

JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH

D. Cash crops

Sr. No.	Variety/ Hybrid	
10.	Cotton	
	10.1	Gujarat Junagadh Cotton 101 (GJC 101)
	10.2	Gujarat Junagadh Cotton 102 (G.J. Cot 102)
	10.3	Gujarat Cotton Hybrid 22 (G. Cot. Hy 22)
	10.4	Gujarat Cotton 38 (G. Cot. 38)
11.	Sugarcane	
	11.1	Gujarat Sugarcane 5 (GS 5)

10. Cotton

10.1 Gujarat Junagadh Cotton 101 (GJC 101)

1	Name of crop	Cotton
2	Botanical name	<i>Gossypium hirsutum</i> L.
3	Name of variety	Gujarat Junagadh Cotton 101 (GJC 101)
4	Parentage with details of its pedigree	Deviraj x Bikaneri Narma
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2012-13
7	Gazette notification	--
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJC 101 (GJHV-460) IC: 611324
9	Potential yield (kg/ha)	Seed cotton 2372 and Lint 757
10	Average yield (kg/ha)	Seed cotton 2107 and Lint 676
11	Recommended regions/areas of adoption	Irrigated conditions during <i>kharif</i> season in Saurashtra, North Gujarat and South Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	100-120
	• Days to flowering	75-85
	• Locules/boll	4
	• Lint index (g)	4.2
	• Seed index (g)	9.1
	• Monopodia per plant	3-5
	• Sympodia per plant	15-18
	• Plant growth habit	Semi open
	• Colour of the Plant	Green
	• Hairiness	Short hair
	• Leaf shape	Palmate
	• Flower colour	Cream
	• Pollen colour	Yellow
	• Petal spot	Absent
	• Boll shape	Ovate and pointed
	• Boll opening	Good
	• Lint colour	White
13	Agronomical Practices	<ul style="list-style-type: none"> • Condition of sowing: Irrigated <i>kharif</i> condition • Time of sowing: 15th June to 10th July • Sowing distance: 120 x 45 cm.

		<ul style="list-style-type: none"> • Seed rate: 3.5-4.0 kg/ha. • Fertilizer: N:P:K 160:00:00 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	<ul style="list-style-type: none"> • Petal colour is cream & pollen colour is yellow • Boll shape is ovate and pointed • Leaf shape is palmate type
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • 2.5 % SL (mm) : 26.9 • Fineness (mv) : 5.0 • Fibre strength (g/tex) : 21.3 • LUR : 51 • Maturity co-efficient: 0.85
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Low reaction to alternaria leaf spot, bacterial leaf blight and grey mildew diseases. Sucking pests and bollworms reaction is moderately.
17	Duration/ Maturity group	170 to 190 days / Medium maturity group
18	Originating source/ Institute	Cotton Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



10.2 Gujarat Junagadh Cotton 102 (GJ. Cot 102) (Endorsement)

1	Name of crop	Cotton
2	Botanical name	<i>Gossypium hirsutum</i> L.
3	Name of variety	Gujarat Junagadh Cotton 102 (GJ. Cot 102)
4	Parentage with details of its pedigree	JGP - 25 x GJHV - 14
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2017-18
7	Gazette notification	S.O. No. 6318 (E), Dt. 26/12/2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJHV 516 IC: 625207
9	Potential yield (kg/ha)	Seed cotton 2538 and Lint 820
10	Average yield (kg/ha)	Seed cotton 2215 and Lint 769
11	Recommended regions/areas of adoption	Cotton growing area of the Gujarat State under irrigation condition during <i>kharif</i> season. It is also recommended for release in Central Zone States of Gujarat, Maharashtra and Madhya Pradesh under irrigated condition
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	135 (125-145)
	• Hypocotyl : Pigmentation	Present
	• Days to flowering	60-80
	• No. of balls per plant	39.5

•	Ball weight (g)	3.5
•	Lint index (g)	4.8
•	Ginning (%)	35.1
•	Oil content (%)	18.32
•	Seed index (g)	8.9
•	Monopodia per plant	2.9
•	Sympodia per plant	17.8
•	Plant growth habit	Spreading
•	Colour of the plant	Green
•	Hairiness	Medium
•	Leaf shape	Palmate
•	Flower colour	Cream
•	Pollen colour	Yellow
•	Petal spot	Absent
•	Boll shape	Ovate
•	Boll opening	Open
•	Lint colour	White
13	Agronomical Practices	<ul style="list-style-type: none"> • Condition of sowing: <i>kharif</i> • Time of sowing: 15th June to 10th July • Sowing distance: 120 x 45 cm. • Seed rate: 5-7 kg/ha. • Fertilizer: N:P:K 160:00:120 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	<ul style="list-style-type: none"> • Petal colour is cream & pollen colour is yellow • Boll shape is ovate • Leaf shape is palmate type • Hypocotyl : Pigmentation is present
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Staple length (mm): 27.1 • Fibre Fineness (mv): 4.5 • Fibre strength (g/tex): 23.8
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Moderately susceptible against alternaria leaf spot and resistant against bacterial leaf blight under field conditions.
17	Duration/ Maturity group	185 (170-200) days / Medium maturity group
18	Originating source/ Institute	Cotton Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



10.3 Gujarat Cotton Hybrid 22 (GJ. Cot Hy 22)

1	Name of crop	Cotton
2	Botanical name	<i>Gossypium hirsutum</i> L.
3	Name of variety	Gujarat Cotton Hybrid 22 (GJ. Cot Hy 22)
4	Parentage with details of its pedigree	GJHV - 503 x GISV - 267
5	Breeding method	Heterosis breeding

6	Year of release	2017-18
7	Gazette notification	S.O. No. 1498 (E), Dt. 01/04/2019
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJHH (G.Cot.Hy 22) IC: 627110 GJHV - 503 (Female) IC: 627111 GISV - 267 (Male) IC: 627112
9	Potential yield (kg/ha)	Seed cotton 3273 and Lint 1186
10	Average yield (kg/ha)	Seed cotton 2865 and Lint 1010
11	Recommended regions/areas of adoption	Cotton growing area of the Gujarat State under irrigation condition during <i>kharif</i> season.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	130 (115-145)
	• Hypocotyl : Pigmentation	Present
	• Days to flowering	76
	• No. of balls per plant	37.1
	• Ball weight (g)	4.1
	• Lint index (g)	5.4
	• Ginning (%)	34.7
	• Oil content (%)	18.37
	• Seed index (g)	9.3
	• Monopodia per plant	2.9
	• Sympodia per plant	15.6
	• Plant growth habit	Tall
	• Colour of the plant	Green
	• Hairiness	Medium
	• Leaf shape	Palmate
	• Flower colour	Yellow
	• Pollen colour	Yellow
	• Petal spot	Absent
	• Boll shape	Ovate
	• Boll opening	Open
	• Lint colour	White
13	Agronomical Practices	<ul style="list-style-type: none"> • Condition of sowing: <i>kharif</i> • Time of sowing: 15th June to 15th July • Sowing distance: 120 x 45 cm. • Seed rate: 3-4 kg/ha. • Fertilizer: N:P:K 160:00:120 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	<ul style="list-style-type: none"> • Petal colour is yellow & pollen colour is yellow • Boll shape is ovate • Leaf shape is palmate type • Hypocotyl : Pigmentation is present
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Staple length (mm): 28.0 • Fibre Fineness (mv): 4.5 • Fibre strength (g/tex): 25.9
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	<ul style="list-style-type: none"> • Moderately resistant against alternaria leaf spot and resistant against bacterial leaf blight under field conditions. • Moderately resistant to sucking pests & bollworms damage numerically lower
17	Duration/ Maturity group	185 (175-195) days / Medium maturity group
18	Originating source/ Institute	Cotton Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



10.4 Gujarat Cotton 38 (G.Cot 38)

1	Name of crop	Cotton
2	Botanical name	<i>Gossypium hirsutum</i> L.
3	Name of variety	Gujarat Cotton 38 (G. Cot 38)
4	Parentage with details of its pedigree	GJHV-34 x GJHV-14
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2018-19
7	Gazette notification	S.O. No. 1498 (E), Dt. 01/04/2019
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJHV-497 IC: 627758
9	Average yield (kg/ha)	Seed cotton yield 2315 kg/ha Lint yield 767 kg/ha
10	Recommended regions/areas of adoption	Cotton growing irrigated areas of Gujarat state and Irrigated area of Central Zone Gujarat, Maharashtra and Madhya Pradesh of the country
11	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	122 (110-134) (Tall)
	• Hypocotyl : Pigmentation	Present
	• Days to flowering	78 (73-83)
	• No. of balls per plant	46.7
	• Ball weight (g)	3.6
	• Lint index (g)	4.6
	• Ginning (%)	33.1 (Medium)
	• Oil content (%)	19.2
	• Seed index (g)	9.6
	• Monopodia per plant	2.8
	• Sympodia per plant	17.7
	• Plant growth habit	Indeterminate
	• Colour of the plant	Green
	• Hairiness	Medium
	• Leaf shape	Palmate
	• Flower colour	Yellow
	• Pollen colour	Yellow
	• Petal spot	Absent
	• Boll shape	Oblong
	• Boll opening	Open
	• Lint colour	White
12	Agronomical Practices	• Condition of sowing: <i>kharif</i>

		<ul style="list-style-type: none"> • Time of sowing: 15th June to 15th July • Sowing distance: 120 x 45 cm. • Seed rate: 5-7 kg/ha. • Fertilizer: N:P:K 160:00:120 kg/ha.
13	Specific attributes/Describe at least two identifiable characteristics of the variety	It has a good canopy and semi-spreading plant type, continuous flowering, good boll series, good bearing and opening.
14	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Staple length (mm): 27.0 • Fibre fineness (mv): 4.7 • Fibre strength (g/tex): 25.6
15	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	<ul style="list-style-type: none"> • Moderately susceptible against <i>alternaria</i> leaf spot and resistant against bacterial leaf blight. • Moderately resistant to sucking pests viz., aphid, jassids, thrips & whitefly and bollworms damage was numerically lower in open bolls and locules
16	Duration/ Maturity group	180 (170-190) days (Medium late maturity group)
17	Originating source/ Institute	Cotton Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



11. Sugarcane

11.1 Gujarat Sugarcane 5 (GS 5) (Endorsement)

1	Name of crop	Sugarcane
2	Botanical name	<i>Saccharum officinarum</i> L.
3	Name of variety	Gujarat Sugarcane 5 (GS 5)
4	Parentage with details of its pedigree	CoJn 86310 x Co 86249
5	Breeding method	Inter varietal hybridization followed by clonal selection.
6	Year of release	2012-13
7	Gazette notification	S. O. 3540 (E) & Date: 22.11.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	SBI/2012/CoN05071/ 147
9	Potential yield (t/ha)	Cane128.32 and Sugar 16.77
10	Average yield (t/ha)	Cane121.20 and Sugar 15.23
11	Recommended regions/areas of adoption	The variety is endorsed for the cultivation in South Saurashtra region of Gujarat state. The variety has been released by NAU, Navsari for South Gujarat region during 2007-08.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	221.25
	• Single cane weight (kg)	1.177
	• No. of root eye rows	2 to 3
	• Leaf width (cm)	4.41

•	Stool habit	Erect
•	Stem colour (Exposed)	Yellowish green
•	Stem colour (Unexposed)	Yellow
•	Ivory marks	Present
•	Corky patches	Present
•	Inter node shape	Concave
•	Inter node alignment	Zigzag
•	Pithiness	Absent
•	Splits and Wax	Partial present and Present
•	Node swelling	Absent
•	Root zone colour (Exposed)	Green
•	Root zone colour (Unexposed)	Yellow
•	Root eye rows arrangement	Irregular
•	Bud size and shape	Medium and Round
•	Bud cushion and groove	Absent
•	Growth ring colour	Yellow
•	Lamina colour	Dark green
•	Leaf carriage	Erect, open tip drooping
•	Leaf sheath colour and waxiness	Green and Absent
•	Leaf sheath spines and clasping	Absent and Easy
•	Dewlap colour	Green
•	Lingular process	Present, dentoid
•	Flowering	Sparse
•	Erectness	Erect (Slight slanting)
•	Germ pore position	Apical
13	Agronomical practices	<ul style="list-style-type: none"> • Condition of planting: Irrigated condition • Time of planting: October–November and January–February • Planting distance: 90 cm row spacing or 30 x 150 cm paired row planting. • Seed rate: 35000 three budded setts/ha. • Fertilizer: N:P₂O₅:K₂O 250:125:125 kg/ha.
14	Specific attributes/describe at least two identifiable characteristics of the variety	High yielding, high sugared, early maturing, non-lodging, medium thick yellowish green cane with wax. It has good rationing ability.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> • Sucrose (%) : 18.19 • CCS (%) : 12.50
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Under field condition no severe incidence of red rot, wilt and other diseases like whip smut, grassy shoot and stunting disease is observed. The incidence of major insect pest like early shoot borer, scale insect and mealy bug is less in the variety.
17	Duration/ Maturity group	330 to 365 days/Early maturity group
18	Originating source/ Institute	Main Sugarcane Research Station, Junagadh Agricultural University, Kodinar-362 725 (Gujarat)

