	80.88
	• Days to first picking after T.P.	64
	• Days to last picking after T.P.	163
	• Number of branches/plant	3.40
	• Fruit length (cm)	10.13
	• Fruit girth (cm)	17.95
	• Fruit weight (g)	87.68
	• No. of pickings	15
	• No. of fruit/plant	32
	• Fruit colour	Light green with purple shadow
	• Fruit shape of apex	Round
	• Fruit shape of general	Round
	• Fruit size	Medium
	• Fruit glossiness at harvest maturity	Medium
	• Fruit stripes and patches	Present
	• Plant growth habit	Erect
	• Time of physiological ripeness	Early
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : 15th August to 15th September • Spacing: 90 x 60 cm • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	<ol style="list-style-type: none"> 1. Fruits are medium in size with medium round shape 2. Fruit pulp is white with less seeds 3. Fruits are pink purple in colour with good shining 4. Cluster fruit bearing habit 5. Purple shade on calyx
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (%) : 9.00 • Total soluble sugar (%): 4.12 • Acidity (%) : 0.12 • Protein (%) : 0.89 • Glycoalkaloid (od/g.) : 0.47 • Peel colour (od/g.) : 2.92 • Poly phenol oxidase (od/min/g.) : 1.40 • Total phenol (mg/100g.) : 28.12
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	With respect to the damage due to jassids, whitefly and % fruit borer damage, the proposed entry was found superior than check varieties.
17	Days to last picking/Maturity group	163/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



16.7 Gujarat Round Brinjal 7 (GRB 7) (Sorath Ravaiya)

1	Name of crop	Brinjal
2	Botanical name	<i>Solanum melongena</i> L.
3	Name of variety	Gujarat Round Brinjal 7 (GRB 7)
4	Parentage with details of its pedigree	JBR-02-11 x GOB-1 (R-08-5-B-11-9-B-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2019-20
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GRB 5 (JBR-14-07) IC 633632
9	Average yield (q/ha)	401.46
10	Recommended regions/areas of adoption	Brinjal growing area of the Gujarat state during late <i>kharif-rabi</i> season
11	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	60.64
	• Plant spread (cm)	61.85
	• Days to first picking after T.P.	69
	• Days to last picking after T.P.	169
	• Number of branches/plant	3.79
	• Fruit length (cm)	9.85
	• Fruit girth (cm)	15.16
	• Fruit weight (g)	64.48
	• No. of pickings	16
	• No. of fruit/plant	47
	• Fruit colour	Pink purple
	• Fruit shape of apex	Rounded
	• Fruit shape of general	Ovoid
	• Fruit size	Medium
	• Fruit glossiness at harvest maturity	Strong
	• Fruit stripes and patches	Absent
	• Plant growth habit	Semi spreading
	• Time of physiological ripeness	Medium
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : 15th August to 15th September • Spacing: 90 x 60 cm • Seed rate: 300 to 350 g/ha. • Fertilizer: N:P:K 100 : 37.5 : 37.5 kg/ha.
14	Specific attributes/Describe at least two identifiable	<ul style="list-style-type: none"> • Fruits are medium in size with round shape. • Fruit pulp is white with less seed.

	characteristics of the variety	<ul style="list-style-type: none"> Fruits are green in colour with purple shadow strips and good shining Plants are medium in size and erect type.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> T. S. S. (%) : 8.00 Total soluble sugar (%): 3.17 Acidity (%) : 0.17 Protein (%) : 1.09 Glycoalkaloid (od/g.) : 0.38 Peel colour (od/g.) : 2.93 Poly phenol oxidase (od/min/g.) : 1.57 Total phenol (mg/100 g.) : 69.00
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Less fruit and shoot borer damage (%), jassids and aphids.
17	Days to last picking/Maturity group	169/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



17. Okra

17.1 Gujarat Okra 3 (GO 3)

1	Name of crop	Okra
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench
3	Name of variety	Gujarat Okra 3 (GO 3)
4	Parentage with details of its pedigree	HRB 55 x Arka Anamika
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2006-07
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GO 3 (JNDOL-03-1) IC: 553031
9	Potential yield (q/ha)	110.50 (Zone VII) and (162.76) Zone VIII
10	Average yield (q/ha)	86.68 (Zone VII) and (127.25 Zone) VIII
11	Recommended regions/areas of adoption	The okra variety is suitable for cultivation during <i>kharif</i> season for semi-arid lava plateau and central high lands (Zone VII) comprising of Madhya Pradesh (Excluding Eastern Part) and Maharashtra states and humid to semi-arid western Ghats and Karnataka plateau (Zone VIII) comprising of Karnataka, Kerala and Tamil Nadu states.
12	Characteristics/Distinguishing morphological in brief:	

•	Plant height (cm)	133
•	Days to 50 % flowering	47
•	Number of branches/plant	2.17
•	Fruit length (cm)	13.43
•	Fruit girth (cm)	5.40
•	10 fruit weight (g)	156
•	No. of fruit/plant	18.99
•	Intermodal length (cm)	1.56
•	Fruit colour	Green
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: <i>Kharif</i> • Spacing: 60 x 30 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 100 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The plant has deeply lobed (serrated) leaves, which is the special mark for identification of variety.
15	Quality / Nutritional / Other features	The pods are green, tender, smooth and attractive.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	YVMV diseases and jessids & pod borer incidence is less.
17	Days to last picking/Maturity group	105/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



17.2 Gujarat Okra Hybrid 2 (GOH 2)

1	Name of crop	Okra								
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench								
3	Name of variety	Gujarat Okra Hybrid 2 (GOH 2)								
4	Parentage with details of its pedigree	KS-404 x HRB-108-2								
5	Breeding method	Heterosis breeding								
6	Year of release	2008-09								
7	Gazette notification	S. O. 2978 (E) & Date: 26.12.2008								
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	<table border="0"> <thead> <tr> <th style="text-align: center;">Accession</th> <th style="text-align: center;">IC No.</th> </tr> </thead> <tbody> <tr> <td>1) GOH 2 (JOH-02-2)</td> <td>560491</td> </tr> <tr> <td>2) KS-404 (female)</td> <td>560492</td> </tr> <tr> <td>3) HRB-108-2 (male)</td> <td>560493</td> </tr> </tbody> </table>	Accession	IC No.	1) GOH 2 (JOH-02-2)	560491	2) KS-404 (female)	560492	3) HRB-108-2 (male)	560493
Accession	IC No.									
1) GOH 2 (JOH-02-2)	560491									
2) KS-404 (female)	560492									
3) HRB-108-2 (male)	560493									
9	Potential yield (q/ha)	152.19								
10	Average yield (q/ha)	148.36								
11	Recommended regions/areas of adoption	It is suitable for cultivation during <i>kharif</i> season for Saurashtra and Middle & South Gujarat. It has also release in Zone II (West Bengal and Assam), IV								

		(Punjab, Tarai & Plain of UP, Bihar and Jarkhand), VI (Rajasthan, Gujarat, Haryana and New Delhi), VII (MP (Excluding Eastern Part, Maharashtra and Goa)) and VIII (Karnataka Kerala and Tamil Nadu) at state and national levels.		
12	Characteristics/Distinguishing morphological in brief:			
	Descriptions of hybrid parents	GOH 2 (JOH-02-2)	KS-404 (Female)	HRB-108-2 (Male)
	• Plant height (cm)	158.8	141.4	152.1
	• Days to 50 % flowering	43.4	43.8	42.2
	• No. of fruit/plant	24.5	18.4	22.3
	• Fruit length (cm)	11.8	11.8	11.2
	• Fruit girth (cm)	5.8	6.1	5.5
	• 10 fruit weight (g)	139	142	135
	• Intermodal length (cm)	6.7	6.5	6.8
	• Fruit colour	Green	Green	Green
	• Fruit size	Medium	Thick	Medium
	• Stem colour initial stage	Green	Green	Green
	• Stem colour at flowering & fruiting stage	Reddish	Reddish	Reddish
	• Leaf shape	Deeply lobbed serrated	Deeply lobbed serrated	Deeply lobbed serrated
	• Base of petals colour	Pinkish red in both the sides	Pinkish red only in the inner sides	Pinkish red in both the sides
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: <i>Kharif</i> • Spacing: 60 x 30 cm. • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 100 : 50 : 50 kg/ha. 		
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The leaves are deeply lobbed and serrated. Stem colour at initial stage in green and maturity stage in reddish. The fruit are green, tender and attractive. Base of flowers petals is pinkish red on both sides.		
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Dry weight (%) : 8.06 • Moisture (%) : 91.94 • Fiber (%) : 0.65 • Protein (%) : 0.96 • Acidity (%) : 0.27 • Total Soluble Sugar (%) : 1.24 • Ascorbic Acid (mg/100g) : 5.83 		
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The YVMV diseases and jessids & pod borer incidence is less.		
17	Days to last picking/Maturity group	110/Medium maturity group.		
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)		



17.3 Gujarat Junagadh Okra 3 (GJO 3)

1	Name of crop	Okra
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench
3	Name of variety	Gujarat Junagadh Okra 3 (GJO 3)
4	Parentage with details of its pedigree	Arka Abhay x VRO-4 (K-96-6-1-2-1-3-1-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2009-10
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJO 3 (JOL-2K-19) IC: 565033
9	Potential yield (q/ha)	184.47
10	Average yield (q/ha)	150.52
11	Recommended regions/areas of adoption	The <i>kharif</i> okra growing areas of Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	151.1
	• Days to 50 % flowering	44.2
	• Number of branches/plant	2.37
	• Fruit length (cm)	11.70
	• Fruit girth (cm)	5.57
	• 10 fruit weight (g)	128
	• No. of fruit/plant	19.0
	• Intermodal length (cm)	7.52
	• Fruit colour	Green
	• Stem colour at initial stage	Green
	• Stem colour at flowering & fruiting stage	Reddish
	• Leaf shape	Deeply lobbed and serrated
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: <i>Kharif</i> • Spacing: 60 x 30 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 100 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The leaves are deeply lobbed and serrated. Stem colour at initial stage in green and maturity stage is reddish. The variety registered superior green fruit yield, tender and attractive.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Dry weight (%) : 8.70 • Moisture (%) : 91.30 • Fiber (%) : 0.69

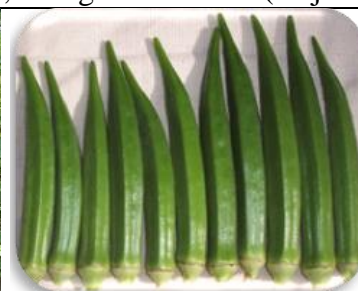
		<ul style="list-style-type: none"> • Protein (%) : 0.99 • TSS (%) : 7.50 • Total Phenols (mg/100g) : 0.698 • Total Soluble Sugar (%) : 1.39 • Ascorbic Acid (mg/100g): 0.29
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The YVMV disease incidence is less. The reaction to major pests like jessids, thrips, whiteflies & pod borer damage is also less.
17	Days to last picking/Maturity group	115/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



17.4 Gujarat Junagadh Okra Hybrid 3 (GJOH 3)

1	Name of crop	Okra		
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench		
3	Name of variety	Gujarat Junagadh Okra Hybrid 3 (GJOH 3)		
4	Parentage with details of its pedigree	JF-108-2 x JM-03-1		
5	Breeding method	Heterosis breeding		
6	Year of release	2010-11		
7	Gazette notification	S. O. 2277 (E) & Date: 17.08.2015		
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	<p style="text-align: center;">Accession</p> <p>1) GJOH 3 (JOH-05-9)</p> <p>2) JF-108-2 (female)</p> <p>3) JM-03-1 (male)</p>	<p style="text-align: center;">IC No.</p> <p>585698</p> <p>585699</p> <p>585610</p>	
9	Potential yield (q/ha)	153.65		
10	Average yield (q/ha)	137.44		
11	Recommended regions/areas of adoption	The <i>kharif</i> okra growing areas of Zones V (Eastern MP, Orissa, Andhra Pradesh and Chhattisgarh), VI (Rajasthan, Gujarat, Haryana and New Delhi) and VII (MP (Excluding Eastern part), Maharashtra and Goa) at national level.		
12	Characteristics/Distinguishing morphological in brief			
	Descriptions of hybrid parents	GJOH 3 (JOH-05-9)	JF-108-2 (Female)	JM-03-1 (Male)
•	Plant height (cm)	122.3	141.4	128.2
•	Days to 50 % flowering	40.5	41.8	42.2
•	Number of fruits per plant	18.6	16.4	15.3
•	Fruit length (cm)	11.5	11.8	10.6
•	Fruit girth (cm)	4.99	4.95	5.56
•	10 fruit weight (g)	1392	135	132
•	Intermodal length (cm)	5.41	6.52	5.68
•	Fruit colour	Dark green	Green	Dark green

13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: <i>Kharif</i> • Spacing: 60 x 30 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 100 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The leaves are deeply lobbed and serrated. Stem colour at initial stage in green and maturity stage is reddish. The pods are smooth, dark green, tender and attractive in colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Dry weight (%) : 11.39 • Moisture (%) : 88.61 • Fiber (%) : 1.15 • Protein (%) : 1.46 • TSS (%) : 9.00 • Total Phenols (mg/100g) : 0.593 • Total Soluble Sugar (%) : 1.26 • Ascorbic Acid (mg/100g): 6.30
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The YVMV disease incidence was less. The reaction to major pests like jessids, thrips, whiteflies & pod borer damage is also less.
17	Days to last picking/Maturity group	105/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



17.5 Gujarat Junagadh Okra Hybrid 4 (GJOH 4)

1	Name of crop	Okra								
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench								
3	Name of variety	Gujarat Junagadh Okra Hybrid 4 (GJOH 4)								
4	Parentage with details of its pedigree	JF-55 x JOL-2K-19								
5	Breeding method	Heterosis breeding								
6	Year of release	2014-15								
7	Gazette notification	S.O. No. 261 (E), Dt. 16/01/2018								
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	<table border="0"> <tr> <td>Accession</td> <td>IC No.</td> </tr> <tr> <td>GJOH 4 (JOH-08-19)</td> <td>611697</td> </tr> <tr> <td>JF-55 (female)</td> <td>611698</td> </tr> <tr> <td>JOL-2K-19 (male)</td> <td>611699</td> </tr> </table>	Accession	IC No.	GJOH 4 (JOH-08-19)	611697	JF-55 (female)	611698	JOL-2K-19 (male)	611699
Accession	IC No.									
GJOH 4 (JOH-08-19)	611697									
JF-55 (female)	611698									
JOL-2K-19 (male)	611699									
9	Potential yield (q/ha)	143.36								
10	Average yield (q/ha)	140.00								
11	Recommended regions/areas of adoption	The okra hybrid suitable for cultivation during <i>kharif</i> season for Zone VI (Arid Western Plains of Rajasthan, Gujarat, Haryana and Delhi) and Zone VII (Madhya Pradesh and Maharashtra) release at state and national levels.								

12	Characteristics/Distinguishing morphological in brief:			
	Descriptions of hybrid parents	GJOH 4 (JOH-08-19)	JF-55 (Female)	JOM-2K-19 (Male)
•	Plant height (cm)	109.50	90.10	95.50
•	Days to 50 % flowering	45.35	48.50	45.00
•	Days to first picking	53	55	52
•	Number of fruits per plant	20.51	15.16	18.30
•	Fruit length (cm)	11.89	10.68	10.38
•	Fruit girth (cm)	5.31	5.32	5.14
•	10 fruit weight (g)	123	119	109
•	Fruit colour	Medium dark green, tender, long and attractive	Dark green, tender, short	Light green, tender, medium long
•	Leaf shape	Deeply lobbed and serrated	Deeply lobbed and serrated	Deeply lobbed and serrated
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: <i>Kharif</i> • Spacing: 60 x 30 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 100 : 50 : 50 kg/ha. 		
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The leaves are deeply lobbed and serrated. Stem colour at seedling stage colour in green and flowering and fruiting stage colour in reddish. The pods are smooth, medium dark green, tender, long and attractive in colour. Flower colour on base of the flower petal light red in colour.		
15	Quality / Nutritional / Other features	NA		
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The YVMV disease incidence was less. The reaction to major pests like jessids, thrips, whiteflies & pod borer damage was also less.		
17	Days to last picking/Maturity group	102/Medium maturity group.		
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)		



17.6 Gujarat Okra 6 (GO 6)

1	Name of crop	Okra
2	Botanical name	<i>Abelmoschus esculentus</i> (L.) Moench
3	Name of variety	Gujarat Okra 6 (GO 6)
4	Parentage with details of its pedigree	AOL-03-1 x JOL-2K-19 (K-2007-5-B-6-4-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.

6	Year of release	2017-18
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GO 6 (JOL-11-12) IC: 625723
9	Potential yield (q/ha)	154.68
10	Average yield (q/ha)	125.44
11	Recommended regions/areas of adoption	The <i>kharif</i> okra growing areas of Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	111.83
	• Days to 50 % flowering	45
	• Fruit length (cm)	12.94
	• Fruit girth (cm)	5.84
	• 10 fruit weight (g)	146.4
	• No. of pickings	14
	• No. of fruit/plant	14.79
	• Intermodal length (cm)	7.53
	• Fruit colour	Dark green
	• Stem colour at initial stage	Green
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season: 15th June to 15th July • Spacing: 60 x 30 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 150 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	<ul style="list-style-type: none"> • Fruits are smooth, tender, dark green in colour and attractive. • Leaf petiole length is short. • Flower petal colour is cream. • Calyx is green in colour. • Shape of fruit is apex is narrow acute. • Hairiness on seed is present.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Dry weight (%) : 8.70 • Moisture (%) : 91.30 • Protein (%) : 1.05 • TSS (%) : 8.50 • Total Phenols (mg/100g) : 0.30 • Total Soluble Sugar (%) : 1.31 • Ascorbic Acid (mg/100g): 6.49
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The fruit borer, jassids, white fly and YVMV incidence was found less as compared to all check varieties.
17	Days to last picking/Maturity group	99/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



18. Garlic

18.1 Gujarat Garlic 4 (GG 4)

1	Name of crop	Garlic
2	Botanical name	<i>Allium sativum</i> L.
3	Name of variety	Gujarat Garlic 4 (GG 4)
4	Parentage with details of its pedigree	The genotype was selection from the local collection made from surrounding area of Choki village of Junagadh district and maintained in germplasm as line No. 213.
5	Breeding method	Clonal selection.
6	Year of release	2006-07
7	Gazette notification	S. O. 2978 (E) & Date: 26.12.2008
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GG 4 (JG-99-213) IC: 573470
9	Potential yield (q/ha)	93.24
10	Average yield (q/ha)	89.33
11	Recommended regions/areas of adoption	The garlic variety is suitable for cultivation under <i>rabi</i> season for Saurashtra and Middle Gujarat and Zone IV (Gujarat & Rajasthan).
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	55
	• No. of leaves/Plant	11.5
	• No. of cloves/Bulb	21.0
	• Bulb polar diameter (cm)	2.72
	• Bulb equator diameter (cm)	3.82
	• Clove length (cm)	2.17
	• Clove girth (cm)	0.89
	• Bulb weight (g)	19.1
	• Bulb colour	White
	• Leaf colour	Medium green
	• Leaf width	Narrow
	• Bulb size	Medium
13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season : Second fortnight of October • Spacing: 15 x 10 cm • Seed rate: 500 to 700 kg cloves/ha. • Fertilizer: N:P:K 50 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The bulbs are medium in size, compact and white in colour, the leaf width is narrow with medium green colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (*Brix) : 36.12 • Soluble sugar (%): 22.59 • Reducing sugar (%) : 2.31 • Non reducing sugar (%) : 20.28

		<ul style="list-style-type: none"> • Ascorbic Acid (mg/100g) : 6.44 • Carotenoids (mg/100g) : 0.45 • Pyruvic acid (mg/g.) : 2.86 • Protein (%) : 1.14 • Dry matter (%) : 38.45 • Drying ratio : 2.60
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The stem phylum leaf blight and powdery mildew disease and thrips are less in the variety.
17	Maturity group	134/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



18.2 Gujarat Junagadh Garlic 5 (GJG 5)

1	Name of crop	Garlic
2	Botanical name	<i>Allium sativum</i> L.
3	Name of variety	Gujarat Junagadh Garlic 5 (GJG 5)
4	Parentage with details of its pedigree	The genotype was collection from local market of Visavadar of Junagadh district and maintained in germplasm as line No. 260.
5	Breeding method	Clonal selection.
6	Year of release	2013-14
7	Gazette notification	S. O. No. 261 (E), Dt.16/01/2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJG 5 (JG-07-13) IC: 611307
9	Potential yield (q/ha)	81.32
10	Average yield (q/ha)	79.42
11	Recommended regions/areas of adoption	The garlic variety is suitable for cultivation under <i>rabi</i> season for Saurashtra and Middle Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	44.88
	• No. of leaves/Plant	12.23
	• No. of cloves/Bulb	17.85
	• Bulb polar diameter (cm)	2.87
	• Bulb equator diameter (cm)	3.18
	• Clove size (diameter)	Medium
	• Clove colour and colour flesh	White
	• 10 Bulb weight (g)	130.92
	• Bulb colour	White
	• Leaf colour	Light green
	• Leaf width	Narrow
	• Leaf waxiness	Weak
	• Leaf shape	Strongly concave
	• Bulb size	Compact and Medium

13	Agronomical Practices	<ul style="list-style-type: none"> • Sowing season : Second fortnight of October • Spacing: 15 x 10 cm • Seed rate: 500 to 700 kg cloves/ha. • Fertilizer: N:P:K 50 : 50 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The bulbs are medium in size, compact and attractive white in colour, the leaf width is medium with light green colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • T. S. S. (*Brix) : 37.50 • Total carbohydrate (%): 26.71 • Total protein (%) : 3.72 • Reducing sugar (%) : 2.34 • Ascorbic Acid (mg/100g) : 6.87 • Carotenoids (mg/100g) : 0.44 • Pyruvic acid (mg/g.) : 2.93 • Dry matter (%) : 38.89 • Drying ratio : 2.57
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The stem phylum leaf blight and powdery mildew disease and thrips are less in the variety.
17	Maturity group	Early maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



19. Onion

19.1 Gujarat Junagadh Red Onion 11 (GJRO 11)

1	Name of crop	Onion
2	Botanical name	<i>Allium cepa</i> L.
3	Name of variety	Gujarat Junagadh Red Onion 11 (GJRO 11)
4	Parentage with details of its pedigree	The sample of red onion was local collection from Mahuva taluka of Bhavnagar district and maintained in germplasm No. 117 (Mahuva-7).
5	Breeding method	Mass selection.
6	Year of release	2014-15 and 2015-16 (Area expansion)
7	Gazette notification	S.O. No. 4868 (E), Dt. 14/09/2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJRO 11 (JDRO-07-13) IC: 612169
9	Potential yield (q/ha)	371.63
10	Average yield (q/ha)	336.29
11	Recommended regions/areas of adoption	The onion variety is suitable for cultivation in <i>rabi</i> season under irrigated condition of Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Number of leaves/ pseudo stem	10.02
	• Foliage length (cm)	49.54

•	Bulb length (cm)	3.96
•	Bulb girth (cm)	5.36
•	Bulb weight (g)	59.61
•	Bolting (%)	2.34
•	Jointed bulbs (%)	1.74
•	Bulb colour	Red
•	Bulb shape	Flat globe
•	Thickness of rings	Medium
•	Firmness of flesh	Medium
•	Colour of epidermis of fleshy scale	Purple
•	Predominant number of axes	Three
•	Cross section	Asymmetrical
•	Degree of spitting into bulb lets	Absent
•	Foliage attitude	Erect
•	Foliage waxiness	Present
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : November-December • Spacing: 15 x 10 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 75 : 60 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The bulbs are medium in size, flat globe in shape and red in colour and recorded less jointed bulb per cent (1.74 %).
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 89.44 • T. S. S. (*Brix) : 13.14 • Soluble sugar (%) : 1.22 • Reducing sugar (%) : 0.36 • Non reducing sugar (%) : 0.86 • Ascorbic Acid (mg/100g) : 3.89 • Pyruvic acid (mg/100g.) : 11.35 • Total Protein (%) : 1.16 • Total phenol mg/100g : 13.66 • Acidity (%) : 0.34
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Purple blotch disease and thrips is less in the variety.
17	Days to maturity/Maturity group	124/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



19.2 Gujarat Junagadh White Onion 3 (GJWO 3)

1	Name of crop	Onion
2	Botanical name	<i>Allium cepa</i> L.

3	Name of variety	Gujarat Junagadh white Onion 3 (GJWO 3)
4	Parentage with details of its pedigree	The sample of white onion was local collection from Talaja taluka of Bhavnagar district and maintained in germplasm No. 120 (Borda village).
5	Breeding method	Mass selection.
6	Year of release	2015-16
7	Gazette notification	S. O. No. 261 (E), Dt.16/01/2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJWO 3 (JWO-05-7) IC: 612168
9	Potential yield (q/ha)	519.33
10	Average yield (q/ha)	398.06
11	Recommended regions/areas of adoption	The onion variety is suitable for cultivation in <i>rabi</i> season under irrigated condition of Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
	• Number of leaves/ pseudo stem	10.7
	• Foliage length (cm)	49.7
	• Bulb length (cm)	4.23
	• Bulb girth (cm)	5.16
	• Bulb weight (g)	65.73
	• Bolting (%)	1.02
	• Jointed bulbs (%)	1.70
	• Bulb colour	White
	• Bulb shape	Flat globe
	• Thickness of rings	Medium
	• Thickness of neck	Thick
	• Firmness of flesh	Medium
	• Colour of epidermis of fleshy scale	White
	• Predominant number of axes	Three
	• Cross section	Asymmetrical
	• Degree of spitting into bulb lets	Absent
	• Foliage attitude	Erect
	• Foliage waxiness	Present
	• Anthocyanin pigmentation	Dark green
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of T. P. : November-December • Spacing: 15 x 10 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 75 : 60 : 50 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The bulbs are medium in size, flat globe in shape and white in colour and foliage is dark green. Four months storage study, the weight loss per cent (18.06 %) has also observed lower. The variety is suitable for dehydration purpose.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 90.73 • T. S. S. (*Brix) : 13.15 • Soluble sugar (%): 1.04 • Reducing sugar (%) : 0.24 • Non reducing sugar (%) : 0.79 • Ascorbic Acid (mg/100g) : 3.19 • Pyruvic acid (mg/100g.) : 11.35

		<ul style="list-style-type: none"> • Total Protein (%) : 1.19 • Total phenol mg/100g : 18.23 • Acidity (%) : 0.37
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Purple blotch disease and thrips are less in the variety.
17	Days to maturity/Maturity group	123/ Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



20. Sponge Gourd

20.1 Gujarat Sponge Gourd 1 (GSG 1)

1	Name of crop	Sponge Gourd
2	Botanical name	<i>Luffa cylindrica</i> Roem.
3	Name of variety	Gujarat Sponge Gourd 1 (GSG 1)
4	Parentage with details of its pedigree	The genotype was collection from Ajab, village Junagadh district and maintained in germplasm lion No. 55.
5	Breeding method	Mass selection.
6	Year of release	2004-05
7	Gazette notification	S. O. 597 (E) & Date: 25.04.2006
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GSG 1 (JSGL-55) IC: NA
9	Potential yield (q/ha)	213.20
10	Average yield (q/ha)	131.29
11	Recommended regions/areas of adoption	The sponge gourd variety is suitable for cultivation during <i>kharif</i> season for the Gujarat state and Zone VII (MP (Excluding Eastern Part), Maharashtra and Goa).
12	Characteristics/Distinguishing morphological in brief:	
	• Daye to male flowering	44.00
	• Days to female flowering	44.63
	• Days to first picking	59.91
	• Days to last picking	109.12
	• Vine length (m)	5.5
	• Fruit length (cm)	23.22
	• Fruit girth (cm)	12.64
	• Fruit weight (g)	147.36
	• No. of fruit / plant	11.98
	• Fruit yield / plant (kg)	1.765
	• No. of pickings	16.77
	• Fruit colour	Light green
	• Fruit size	Medium

•	Seed colour	Black
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : June-July • Spacing: 150 cm x 100 cm • Seed rate: 2 kg/ha. • Fertilizer: N:P:K 50 : 25 : 25 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The fruit of this variety are medium size, good shape with attractive light green colour and contain higher Soluble Sugar (1.99 %).
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 92.17 • Soluble sugar (%) : 1.99 • Reducing sugar (%) : 0.948 • Non reducing sugar (%) : 1.042 • Chlorophyll 'a' (mg/g) : 0.093 • Chlorophyll 'b' (mg/g) : 0.071 • Soluble protein (%) : 0.345
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Downy mildew disease and leaf miner are less in the variety.
17	Days to last picking/Maturity group	109 days/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



20.2 Gujarat Junagadh Sponge Gourd 2 (GJSG 2)

1	Name of crop	Sponge Gourd
2	Botanical name	<i>Luffa cylindrica</i> (L.) Roem
3	Name of variety	Gujarat Junagadh Sponge Gourd 2 (GJSG 2)
4	Parentage with details of its pedigree	Pusa Chikni x NSG 28
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2014-15
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJSG 2 (JSG-05-04) IC: 616390
9	Potential yield (q/ha)	139.73
10	Average yield (q/ha)	114.04
11	Recommended regions/areas of adoption	The sponge gourd variety is suitable for the cultivation during <i>kharif</i> season for the Saurashtra and Middle Gujarat region.
12	Characteristics/Distinguishing morphological in brief:	
•	Daye to male flowering	39
•	Days to female flowering	43

•	Days to first picking	55
•	Days to last picking	98
•	Vine length (m)	7.78
•	Fruit length (cm)	27.29
•	Fruit girth (cm)	12.37
•	Fruit weight (g)	162.02
•	No. of fruit / plant	13.36
•	Fruit yield / plant (kg)	2.16
•	No. of primary branches/vine	3
•	Fruit skin colour	Green
•	Fruit size	Long
•	Fruit shape	Cylindrical
•	Seed colour	Black
•	Flash texture	Smooth
•	Flower size	Medium big
•	Early plant vigor	Very good
•	Plant growth habit	Long vine
•	Stem pubescence	Smooth
•	Stem shape	Angular
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : 15th June to 15th July • Spacing: 200 cm x 100 cm • Seed rate: 3 kg/ha. • Fertilizer: N:P:K 50 : 25 : 25 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The fruit of this variety are long size, green colour, shining. Leaf size is large and multifold leaf margin and more tendrils branching (1+4).
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 93.06 • Dry Wt. (%) : 6.94 • TSS (%) : 6.25 • Soluble sugar (%) : 1.671 • Reducing sugar (%) : 0.781 • Non reducing sugar (%) : 0.890 • Chlorophyll 'A' (mg/g) : 0.62 • Chlorophyll 'B' (mg/g) : 0.91 • Soluble protein (%) : 0.218
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Mosaic, Downy mildew disease and fruit fly, leaf miner are less in the variety.
17	Days to last picking/Maturity group	98 days/Early maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



21. Ridge Gourd

21.1 Gujarat Junagadh Ridge Gourd Hybrid 1 (GJRGH 1)

1	Name of crop	Ridge Gourd		
2	Botanical name	<i>Luffa acutangula</i> Roxb. L.		
3	Name of variety	Gujarat Junagadh Ridge Gourd Hybrid 1 (GJRGH 1)		
4	Parentage with details of its pedigree	JRGL 11 x JRGL 32		
5	Breeding method	Heterosis breeding.		
6	Year of release	2011-12		
7	Gazette notification	Awaited		
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	<p style="text-align: center;">Accession</p> <p>1) GJRGH 1 (JRGH-28)</p> <p>2) JRGL-32 (Male)</p> <p>3) JRGL-11 (Female)</p>	<p style="text-align: center;">IC No.</p> <p>587780</p> <p>587781</p> <p>587782</p>	
9	Potential yield (q/ha)	146.22		
10	Average yield (q/ha)	113.30		
11	Recommended regions/areas of adoption	The hybrid is suitable for the cultivation during <i>kharif</i> season for the Saurashtra and Middle Gujarat region.		
12	Characteristics/Distinguishing morphological in brief:			
	Description of the parents	GJRGH 1 (JRGH-28)	JRGL-11 (Female)	JRGL-32 (Male)
	• Daye to male flowering	46.30	47.90	44.45
	• Days to female flowering	52.14	53.43	49.25
	• First male appearing node	6.30	8.90	7.83
	• First female appearing node	7.80	12.50	10.26
	• Male and female flower ratio	11.10	9.35	10.25
	• Days to first picking	59	60	65
	• Days to last picking	110	109	102
	• Vine length (m)	5.10	4.80	5.73
	• No. of primary branches/vine	8.50	7.60	6.60
	• Fruit length (cm)	34.63	31.18	32.23
	• Fruit girth (cm)	11.87	11.40	10.81
	• Fruit weight (g)	119.43	112.82	108.10
	• No. of fruit / plant	17.08	13.36	14.10
	• Fruit yield / plant (kg)	2.016	1.523	1.750
	• Petiole length (cm)	11.6	10.80	11.30
	• Pedicle length (cm)	9.20	8.10	10.0
	• Number of ridges on fruit	10	10	10
	• 100 seed weight	15.50	11.50	12.10
	• Fruit skin colour	Green	Green	Green
	• Fruit size	Long	Medium	Large
	• Fruit shape	Elliptical	Elliptical	Curve
	• Seed colour	Black	Black	Black
	• Flash texture	Smooth	Smooth	Smooth
	• Flower size	Big	Medium	Medium
	• Ridge expression	Highly prominent	Prominent	Medium prominent
	• Early plant vigor	Very good	Good	Good
	• Plant growth habit	Medium vine	Medium vine	Long vine
	• Stem pubescence	Smooth	Smooth	Smooth
	• Stem shape	Angular	Angular	Angular
	• Tendril	Present	Present	Present

• Tendril type	Coiled	Coiled	Coiled
• Tendril branching	Branched (1+3)	Branched (1+3)	Branched (1+4)
• Leaf margin	Multifold	Multifold	Serrate
• Leaf size	Large	Medium	Large
• Leaf pubescence nature	Intermediate	Soft	Soft
• Leaf pubescence density	Dense	Sparse	Dense
• Sex type	Monocious	Monocious	Monocious
13 Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : 15th June to 15th July • Spacing: 200 cm x 100 cm • Seed rate: 3 kg/ha. • Fertilizer: N:P:K 50 : 25 : 25 kg/ha. 		
14 Specific attributes/Describe at least two identifiable characteristics of the variety	The fruit of this hybrid are long size with green colour. Petiole and pedicle length is more and the ridge expression of the fruit is highly prominent. Dorsal side petal having five prominent nerves-male flowers.		
15 Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 93.20 • Dry Wt. (%) : 6.80 • TSS (%) : 5.83 • Total sugar (%) : 1.29 • Reducing sugar (%) : 0.753 • Non reducing sugar (%) : 0.538 • Pulp/Skin ratio : 5.634 • Chlorophyll 'B' (mg/g) : 1.240 • Protein (%) : 0.230 • Fiber content (%) : 2.328 		
16 Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The hybrid is medium tolerance against downy mildew disease. Fruit fly and mines per leaf are less in the hybrid.		
17 Days to last picking/Maturity group	109 days/Medium maturity group.		
18 Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)		



21.2 Gujarat Ridge Gourd 2 (GRG 2)

1	Name of crop	Ridge Gourd
2	Botanical name	<i>Luffa acutangula</i> Roxb. L.
3	Name of variety	Gujarat Ridge Gourd 2 (GRG 2)
4	Parentage with details of its pedigree	HARG-110 x ARGS-07-41
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2018-19
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of	JRG-13-06 (GRG-2) IC: 628559

	germplasm samples with NBPGR	
9	Average yield (q/ha)	105.70
10	Recommended regions/areas of adoption	This ridge gourd variety is suitable for the cultivation during <i>khariif</i> season in the areas of Saurashtra and Middle Gujarat
11	Characteristics/Distinguishing morphological in brief:	
	Description of the parents	GRG-2 (JRG-13-06)
	• Daye to male flowering	43
	• Days to female flowering	47
	• First male appearing node	9.10
	• First female appearing node	14.10
	• Male and female flower ratio	
	• Days to first picking	58
	• Days to last picking	99
	• Vine length (m)	6.88
	• No. of primary branches/vine	5.40
	• Fruit length (cm)	32.95
	• Fruit girth (cm)	11.80
	• Fruit weight (g)	128.15
	• No. of fruit / plant	16.10
	• Fruit yield / plant (kg)	2.063
	• Petiole length (cm)	Medium (8.1-10 cm)
	• Pedicle length (cm)	Long (> 10 cm)
	• Number of ridges on fruit	
	• 100 seed weight	Low (<10 g)
	• Fruit skin colour	Green
	• Fruit size	Long
	• Fruit shape	Elongate
	• Seed colour	Black
	• Flash texture	Soft
	• Flower size	
	• Ridge expression	
	• Early plant vigor	
	• Plant growth habit	Long viny (> 5.5 m)
	• Stem pubescence	Absent
	• Stem shape	Angular
	• Tendril	
	• Tendril type	
	• Tendril branching	
	• Leaf margin	Serrate
	• Leaf size	Large
	• Leaf pubescence nature	Soft
	• Leaf pubescence density	
	• Sex type	
12	Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : 15th June to 15th July • Spacing: 200 cm x 100 cm • Seed rate: 3 kg/ha. • Fertilizer: N:P:K 50 : 25 : 25 kg/ha.
13	Specific attributes/Describe at	The fruit of this hybrid are long size with green colour.

	least two identifiable characteristics of the variety	Petiole and pedicle length is more and the ridge expression of the fruit is highly prominent. Dorsal side petal having five prominent nerves-male flowers.
14	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 93.20 • Dry Wt. (%) : 6.80 • TSS (%) : 5.83 • Total sugar (%) : 1.29 • Reducing sugar (%) : 0.753 • Non reducing sugar (%) : 0.538 • Pulp/Skin ratio : 5.634 • Chlorophyll 'B' (mg/g) : 1.240 • Protein (%) : 0.230 • Fiber content (%) : 2.328
15	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The hybrid is medium tolerance against downy mildew disease. Fruit fly and mines per leaf are less in the hybrid.
16	Days to last picking/Maturity group	109 days/Medium maturity group.
17	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)

22. Indian Bean

22.1 Gujarat Junagadh Indian bean 11 (GJIB 11)

1	Name of crop	Indian bean
2	Botanical name	<i>Dolichos lablab</i> L.
3	Name of variety	Gujarat Junagadh Indian bean 11 (GJIB 11)
4	Parentage with details of its pedigree	The genotype was collection from the local collection was maintained in germplasm as lion No. 16.
5	Breeding method	Pure line selection.
6	Year of release	2010-11
7	Gazette notification	S. O. 1498 (E), Dt.01.04.2019
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJIB 11 (JIB (V) 16 IC: 587779
9	Potential pod yield (q/ha)	111.31
10	Average pod yield (q/ha)	95.39
11	Recommended regions/areas of adoption	The Indian bean variety is suitable for cultivation during late <i>kharif</i> season in Saurashtra and Middle Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	57.25
	• Plant spread (cm)	49.31
	• No. of branches/plant	4.91
	• Pod length (cm)	13.22
	• Pod width (cm)	1.09
	• Ten pod weight (g)	53.44
	• No. of seeds per pod	5.11
	• Days to first picking	98
	• Days to last picking	149
	• Pod colour	Green

•	Pod shape	Medium long
•	Pod size	Medium
•	Plant habit	Semi spreading
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : 15th to 30th September • Spacing: 150 cm x 75 cm • Seed rate: 8 to 10 kg/ha. • Fertilizer: N:P:K 20 : 40 : 00 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The pod of this variety is medium long in size with green colour. Plant is semi spreading and flower is violate in colour.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 86.3 • Dry matter (%) : 13.7 • Poly phenol oxidase (od/min/g.) : 0.14 • Glycoalkaloid (od/gm.) : 0.32 • TSS (%) : 11.6 • Peel colour (od/g.) : 1.36 • Protein (%) : 2.12 • Acidity (%) : 3.56 • Total phenol (mg/100g.) : 27.23 • Total soluble sugar (%) : 1.93
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety possessed tolerance leaf spot and leaf blight disease. Mosaic virus incidence is also recorded less (1.22 %) in the variety. The reaction of pod borer, leaf miner and aphids damage are also recorded lower.
17	Days to last picking/Maturity group	149 days/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



22.2 Gujarat Junagadh Indian bean 2 (GJIB 2)

1	Name of crop	Indian bean (<i>Papdi</i>)
2	Botanical name	<i>Dolichos lablab</i> L.
3	Name of variety	Gujarat Junagadh Indian bean 2 (GJIB 2)
4	Parentage with details of its pedigree	JNDIB 88 x JNDIB 23 (1998-7-7-18-14-13)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2011-12
7	Gazette notification	S. O. 3666 (E) & Date: 06.12.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJIB 2 (JIB (P)-04-14 IC: 589768
9	Potential pod yield (q/ha)	143.11
10	Average pod yield (q/ha)	112.46

11	Recommended regions/areas of adoption	The Indian bean (<i>papdi</i>) variety is suitable for cultivation during late <i>kharif</i> season in Saurashtra and Middle Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	77.86
	• Plant spread (cm)	65.24
	• No. of branches/plant	5.55
	• Pod length (cm)	8.00
	• Pod width (cm)	1.997
	• Ten pod weight (g)	50.25
	• No. of seeds per pod	4.28
	• Days to first picking	91.0
	• Days to last picking	155.86
	• Pod colour	Green
	• Pod shape	Flat and medium long
	• Pod size	Big
	• Pod tip	Acute
	• Pod edge	Green
	• Pod curvature	Curved
	• Plant habit	Semi erect
	• Stem colour	Green
	• Petiole length	Short
	• Petiole colour	Green
	• Leaf blade tip angle	Very acute
	• Leaf blade colour	Green
	• Corolla colour	White
	• Inflorescence spike length	Long
	• Pedicle length and thickness	Intermediate
	• Grain colour	Light green
13	Agronomical Practices	<ul style="list-style-type: none"> • Time of sowing : 15th August to 15th September • Spacing: 120 cm x 60 cm • Seed rate: 15 to 20 kg/ha. • Fertilizer: N:P:K 20 : 40 : 00 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	The pod of this variety is flat and medium long in shape with green colour. Plant is semi spreading and flower is white in colour. Grain colour is light green and inflorescence length is more.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Moisture (%) : 82.53 • Dry matter (%) : 17.47 • Poly phenol Oxidase (od/min/gm.) : 0.133 • Glycoalkaloid (od/gm.) : 0.26 • TSS (%) : 15.5 • Peel colour (od/gm.) : 1.17 • Protein (%) : 4.69 • Acidity (%) : 2.26 • Total phenol (mg/100g.) : 32.64 • Total soluble sugar (%) : 2.23
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety possessed leaf spot and leaf blight disease intensity is also less. The reaction of pod borer, leaf miner and aphids damage are also recorded lower.

17	Days to last picking/Maturity group	156 days/Medium maturity group.
18	Originating source/ Institute	Vegetable Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)

