

# JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH

## A. Oilseed Crops

Sr. No.	Varieties / hybrids	
<b>1.</b>	<b>Groundnut</b>	
	1.1	Gujarat Groundnut 8 (GG 8)
	1.2	Gujarat Groundnut 16 (GG 16)
	1.3	Gujarat Junagadh Groundnut-HPS-1 (GJG-HPS-1)
	1.4	Gujarat Junagadh Groundnut 9 (GJG 9)
	1.5	Gujarat Junagadh Groundnut 31 (GJG 31)
	1.6	Gujarat Junagadh Groundnut 17 (GJG 17)
	1.7	Gujarat Junagadh Groundnut 22 (GJG 22)
	1.8	Gujarat Junagadh Groundnut 18 (GJG 18)
	1.9	Gujarat Junagadh Groundnut 19 (GJG 19)
	1.10	Gujarat Junagadh Groundnut 32 (GJG 32)
	1.11	Gujarat Junagadh Groundnut 33 (GJG 33)
	1.12	Gujarat Groundnut-HPS-2 (GG-HPS-2)
	1.13	Gujarat Groundnut 41 (GG 41)
	1.14	Gujarat Groundnut 23 (GG 23) (Sorath Kiran)
	1.15	Gujarat Groundnut 35 (GG 35) (Sorath Gold)
<b>2.</b>	<b>Castor</b>	
	2.1	Gujarat Castor 3 (GC 3)
	2.2	Gujarat Castor Hybrid 9 (GCH 9)
<b>3.</b>	<b>Sesame</b>	
	3.1	Gujarat Til 3 (G. Til 3)
	3.2	Gujarat Til 4 (G. Til 4)
	3.3	Gujarat Junagadh Til 5 (GJT 5)
	3.4	Gujarat Til 6 (GT 6)
<b>4.</b>	<b>Soybean</b>	
	4.1	Gujarat Junagadh Soybean 3 (GJ Soy 3)

### 1. Groundnut:

#### 1.1 Gujarat Groundnut 8 (GG 8)-Spanish Bunch

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut 8 (GG 8)
4	Parentage with details of its pedigree	27-5-1 x JL-24 (30-3-2-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2004-05
7	Gazette notification	S. O. 1572 (E) & Date: 20.09.2006
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 538571
9	Potential pod yield (kg/ha)	3056
10	Average pod yield (kg/ha)	1716
11	Recommended regions/ areas of adoption	Zone-III (Timely sown in rainfed areas of Northern Maharashtra and Madhya Pradesh).
12	Characteristics/ Distinguishing morphological in brief:	
	• Plant height (cm)	40.40
	• Main stem growth habit	Erect (bunch)
	• Side branch growth habit	Sparse

•	No. of branches per plant	4.9
•	No. of pods per plant	20
•	100 pods weight (g)	98.7
•	100 kernel weight (g)	35.0
•	Kernel yield (kg/ha)	1193
•	Haulm yield (kg/ha)	3860
•	Shelling out turn (%)	69.0
•	Oil content (%)	46
•	Oil yield (kg/ha)	579
•	SMK (%)	88
•	Leaflet shape	Oblong
•	Leaflet size	Medium
•	Leaflet colour	Medium green
•	Flowering pattern	Sequential
•	Pod size	Medium
•	Pod constriction	Slight
•	Pod reticulation	Slight
•	No. of kernels/pod	Two seeded
•	Pod prominence of beak	Absent
•	Pod shape of beak	Absent
•	Kernel size	Medium
•	Kernel shape	Round
•	Kernel colour	Rose
•	Seed dormancy	Absent
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 45 x 10 cm</li> <li>• Seed rate: 100 kg/ha</li> <li>• Fertilizers: N:P:K: 37.5 : 75.0 : 0.0 kg/ha</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	Its leaflets are medium size with medium green colour. Pods are smooth (no reticulation) without constriction.
15	Quality / Nutritional / Other features	It has higher shelling out-turn (69.0 %).
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	It has comparatively lower incidence of bud necrosis, collar rot and root rot diseases. The variety is more or less equivalent in jassids and leaf miner reactions. For thrips it is slightly superior.
17	Duration/ Maturity group	106 (104-107) days/Medium maturity group.
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



## 1.2 Gujarat Groundnut 16 (GG 16) - Spreading

1	Name of crop	Groundnut
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2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut 16 (GG 16)
4	Parentage with details of its pedigree	JSP 14 x JSSP 4 (S-94-15-B-10-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2004-05
7	Gazette notification	S. O. 1572 (E) & Date: 20.09.2006
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 538572
9	Potential pod yield (kg/ha)	5435
10	Average pod yield (kg/ha)	2058
11	Recommended regions/areas of adoption	Zone-V (Tamil Nadu, Andhra Pradesh, Kerala, Karnataka and Southern Maharashtra in cultivation rainfed condition).
12	Characteristics/ Distinguishing morphological in brief:	
	• Plant height (cm)	35.70
	• Main stem growth habit	Erect
	• Side branch growth habit	Tip moderately upturned
	• No. of branches per plant	6.9
	• No. of pods per plant	28
	• 100 pods weight (g)	115
	• 100 kernel weight (g)	43.00
	• Kernel yield (kg/ha)	1338
	• Haulm yield (kg/ha)	3708
	• Shelling out turn (%)	63.00
	• Oil content (%)	46.00
	• Oil yield (kg/ha)	615
	• SMK (%)	83
	• Plant growth habit	Prostrate
	• Leaflet size	Medium
	• Leaflet colour	Green
	• Flowering pattern	Alternate
	• Pod size	Big
	• Pod constriction	Moderate
	• Pod texture or surface	Prominent
	• No. of kernels/pod	2 seeded
	• Pod prominence of beak	Moderate
	• Pod shape of beak	Slight
	• Kernel size	Medium
	• Kernel shape	Elongated
	• Kernel colour	Rose
	• Seed dormancy	About 60-90 days
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 45 x 15 cm</li> <li>• Seed rate: 100 kg/ha</li> <li>• Fertilizers: N:P:K: 37.5:112.5:37.5 kg/ha</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	Its plant is erect with profuse branching. Leaflets are medium in size and green coloured. Pods have moderate constriction and prominent pod beak.

15	Quality / Nutritional / Other features	It has higher 100-kernel weight.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	It is superior against bud necrosis and root rot diseases, while it shows more or less similar reaction to rust, tikka, stem rot and collar rot diseases as compare to check varieties. The variety is comparable to thrips, jassids and prodenia damage as compare to check varieties.
17	Duration/ Maturity group	119 (115-121) days/Medium maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.3 Gujarat Junagadh Groundnut-HPS-1 (GJG-HPS-1)-Virginia runner (Spreading)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut-HPS-1 (GJG-HPS-1)
4	Parentage with details of its pedigree	JSP 21 x VG 5 (JVR-HPS-422)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2007-08
7	Gazette notification	S. O. 2137 (E) & Date: 31.08.2010
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 573466
9	Potential pod yield (kg/ha)	2960
10	Average pod yield (kg/ha)	2125
11	Recommended regions/areas of adoption	General cultivation in the groundnut growing rainfed areas of the Saurashtra and South Gujarat
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	33.00
	• No. of branches per plant	5.8
	• No. of pods per plant	23.3
	• 100 pods weight (g)	149.4
	• 100 kernel weight (g)	55.85
	• Kernel yield (kg/ha)	1437
	• Haulm yield (kg/ha)	3200
	• Shelling out turn (%)	67.63
	• Oil content (%)	48.85
	• Oil yield (kg/ha)	702
	• Protein content (%)	29.24
	• Sugar content (%)	9.75
	• Plant habit type	Virginia runner (Spreading)
	• Plant growth habit	Decumbent 2

•	Leaflet shape	Elliptic
•	Leaflet size	Medium
•	Leaflet colour	Green
•	Flowering pattern	Alternate
•	Flower inflorescence	Simple
•	Pod size	Bold
•	Pod constriction	Slight
•	Pod texture (Reticulation)	Moderate
•	No. of kernels/pod	2-1 seeded
•	Pod : Prominence of beak	Slight
•	Pod: Shape of beak	Present
•	Kernel size	Bold
•	Kernel colour	Rose
•	Seed dormancy	Present
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 60 x 10 cm</li> <li>• Seed rate: 120 kg/ha</li> <li>• Fertilizers: N:P:K: 25.0:50.0:50.0 kg/ha</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Virginia runner (spreading) type plant.</li> <li>2. Leaf shape is elliptic, green in colour and medium leaflet size.</li> <li>3. Pod size is bold with slight beak and constriction as well as moderate reticulation.</li> <li>4. Bold seed size with rosy colour.</li> </ol>
15	Quality / Nutritional / Other features	It has low oil, high protein and sugar contents
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reactions against tikka, rust, stem rot, bud necrosis (PBND) and infestation of thrips of the variety under field conditions are comparable to that of the check varieties.
17	Duration/ Maturity group	116 (110-120) days/Medium maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



#### 1.4 Gujarat Junagadh Groundnut 9 (GJG 9)-Spanish bunch

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 9 (GJG 9)
4	Parentage with details of its pedigree	GG 5 x ICGV-90116 (K-98-33-B-20-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2009-10
7	Gazette notification	S. O. 1708 (E) & Date: 26.07.2012
8	Acknowledge particulars about	IC : 583377

	the submission of germplasm samples with NBPGR	
9	Potential yield (kg/ha)	3259
10	Average yield (kg/ha)	1632
11	Recommended regions/areas of adoption	Suitable for the cultivation in the <i>kharif</i> rainfed groundnut growing areas of the entire Gujarat State.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	34.00
	• No. of branches per plant	4
	• No. of pods per plant	12
	• 100 pods weight (g)	96.70
	• 100 kernel weight (g)	36.89
	• Kernel yield (kg/ha)	1183
	• Haulm yield (kg/ha)	2590
	• Shelling out turn (%)	72.49
	• Oil content (%)	48.17
	• Oil yield (kg/ha)	570
	• Protein content (%)	29.33
	• Sugar content (%)	10.86
	• Plant habit type	Spanish bunch
	• Plant growth habit	Erect
	• Leaflet shape	Lanceolate
	• Leaflet size	Medium
	• Leaflet colour	Light green
	• Flowering pattern	Sequential
	• Flower inflorescence	Multiple
	• Pod size	Medium
	• Pod constriction	Shallow
	• Pod texture (Reticulation)	Absent
	• No. of kernels/pod	Two seeded
	• Pod prominence of beak	Absent
	• Pod shape of beak	NA
	• Kernel size and shape	Medium and Spheroidal
	• Kernel colour of testa	Rose
	• Seed dormancy	Absent
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 45 x 10 cm</li> <li>• Seed rate: 100 kg/ha</li> <li>• Fertilizers: N:P:K: 12.5:25.0:50.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	The variety has lanceolate leaf shape with light green colour. It has shallow pod constriction without reticulation.
15	Quality / Nutritional / Other features	It has recorded higher kernel and oil yield. The variety also exhibited greater pod and kernel size.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Tolerant to stem rot and superior for the incidence and damage by jassids and thrips.
17	Duration/ Maturity group	103 days/Medium maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.5 Gujarat Junagadh Groundnut 31 (GJG 31)-Spanish

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 31 (GJG 31)
4	Parentage with details of its pedigree	GG 2 x PBS-21065 (K-98-34-B-3-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2009-10
7	Gazette notification	S. O. 1708 (E) & Date: 26.07.2012
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 583379
9	Potential pod yield (kg/ha)	5262
10	Average pod yield (kg/ha)	3483
11	Recommended regions/areas of adoption	Suitable for the cultivation in the summer groundnut growing areas of the Gujarat State.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	18.90
	• No. of branches per plant	4.0
	• No. of pods per plant	15.0
	• 100 pods weight (g)	115.30
	• 100 kernel weight (g)	40.77
	• Kernel yield (kg/ha)	2460
	• Haulm yield (kg/ha)	6408
	• Shelling out turn (%)	70.62
	• Oil content (%)	49.24
	• Oil yield (kg/ha)	1211
	• Protein content (%)	29.86
	• Sugar content (%)	10.84
	• Plant growth habit	Erect
	• Leaflet shape	Lanceolate
	• Leaflet size	Medium
	• Leaflet colour	Light green
	• Flowering pattern	Sequential
	• Flower inflorescence	Multiple
	• Pod size	Medium
	• Pod constriction	Medium
	• Pod texture (Reticulation)	Medium
	• No. of kernels/pod	Two seeded but occasion three seeded
	• Pod prominence of beak	Medium
	• Pod shape of beak	Straight

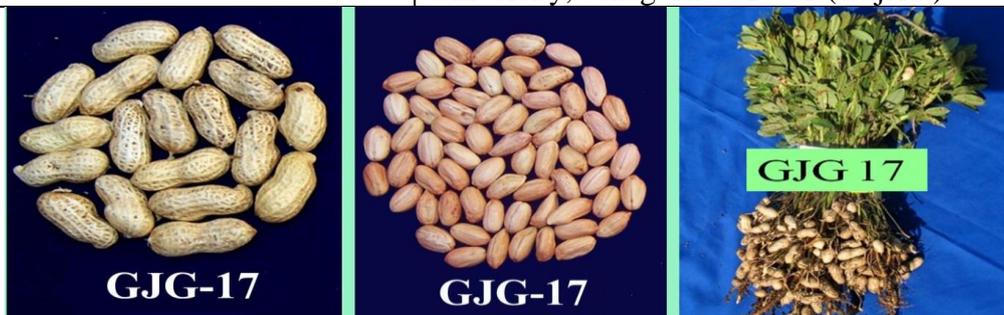
•	Kernel size and shape	Medium and Spheroidal
•	Kernel colour of testa	Rose
•	Seed dormancy	Absent
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Irrigated (Summer)</li> <li>• Sowing distance: 30 x 10 cm</li> <li>• Seed rate: 100 kg/ha</li> <li>• Fertilizers: N:P:K 12.5:25.0:50.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	It has lanceolate leaf shape with light green leaflets. It has also recorded higher pod and kernel size.
15	Quality / Nutritional / Other features	The variety recorded higher oil, protein and sugar contents.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The entry is found free from PBNB incidence. It is low incidence and damage by jassids, thrips and heliothis.
17	Duration/ Maturity group	117 days/Medium maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.6 Gujarat Junagadh Groundnut 17 (GJG 17)-Virginia runner

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 17 (GJG 17)
4	Parentage with details of its pedigree	JSSP 11 x GG 6 (K-99-2-B-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2010-11
7	Gazette notification	S. O. 312 (E) & Date: 01.02.2013
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 591739
9	Potential yield (kg/ha)	3191
10	Average yield (kg/ha)	1798
11	Recommended regions/areas of adoption	Suitable for the cultivation in the <i>kharif</i> rainfed groundnut growing areas of the Gujarat State.
12	Characteristics/Distinguishing morphological in brief:	
•	Plant height (cm)	36.90
•	No. of branches per plant	8
•	No. of pods per plant	18
•	100 pods weight (g)	102.18
•	100 kernel weight (g)	38.31
•	Kernel yield (kg/ha)	1190
•	Haulm yield (kg/ha)	2888

•	Shelling out turn (%)	66.20
•	Oil content (%)	48.51
•	Oil yield (kg/ha)	577
•	Plant habit type	Virginia runner
•	Plant growth habit	Decumbent 2
•	Main stem growth habit	Erect
•	Side branches growth habit	Tip moderately upturn
•	Leaflet shape	Lanceolate
•	Leaflet size	Small
•	Leaflet colour	Green
•	Flowering pattern	Alternate
•	Flower inflorescence	Simple
•	Pod size	Medium
•	Pod constriction	Slight
•	Pod texture (Reticulation)	Medium
•	No. of kernels/pod	2-1
•	Pod prominence of beak	Slight
•	Pod shape of beak	Straight
•	Kernel size and shape	Medium and fusiform
•	Kernel colour of testa	Rose
•	Seed dormancy	Present
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed and pre-monsoon</li> <li>• Sowing distance: 60 x 15 cm</li> <li>• Seed rate: 120 kg/ha</li> <li>• Fertilizers: N:P:K:12.5:25.0:50.0 kg/ha</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	It has small leaflets with green colour. Pod constriction is slight with medium reticulation. It has uniform rose colour kernels.
15	Quality/ Nutritional/ Other features	It has recorded higher kernel and oil yield.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction against tikka, rust and collar rot is comparable to the check varieties. However, It is tolerant to the stem rot as compare to the check varieties. The damage of jasside and thrips is comparable to less.
17	Duration/ Maturity group	121 days/Very late maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)

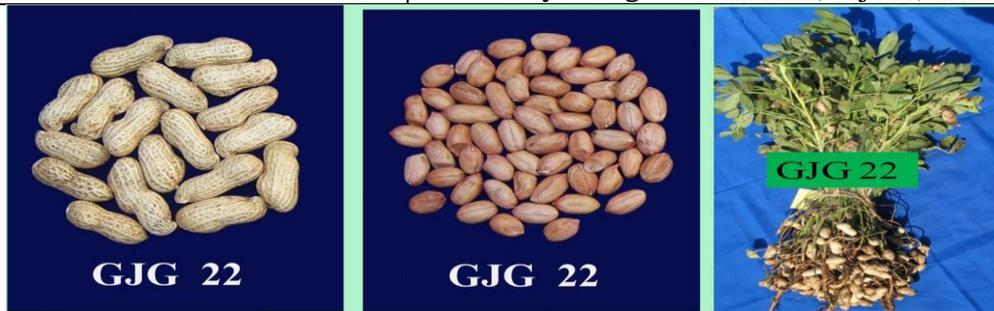


### 1.7 Gujarat Junagadh Groundnut 22 (GJG 22)-Virginia bunch

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 22 (GJG 22)

4	Parentage with details of its pedigree	JSSP 17 x GG 20 (K-00-22-B-4-B-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2010-11
7	Gazette notification	S. O. 312 (E) & Date: 01.02.2013
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 591738
9	Potential yield (kg/ha)	2726
10	Average yield (kg/ha)	1770
11	Recommended regions/areas of adoption	Suitable for the cultivation in the <i>kharif</i> rainfed groundnut growing areas of the entire Gujarat State.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	39.30
	• No. of branches per plant	7
	• No. of pods per plant	18
	• 100 pods weight (g)	116.10
	• 100 kernel weight (g)	44.40
	• Kernel yield (kg/ha)	1282
	• Haulm yield (kg/ha)	2404
	• Shelling out turn (%)	72.45
	• Oil content (%)	51.62
	• Oil yield (kg/ha)	662
	• Plant habit type	Virginia bunch
	• Plant growth habit	Decumbent 3
	• Main stem growth habit	Erect
	• Side branches growth habit	Tip moderately upturn
	• Leaflet shape	Oblong
	• Leaflet size	Medium
	• Leaflet colour	Green
	• Flowering pattern	Alternate
	• Flower inflorescence	Simple
	• Pod size	Medium
	• Pod constriction	Slight
	• Pod texture (Reticulation)	Medium
	• No. of kernels/pod	2-1
	• Pod prominence of beak	Moderate
	• Pod shape of beak	Straight
	• Kernel size and shape	Medium and Spheroidal
	• Kernel colour of testa	Rose
	• Seed dormancy	Present
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 60 x 15 cm</li> <li>• Seed rate: 120 kg/ha</li> <li>• Fertilizers: N:P:K :12.5:25.0:50.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	It has oblong shaped leaflets and slightly constricted pods.
15	Quality / Nutritional / Other features	It has shelling out-turn and 100-kernel weight is superior to the check varieties.
16	Diseases and pests resistance (give details of any resistance to)	The reaction against tikka, rust and stem rot it is found comparable whereas, it is found tolerant to collar rot.

	pest or diseases including races)	The damage of jasside and thrips is comparatively less.
17	Duration/ Maturity group	118 days/Late maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.8 Gujarat Junagadh Groundnut 18 (GJG 18)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 18 (GJG 18)
4	Parentage with details of its pedigree	JSSP 12 x LGN 2 (K-99-13-B-1-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2014-15
7	Gazette notification	S. O.: 268 (E) & Date:28.01.2015
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 597594
9	Potential pod yield (kg/ha)	2175
10	Average pod yield (kg/ha)	1557
11	Recommended regions/areas of adoption	Zone-IV (Timely sown in rainfed <i>kharif</i> areas of Odisha, West Bengal, Jharkhand and Manipur).
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	34.80
	• Plant growth habit	Prostrate
	• Main stem growth habit	Erect
	• Side branch growth habit	Tips moderately upturned
	• 100 kernel weight (g)	49.0
	• Kernel yield (Kg/ha)	1078
	• Shelling out turn (%)	69.0
	• Oil content (%)	48.0
	• Oil yield (kg/ha)	517.0
	• SMK (%)	87.0
	• Leaflet size	Medium
	• Leaflet colour	Green
	• Flowering pattern	Alternate
	• Flowering pattern on main stem	No flower on main stem
	• Pod constriction	Shallow
	• Pod texture or surface	Medium
	• No. of kernels/pod	Two seeded
	• Pod prominence of beak	Absent
	• Pod shape of beak	Absent
	• Kernel size	Medium

•	Kernel shape	Cylindrical
•	Kernel colour	Monochrome, Rose
•	Seed dormancy	About 35-45 days
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed and pre-monsoon</li> <li>• Sowing distance: 30 x 10 cm</li> <li>• Seed rate:120 kg/ha</li> <li>• Fertilizers: N:P:K: 20.0:60.0:40.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	It has medium sized leaflets with green coloured. Pods are medium sized with shallow constriction and medium reticulation. Kernels are medium sized with cylindrical shape.
15	Quality / Nutritional / Other features	It had higher oil content (48.0 %)
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction against tikka, rust, collar rot and stem rot the variety is comparable, but it show tolerance against stem rot and dry root rot. Reaction to major pests is similar to the check varieties.
17	Duration/ Maturity group	119 days (115-124 days) /Medium maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University Junagadh-362 001 (Gujarat)



### 1.9 Gujarat Junagadh Groundnut 19 (GJG 19) - Virginia runner (Spreading)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 19 (GJG 19)
4	Parentage with details of its pedigree	JSSP 12 x LGN 2 (K-99-13-B-1-2-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2014-15
7	Gazette notification	S. O. 2238(E) & Date: 29.06.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 610391
9	Potential pod yield (kg/ha)	2792
10	Average pod yield (kg/ha)	1876
11	Recommended regions/areas of adoption	Zone-IV (Timely sown in rainfed <i>kharif</i> areas of Odisha, West Bengal, Jharkhand and Manipur).
12	Characteristics/Distinguishing morphological in brief:	
•	Plant height (cm)	34.50
•	Plant growth habit	Spreading (Virginia runner)
•	Main branch growth habit	Erect
•	Side branch growth habit	Tips moderately upturned
•	100 kernel weight (g)	50.0
•	Kernel yield (Kg/ha)	1296

•	Shelling out turn (%)	69.0
•	Oil content (%)	47.0
•	Oil yield (kg/ha)	609
•	SMK (%)	89.0
•	Leaflet shape	Obovate
•	Leaflet size	Small
•	Leaflet colour	Green
•	Flowering pattern	Alternate
•	Flowering pattern on main stem	No flower on main stem
•	Pod size	Medium
•	Pod constriction	Shallow
•	Pod reticulation	Medium
•	No. of kernels/pod	Two seeded
•	Pod prominence of beak	Slight
•	Pod shape of beak	Slight
•	Kernel size	Medium
•	Kernel shape	Cylindrical
•	Kernel colour	Monochrome, Rose
•	Seed dormancy	About 35-45 days
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Rainfed</li> <li>• Sowing distance: 45 x 15 cm</li> <li>• Seed rate: 120-130 kg/ha</li> <li>• Fertilizers: N:P:K: 20.0 : 60.0 : 40.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	It has small leaflets with obovate shape. Pods are medium sized with shallow constriction and medium reticulation.
15	Quality / Nutritional / Other features	It has high oil content (47.0 %) and SMK (89.0 %).
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The reaction against LLS, rust, collar rot and PBNB of the variety is comparable, but it is tolerance against stem rot and dry root rot. Reaction to major pests is similar to the check varieties.
17	Duration/ Maturity group	122 days (117-125 days) / Late maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.10 Gujarat Junagadh Groundnut 32 (GJG 32)-Erect

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 32 (GJG 32)
4	Parentage with details of its pedigree	(F 334 A-B-14 x NCAc 2214) x ICG 2241) x (ICGMS 42 x Kadir 3) x ICGMS 28 x (F 334A-B-14 x NCAc 2214)] x LI x (Robut 33-1-1-5)
5	Breeding method	Hybridization followed by pedigree method of selection

6	Year of release	2016-17
7	Gazette notification	S. O. 399 (E), Date: 24.01.2018 for National and S. O. 6318 (E), Date: 26.12.2018 for Gujarat State
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 620846
9	Potential pod yield (kg/ha)	4635
10	Average pod yield (kg/ha)	3392
11	Recommended regions/areas of adoption	General cultivation in the <i>kharif</i> rainfed groundnut growing areas of the Gujarat State and it is also release for Zone-V (Tamilnadu, Andhra Pradesh, Telangana, Karnataka and Southern Maharashtra) during 2016.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	32.65
	• No. of branches per plant	7.95
	• No. of pods per plant	29.50
	• 100 pods weight (g)	87.90
	• 100 kernel weight (g)	35.90
	• Plant growth habit	Erect
	• Kernel yield (kg/ha)	2324
	• Haulm yield (kg/ha)	5183
	• Shelling out turn (%)	68.52
	• Oil content (%)	53.90
	• Oil yield (kg/ha)	1253
	• Protein content (%)	27.52
	• Leaflet shape and size	Oblong elliptic and medium
	• Leaflet colour	Dark green
	• Flowering pattern	Sequential
	• Flower inflorescence	Compound
	• Pod constriction	Shallow
	• Pod texture (Reticulation)	Medium
	• No. of kernels/pod	2-1 seeded
	• Pod prominence of beak	Medium
	• Pod shape of beak	Straight
	• Kernel size	Small
	• Kernel shape	Spheroidal
	• Kernel colour	Rose
	• Seed dormancy	Absent
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: <i>Kharif</i> rainfed</li> <li>• Sowing distance: 45 x 10 cm</li> <li>• Seed rate: 100 kg/ha</li> <li>• Fertilizers: N:P:K: 12.5:25.0:50.0 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Spanish bunch (erect) type</li> <li>2. Leaf shape is oblong elliptic</li> <li>3. Leaflet is medium in size and dark green in colour</li> <li>4. Pod size and reticulation are medium, pod beak medium and constriction shallow</li> </ol>
15	Quality / Nutritional / Other features	The variety recorded higher oil and protein contents
16	Diseases and pests resistance (give details of any resistance to	The reaction against tikka and rust is resistant, whereas, for collar rot and stem rot the variety comparable to the

	pest or diseases including races)	checks. The damage due to leaf defoliators is low, while thrips is comparable against damage due to the check varieties.
17	Duration/ Maturity group	112 days (115-124 days) /Late maturity group
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.11 Gujarat Junagadh Groundnut 33 (GJG 33) - Erect (Spanish bunch)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Junagadh Groundnut 33 (GJG 33)
4	Parentage with details of its pedigree	[(ICGV 92069 x ICGV 93184) SIL 4 x (ICGS 44 x ICGS 76)]
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2016-17
7	Gazette notification	S. O. 1379 (E), Date: 27.03.2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJG 33 (ICGV 07222) IC: 623505
9	Potential pod yield (kg/ha)	3495
10	Average pod yield (kg/ha)	3073
11	Recommended regions/areas of adoption	Cultivation in <i>rabi-summer</i> timely sown for Zone IIIb (Andhra Pradesh, Telangana and Tamil Nadu).
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	18.5
	• Plant growth habit	Erect
	• Side branch growth habit	Tips very strongly upturned
	• Plant branching	Profuse
	• Leaf shape and size	Oblong elliptic and medium
	• Leaflet colour	Dark green
	• Flowering pattern	Sequential
	• Flowering pattern on main stem	Flower on main stem
	• Pod beak and size	Present and Medium
	• Pod constriction	Medium
	• Pod reticulation	Medium
	• Kernel nature	2 seeded
	• Pod prominence of beak	Medium
	• Testa colour	Monochrome, Rose
	• Kernel size	Medium
	• Kernel shape	Spheroidal
	• 100 kernel weight (g)	38.0 (Medium)
	• Oil content (%)	51.0 (High)
	• Oil yield (kg/ha)	1041
	• Kernel yield (kg/ha)	2056

•	Shelling out turn (%)	67 (65-69 Medium)
•	Protein content (%)	26.0
•	SMK (%)	87.0
•	Fresh seed dormancy period	Absent
13	Agronomical Practices	<ul style="list-style-type: none"> <li>Condition of sowing: First fortnight of January</li> <li>Sowing distance: 30 x 10 cm.</li> <li>Seed rate: 125-130 kg/ha</li> <li>Fertilizers: N:P:K: 25 : 50 : 75 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>Plant growth habit 16 spanish bunch (erect) type.</li> <li>Side branch growth habit is tips very strongly upturned.</li> <li>Leaf shape is oblong elliptic.</li> <li>Leaflet is medium in size and dark green in colour.</li> <li>Pod size, and reticulation are medium, pod beak medium and pod constriction medium.</li> </ol>
15	Quality / Nutritional / Other features	The variety is recorded higher oil (51.0 %) and protein contents (26.0 %).
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety highly resistant reaction against <i>Helicoverpa</i> and <i>Spodoptera</i> damage and resistant against the damage of thrips. The variety is resistant against stem rot, collar rot, dry root rot, rust, ELS and PBNB diseases.
17	Duration/ Maturity group	113 days (95-122 days) /Late maturity group.
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.12 Gujarat Groundnut HPS 2 (GG HPS 2) - Virginia Bunch

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut HPS 2 (GG HPS 2)
4	Parentage with details of its pedigree	JVBHPS 2 x GG 20 (S-08-6-B-1-B-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection
6	Year of release	2017-18
7	Gazette notification	S.O. 1498 (E), Dt. 01/04/2019
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GG HPS 2 (JSSP LS 58) IC: 625896
9	Potential pod yield (kg/ha)	3516
10	Average pod yield (kg/ha)	2835
11	Recommended regions/areas of adoption	Suitable for cultivation in <i>kharif</i> rainfed for Gujarat state.
12	Characteristics/Distinguishing morphological in brief:	
•	Plant height (cm)	40.66
•	Plant growth habit	Decumbent-3

•	Leaflet shape and size	Oblong and medium
•	Leaflet colour	Dark green
•	Flowering pattern	Alternate
•	Flower inflorescence	Simple
•	Pod size	Large
•	Pod constriction	Shallow
•	Pod reticulation	Medium
•	Kernel nature	2-1 Seeded
•	Pod prominence of beak	Medium
•	Testa colour	Monochrome
•	Kernel size	Large
•	Kernel shape	Cylindrical
•	100 kernel weight (g)	66.71 (Very high)
•	Oil content (%)	48.82
	Oil yield (kg/ha)	950
•	Kernel yield (kg/ha)	1945
•	Shelling out turn (%)	68.61
•	Protein content (%)	24.46
•	SMK (%)	92.60
•	Fresh seed dormancy period	Present
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: <i>Kharif</i> rainfed</li> <li>• Sowing distance: 60 x 15 cm.</li> <li>• Seed rate: 120 kg/ha</li> <li>• Fertilizers: N:P:K: 25 : 50 : 50 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Virginia bunch (Semi-spreading) type.</li> <li>2. Leaf shape is oblong and leaflet is dark green in colour.</li> <li>3. The pod size is large. The reticulation and prominence of pod beak are medium; while constriction is shallow.</li> <li>4. Kernel shape is cylindrical.</li> </ol>
15	Quality / Nutritional / Other features	This variety can be considered as confectionery type as it possessed comparatively low oil content and large seed size (count 43) than the check varieties.
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety is more resistant against tikka and rust disease as compared to the check varieties.
17	Duration/ Maturity group	121 days /Late maturity group.
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.13 Gujarat Groundnut 41 (GG 41) - Virginia runner (Spreading)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut 41 (GG 41)
4	Parentage with details of its pedigree	GG-21 x TPG 41 (K-08-24-B-37-B-B-B)
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 germplasm samples with NBPGR	GG 41 (JSP 65) IC 628557
9	Average pod yield (kg/ha)	2722
10	Recommended regions/areas of adoption	General cultivation in the <i>kharif</i> groundnut growing areas of the Gujarat State
11	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	34.27
	• Plant growth habit	Decumbent-2
	• Main stem growth habit	Erect
	• Side branch growth habit	Tip moderately upturn
	• Leaflet shape and size	Oblong elliptic and Medium
	• Leaflet colour	Dark Green
	• Flowering pattern	Alternate
	• Flower inflorescence	Simple
	• Pod size	Medium
	• Pod constriction	Medium
	• Pod reticulation	Medium
	• Kernel nature	2-1 Seeded
	• Pod prominence of beak	Medium
	• Testa colour	Monochrome, Rose
	• Kernel size	Medium
	• Kernel shape	Cylindrical
	• 100 kernel weight (g)	56.48 (High)
	• Oil content (%)	51.44 (High)
	• Oil yield (kg/ha)	1034
	• Kernel yield (kg/ha)	2010
	• Shelling out turn (%)	73.84
	• Protein content (%)	23.56
	• SMK (%)	95.12
	• Fresh seed dormancy period	Present
12	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: <i>Kharif</i> rainfed</li> <li>• Sowing distance: 60 x 15 cm</li> <li>• Seed rate (Kernel): 120 kg/ha</li> <li>• Fertilizers: 12.50-25.00-50.00 kg N - P<sub>2</sub>O<sub>5</sub> - K<sub>2</sub>O/ha</li> </ul>
13	Specific attributes/ identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Virginia runner (spreading) type.</li> <li>2. Leaf shape is oblong elliptic and leaflet is dark green in colour.</li> <li>3. The pod size is medium. The reticulation and prominence of pod beak are medium; while constriction is medium.</li> <li>4. Kernel shape is cylindrical</li> </ol>
14	Diseases and pests resistance (give details of any resistance to)	Variety is comparable to the checks against tikka and rust diseases, while stem rot and collar rot diseases are

	pest or diseases including races)	lower than the checks
15	Duration/ Maturity group	120 (118 to 126) days /Late maturity group
16	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



#### 1.14 Gujarat Groundnut 23 (GG 23) (Sorath Kiran) Virginia bunch (semi-spreading)

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut 23 (GG 23) (Sorath Kiran)
4	Parentage with details of its pedigree	JVR 503 x ALG 234 (K-09-33-B-7-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	GG 23 (JSSP 60) IC 634172
9	Average pod yield (kg/ha)	2800
10	Recommended regions/areas of adoption	General cultivation in the <i>kharif</i> groundnut growing areas of the Gujarat State
11	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	34.27
	• Plant growth habit	Decumbent-3
	• Main stem growth habit	Erect
	• Side branch growth habit	Tip moderately upturn
	• No. of branches per plant	7.2
	• No. of pods per plant	19.17
	• 100 pod weight (g)	126.31
	• 100 kernal weight (g)	47.86
	• Kernal yield (kg/ha)	1943
	• Haulm yield (kg/ha)	3454
	• Shelling out turn (%)	69.40
	• Oil content (%)	49.72
	• Oil yield (kg/ha)	966
	• Protein content (%)	26.01
	• SMK (%)	91.42
	• Leaflet shape and size	Lanceolate and Medium
	• Leaflet colour	Green
	• Flowering pattern	Alternate
	• Flower inflorescence	Simple
	• Pod size	Medium
	• Pod constriction	Shallow

•	Pod reticulation	Medium
•	No. of kernels/pod	2-1 Seeded
•	Pod prominence of beak	Medium
•	Testa colour	Monochrome, Rose
•	Kernel size	Medium
•	Kernel shape	Cylindrical
•	Seed dormancy	Present
12	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: <i>Kharif</i> rainfed</li> <li>• Sowing distance: 45 x 15 cm</li> <li>• Seed rate (Kernel): 120 kg/ha</li> <li>• Fertilizers: 12.50-25.00-50.00 kg N - P<sub>2</sub>O<sub>5</sub> - K<sub>2</sub>O/ha</li> </ul>
13	Specific attributes/ identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Virginia bunch (semi-spreading) type.</li> <li>2. Leaf shape is lanceolate and leaflet is green in colour.</li> <li>3. The pod size is medium. The reticulation and prominence of pod beak are medium; while constriction is shallow.</li> <li>4. Kernel shape is cylindrical</li> </ol>
14	Quality/ Nutritional/ Other features	Superior in pod, kernel and oil yields
15	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Variety is comparable to the checks against tikka, rust, stem rot and collar rot; while damage due to leaf defoliators was less and the infestation was lower.
16	Duration/ Maturity group	121 (118 to 129) days /Late maturity group
17	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 1.15 Gujarat Groundnut 35 (GG 35) (Sorath Gold) Spanish bunch

1	Name of crop	Groundnut
2	Botanical name	<i>Arachis hypogaea</i> L.
3	Name of variety	Gujarat Groundnut 35 (GG 35) (Sorath Gold)
4	Parentage with details of its pedigree	TG 37A x JVB 2113 S-10-28-B-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	GG 35 (J 95) IC 634444
9	Average pod yield (kg/ha)	3177
10	Recommended regions/areas of adoption	General cultivation in the <i>kharif</i> groundnut growing areas of the Gujarat State
11	Characteristics/Distinguishing morphological in brief:	

•	Plant height (cm)	30.43
•	Plant growth habit	Erect
•	No. of branches per plant	4.7
•	No. of pods per plant	18.57
•	100 pod weight (g)	101.93
•	100 kernal weight (g)	42.79
•	Kernal yield (kg/ha)	2267
•	Haulm yield (kg/ha)	2665
•	Shelling out turn (%)	71.36
•	Oil content (%)	49.84
•	Oil yield (kg/ha)	1130
•	Protein content (%)	26.38
•	SMK (%)	92.98
•	Leaflet shape and size	Oblong elliptic and Medium
	Leaflet colour	Light Green
•	Flowering pattern	Sequential
•	Flower inflorescence	Compound
•	Pod size	Medium
•	Pod constriction	Shallow
•	Pod reticulation	Absent
•	No. of kernels/pod	2-3 Seeded
•	Pod prominence of beak	Medium
•	Testa colour	Monochrome, Rose
•	Kernel size	Medium
•	Kernel shape	Spheroidal
•	Seed dormancy	Present
12	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: <i>Kharif</i> rainfed</li> <li>• Sowing distance: 45 x 15 cm</li> <li>• Seed rate (Kernel): 100-110 kg/ha</li> <li>• Fertilizers: 12.50-25.00-50.00 kg N - P<sub>2</sub>O<sub>5</sub> - K<sub>2</sub>O/ha</li> </ul>
13	Specific attributes/ identifiable characteristics of the variety	<ol style="list-style-type: none"> <li>1. It is a Spanish bunch (erect) type.</li> <li>2. Leaf shape is oblong elliptic.</li> <li>3. Leaflet is medium in size and light green in colour</li> <li>4. Pod size medium and smooth</li> <li>5. Pod beak and constriction shallow</li> </ol>
14	Quality/ Nutritional/ Other features	<ol style="list-style-type: none"> <li>1. Higher kernel &amp; oil yield and number pods per plant.</li> <li>2. Higher oil and protein contents</li> </ol>
15	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Variety is comparable to the checks against tikka, rust, stem rot and collar rot; while infestation due to leaf defoliators was lower.
16	Duration/ Maturity group	105 (93-110) days /Medium maturity group
17	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



## 2. Castor:

### 2.1 Gujarat Castor 3 (GC 3)

1	Name of crop	Castor
2	Botanical name	<i>Ricinus communis</i> L.
3	Name of variety	Gujarat Castor 3 (GC 3)
4	Parentage with details of its pedigree	F <sub>7</sub> T (JP 65 x JI 88) x 48-1
5	Breeding method	Pedigree selection
6	Year of release	2006-07
7	Gazette notification	S. O. 1708 (E) & Date: 26.07.2012
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC : 564786
9	Potential yield (kg/ha)	3500-4000
10	Average yield (kg/ha)	2340
11	Recommended regions/areas of adoption	Castor growing areas of Gujarat State under irrigated condition.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	105-110
	• 100 seed weight (g)	29.64
	• Oil content (%)	49.67
	• Stem colour	Mahogany
	• Stem leaves waxy bloom	Present, Triple bloom
	• Stem nature of internodes	Elongated
	• No. of nodes up to main spike	16 (15-18)
	• Plant growth habit	Normal, Medium
	• Plant branching pattern	Divergent
	• Leaf shape	Flate
	• Leaf colour	Dark green with purple creation on tender leaves
	• Nature of spike	Loose
	• Sex expression	Mostly female, interspersed monoecious
	• Capsule size	Medium
	• Nature of capsule	Spiny
	• Capsule spine length	Medium
	• Capsule Dehiscence	Non-dehiscent
	• Seed size	Medium
	• Seed colour	Chocolate
	• Seed Mottling	High
	• Seed Caruncle	Small
	• Length of main spike (cm)	46 (45-50)

•	Effective spike per plant	9 (8-10)
•	No. of capsules on main spike	44 (40-50)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Condition of sowing: Irrigated condition</li> <li>• Sowing distance: 120 x 60 cm</li> <li>• Seed rate: 5-6 kg/ha.</li> <li>• Fertilizers: N:P:K 120:50:40 kg/ha</li> </ul>
14	Specific attributes / identifiable characteristics of the variety	The variety is resistance to lodging and possesses non-shattering habit.
15	Quality / Nutritional / Other features	Oil content (49.67 %)
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety is tolerant against thrips. It is highly resistance to wilt, tolerance to root rot and sucking pests.
17	Maturity in number of days	Primary spike 100-104 and seed to seed 210 days.
18	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



## 2.2 Gujarat Castor Hybrid 9 (GCH 9)

1	Name of crop	Castor
2	Botanical name	<i>Ricinus communis</i> L.
3	Name of variety	Gujarat Castor Hybrid 9 (GCH9)
4	Parentage with details of its pedigree	SKP-84 x PCS-124
5	Breeding method	Heterosis breeding
6	Year of release	2016-17
7	Gazette notification	S. O. 6318 (E), Date: 26.12.2018
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	<p style="text-align: center;"><b>Accession</b>      <b>IC No.</b></p> <p>1) GCH 9 (JHB-1018) : 621486</p> <p>2) SKP-84 (Female) : 537353</p> <p>3) PCS-124 (Male) : 321487</p>
9	Potential yield (kg/ha)	6000
10	Average yield (kg/ha)	3820
11	Recommended regions/areas of adoption	Castor growing areas of Gujarat State under irrigated condition during <i>kharif</i> season.
12	Characteristics/Distinguishing morphological in brief:	
•	Plant height (cm)	66 (60-70)
•	Bloom	Triple
•	100 seed weight (g)	28.5 (27 - 30)
•	Oil content (%)	48.3 (47.5 - 49.5)
•	Stem colour	Mahogany
•	Plant growth habit	Medium
•	Branching	Divergent
•	No. of nodes up to primary spike	16 (14 - 17)
•	Length of primary spike (cm)	60 (55 - 65)
•	No. of capsules on primary spike	70 (60 - 90)
•	No. of effective spike per plant	9.7 (8 - 12)

	• Type of internodes	Elongated																												
	• Leaf shape	Shallow cup																												
	• Nature of spike	Semi-compact																												
	• Nature of capsule	Spiny																												
	• Sex expression	Mostly female/ Interspersed staminate flower																												
	• Seed colour	Light chocolate																												
	• Days to 50 % flowering	61 (55-65) Days																												
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: Month of August</li> <li>• Sowing distance: 120 x 60 cm</li> <li>• Seed rate: 5 kg/ha</li> <li>• Fertilizers: N:P:K 120 : 50 : 40 kg/ha</li> </ul>																												
14	Specific attributes/ identifiable characteristics of the variety	The hybrid is medium duration hybrid having profuse branching habit with medium plant stature and shallow cup shape leaves.																												
15	Quality / Nutritional / Other features	The hybrid contains high ricinoleic acid (90.23 %).																												
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The hybrid is resistant to <i>Fusarium</i> wilt and <i>Macrophomina</i> root rot. Thrips, leaf hopper and whitefly infestation is low in the hybrid under field condition.																												
17	Maturity in number of days and maturing group	Primary spike 110-120 and seed to seed 180-210 days and medium maturing group.																												
18	Specific recommendation on seed production	<ul style="list-style-type: none"> <li>• The female parent can be maintained through temperature sensitive interspersed staminate flowers by sowing in second fortnight of January in Gujarat condition.</li> <li>• The sowing for certified seed production (hybrid seed production) can be taken up from 15<sup>th</sup> July to 15<sup>th</sup> August.</li> <li>• Identifiable characters of parents and hybrids for hybrid seed production (GOT characters).</li> </ul> <table border="1"> <thead> <tr> <th>Characters</th> <th>Female</th> <th>Male</th> <th>Hybrid</th> </tr> </thead> <tbody> <tr> <td>Stem colour</td> <td>Mahogany</td> <td>Green</td> <td>Mahogany</td> </tr> <tr> <td>Bloom</td> <td>Triple</td> <td>Double</td> <td>Triple</td> </tr> <tr> <td>Internode</td> <td>Condensed</td> <td>Elongated</td> <td>Elongated</td> </tr> <tr> <td>Leaf shape</td> <td>Deep cup</td> <td>Shallow cup</td> <td>Shallow cup</td> </tr> <tr> <td>Plant type</td> <td>Dwarf</td> <td>Medium tall</td> <td>Medium tall</td> </tr> <tr> <td>Branching</td> <td>Convergent</td> <td>Divergent</td> <td>Divergent</td> </tr> </tbody> </table>	Characters	Female	Male	Hybrid	Stem colour	Mahogany	Green	Mahogany	Bloom	Triple	Double	Triple	Internode	Condensed	Elongated	Elongated	Leaf shape	Deep cup	Shallow cup	Shallow cup	Plant type	Dwarf	Medium tall	Medium tall	Branching	Convergent	Divergent	Divergent
Characters	Female	Male	Hybrid																											
Stem colour	Mahogany	Green	Mahogany																											
Bloom	Triple	Double	Triple																											
Internode	Condensed	Elongated	Elongated																											
Leaf shape	Deep cup	Shallow cup	Shallow cup																											
Plant type	Dwarf	Medium tall	Medium tall																											
Branching	Convergent	Divergent	Divergent																											
19	Originating source/ Institute	Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)																												



### 3. Sesame

#### 3.1 Gujarat Til 3 (G. Til 3)

1	Name of crop	Sesame
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2	Botanical name	<i>Sesamum indicum</i> L.	
3	Name of variety	Gujarat Til 3 (G. Til 3)	
4	Parentage with details of its pedigree	G. Til 1 x AHT 85	
5	Breeding method	Hybridization followed by pedigree method of selection.	
6	Year of release	2005-06 for <i>Kharif</i> season and Endorsement for summer season in 2011-12.	
7	Gazette notification	S. O. 449 (E) & Date 11.02.2009	
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 545633	
9	Potential seed yield (kg/ha)	In <i>kharif</i> season 1606 and in summer season 1706	
10	Average seed yield (kg/ha)	In <i>kharif</i> season 719 and in summer season 1200	
11	Recommended regions/areas of adoption	<i>Kharif</i> and summer in Saurashtra region.	
12	Characteristics/ Distinguishing morphological in brief	<i>Kharif</i> season	Summer season
	• Days to 50% flowering (Days)	Medium (39)	Medium (34)
	• Flower petal colour	Light purple	Light purple
	• Flower petal hairiness	Sparse	Sparse
	• Plant height (main stem in cm)	Medium (97)	Short (60)
	• Plant branching habit	Medium	Medium
	• Plant branching pattern	Basal branching	Basal branching
	• Primary branches per plant	3.02	1.70
	• Stem hairiness	Absent	Absent
	• Leaf lobes	Slightly lobed	Slightly lobed
	• Leaf size	Large	Large
	• Leaf serration of margin	Weak	Weak
	• Capsule hairiness	Absent	Absent
	• Capsule locule number/capsule	Four	Four
	• Capsule shape	Broad oblong	Broad oblong
	• Capsule number/leaf axil	One	One
	• Capsule arrangement	Opposite	Opposite
	• Capsule length	Long	Long
	• Maturity days to maturity (Days)	Medium (85)	Medium (83)
	• Seed coat colour	White	White
	• Seeds per capsule	69	60
	• 1000 seed weight (g)	High (3.23)	High (3.44)
	• Oil content (%)	Medium (46.2)	Medium (47.3)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: 15<sup>th</sup> February for summer season and <i>Kharif</i> cultivation at normal sowing condition.</li> <li>• Sowing distance: Summer: 30 x 10 cm. <i>Kharif</i>: 60 x 10 cm.</li> <li>• Seed rate: 3.0 kg/ha.</li> <li>• Fertilizer: N:P:K 50:25:40 kg/ha.</li> </ul>	
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Seeds are white and bold with 1000 seed weight of 3.44 g.	
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Oil content (%) : 47.3</li> <li>• Suitable for export.</li> </ul>	

16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The gall fly and mite infection is considerably lower.
17	Duration/ Maturity group	85 days in <i>kharif</i> and 83 days in summer season /Early maturity group.
18	Originating source/ Institute	Agricultural Research Station, Junagadh Agricultural University, Amreli-365 601 (Gujarat)



### 3.2 Gujarat Til 4 (G. Til 4)

1	Name of crop	Sesame
2	Botanical name	<i>Sesamum indicum</i> L.
3	Name of variety	Gujarat Til 4 (G. Til 4)
4	Parentage with details of its pedigree	G. Til 1 x RT 125
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2009-10
7	Gazette notification	S. O. 1708 (E) & Date: 26.07.2012
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	IC: 584256
9	Potential seed yield (kg/ha)	1563
10	Average seed yield (kg/ha)	770
11	Recommended regions/areas of adoption	<i>Kharif</i> rainfed conditions in the North Saurashtra Agro-climatic Zone-VI.
12	Characteristics/Distinguishing morphological in brief:	
	• Days to 50 % flowering (Days)	Medium (41)
	• Flower petal colour	Light purple
	• Flower petal hairiness	Sparse
	• Plant height (main stem in cm)	Medium (87)
	• Plant branching habit	Medium
	• Plant branching pattern	Basal branching
	• Stem hairiness	Absent
	• Leaf lobes	Slightly lobed
	• Leaf size	Large
	• Leaf serration of margin	Weak
	• Capsule hairiness	Absent
	• Capsule locule number/capsule	Four
	• Capsule shape	Narrow oblong
	• Capsule number/leaf axil	More than one
	• Capsule arrangement	Cluster
	• Capsule length	Medium
	• Capsule per plant	57
	• Maturity days to maturity (Days)	Medium (81)

•	Seed coat colour	White
•	1000 seed weight (g)	Medium (2.80)
•	Oil content (%)	Medium (48.1)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: <i>Kharif</i> cultivation at normal sowing condition.</li> <li>• Sowing distance: 60 x 10 cm.</li> <li>• Seed rate: 3.0 kg/ha.</li> <li>• Fertilizer: N:P:K 50:25:40 kg/ha.</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	Seeds are white so that suitable for export.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Oil content (%) : 48.1</li> </ul>
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Incidence of leaf spot is low.
17	Duration/ Maturity group	81 days/Early maturity group
18	Originating source/ Institute	Agricultural Research Station, Junagadh Agricultural University, Amreli-365 601 (Gujarat)



### 3.3 Gujarat Junagadh Til 5 (GJT 5)

1	Name of crop	Sesame
2	Botanical name	<i>Sesamum indicum</i> L.
3	Name of variety	Gujarat Junagadh Til 5 (GJT 5)
4	Parentage with details of its pedigree	AT 90 x AT 104 (K01-5-B-2-1-1-2-1-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2014-15
7	Gazette notification	S. O. 3540 (E) & Date: 22.11.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJT 5 (AT 231) IC: 611688
9	Potential seed yield (kg/ha)	2344
10	Average seed yield (kg/ha)	1241
11	Recommended regions/areas of adoption	Summer irrigated conditions in the Saurashtra region.
12	Characteristics/Distinguishing morphological in brief:	
•	Days to 50% flowering (Days)	Medium (39)
•	Flower petal colour	Light purple
•	Flower petal hairiness	Sparse
•	Plant height (main stem in cm)	Short (70)
•	Plant branching habit	Medium
•	Plant branching pattern	Basal branching

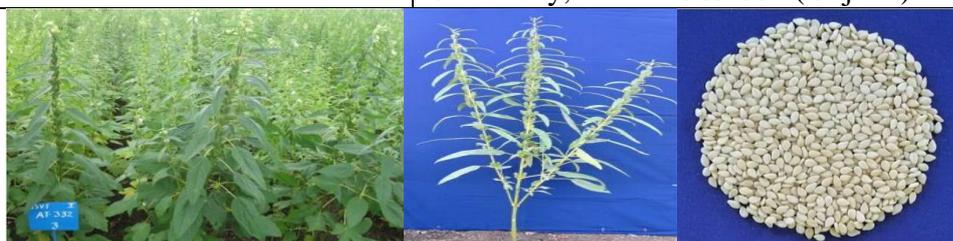
•	Primary branches per plant	2.98
•	Stem hairiness	Absent
•	Leaf lobes	Slightly lobed
•	Leaf size	Large
•	Leaf serration of margin	Weak
•	Capsule hairiness	Absent
•	Capsule locule number per capsule	Four
•	Capsule shape	Narrow oblong
•	Capsule number/leaf axil	More than one
•	Capsule arrangement	Opposite
•	Capsule length (cm)	Long (2.96)
•	Capsule per plant	58
•	Seeds per capsule	77
•	Seed coat colour	White
•	1000 seed weight (g)	High (3.63)
•	Oil content (%)	Medium (46.98)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: Third week of February.</li> <li>• Sowing distance: 30 x 10 cm.</li> <li>• Seed rate: 3.0 kg/ha.</li> <li>• Fertilizer: N:P:K 50:25:40 kg/ha.</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	Seeds are white and bold, hence, suitable for export.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Oil content (%) : 46.98</li> </ul>
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Incidence of Alternaria & Cercospora leaf spots, Phytophthora and Powdery mildew diseases as well as like leaf webber/capsule borer, gallfly, mites and jassids was not appeared during testing period.
17	Duration/ Maturity group	91 days/Late maturity group
18	Originating source/ Institute	Agricultural Research Station, Junagadh Agricultural University, Amreli-365 601 (Gujarat)



### 3.4 Gujarat Til 6 (G. Til 6)

1	Name of crop	Sesame
2	Botanical name	<i>Sesamum indicum</i> L.
3	Name of variety	Gujarat Til 6 (G. Til 6)
4	Parentage with details of its pedigree	AT 117 x G. Til 2 (K06-31-B-1-2-3-1-B-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2017-18
7	Gazette notification	S.O. 1498 (E), Dt. 01/04/2019
8	Acknowledge particulars about the submission of germplasm samples	G. Til 6 (AT 332) IC: 625668

	with NBPGR	
9	Potential seed yield (kg/ha)	1611
10	Average seed yield (kg/ha)	1010
11	Recommended regions/areas of adoption	<i>Kharif</i> rainfed conditions of the Gujarat state and Summer irrigation conditions in the Saurashtra region.
12	Characteristics/Distinguishing morphological in brief:	
	• Days to 50% flowering (Days)	Medium (40)
	• Flower petal colour	Light purple
	• Flower petal hairiness	Sparse
	• Plant height (main stem in cm)	Short (104)
	• Plant branching habit	Few
	• Plant branching pattern	Basal branching
	• Primary branches per plant	1.98
	• Stem hairiness	Absent
	• Leaf lobes	Slightly lobed
	• Leaf size	Medium
	• Leaf serration of margin	Weak
	• Capsule hairiness	Absent
	• Capsule locule number per capsule	Four
	• Capsule shape	Narrow oblong
	• Capsule number/leaf axil	More than one
	• Capsule arrangement	Opposite
	• Capsule length (cm)	Long (2.87)
	• Capsule per plant	61
	• Seeds per capsule	66
	• Seed coat colour	White
	• 1000 seed weight (g)	High (3.10)
	• Oil content (%)	Medium (46.68)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: On the onset of monsoon.</li> <li>• Sowing distance: 60 x 10 cm.</li> <li>• Seed rate: 3.0 kg/ha.</li> <li>• Fertilizer: N:P:K 50:25:40 kg/ha.</li> </ul>
14	Specific attributes/ two identifiable characteristics of the variety	Seeds are white and bold, hence, suitable for export.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Oil content (%) : 46.68</li> </ul>
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Low incidence of phyllody, leaf curl as well as <i>cercospora</i> and <i>alternaria</i> leaf spot disease in proposed variety as compared to checks.
17	Duration/ Maturity group	87 days (81-94) /Late maturity group
18	Originating source/ Institute	Agricultural Research Station, Junagadh Agricultural University, Amreli-365 601 (Gujarat)



#### 4. Soybean:

#### 4.1 Gujarat Junagadh Soybean 3 (GJ Soy 3)

1	Name of crop	Soybean
2	Botanical name	[ <i>Glycine max</i> (L.) Merr.]
3	Name of variety	Gujarat Junagadh Soybean 3 (GJS 3)
4	Parentage with details of its pedigree	Germplasm line maintaining at ARS, JAU, Amreli
5	Breeding method	Plant Introduction
6	Year of release	2010-11
7	Gazette notification	Awaited
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJS 3 (KB 85) IC: 587749
9	Potential yield (kg/ha)	2412
10	Average yield (kg/ha)	1860
11	Recommended regions/areas of adoption	Soybean growing areas in rainfed conditions in the Saurashtra region.
12	Characteristics/Distinguishing morphological in brief:	
	• Stem type	Determinate
	• Leaflet shape	Broad
	• Leaf colour and shape	Dark green and Broad
	• Number of leaflets	Three
	• Seeds per pod	Three
	• Seed colour	Yellowish brown
	• Pubescence	Sparse short
	• Pubescence colour	Grey
	• Corolla colour	Purple
	• Mature pod colour	Yellow
	• Seed coat colour	Yellowish brown
	• Seed coat pattern	Light hilum
	• Hilum colour	Brown
	• Seed coat surface	Dull
	• Strophiole at the hilum	Present
	• Shattering nature	Non shattering
	• Days to 50 % flowering	42
	• Plant height (cm.)	46.8
	• Branches per plant	4.2
	• Pods per plant	54
	• 100 seed weight (g.)	10.08
	• Oil content (%)	19.15
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: onset of monsoon or third week of June to second week of July.</li> <li>• Sowing distance: 45 x 10 cm.</li> <li>• Seed rate: 60 kg/ha.</li> <li>• Fertilizer: N:P:K 30:30:00 kg/ha.</li> </ul>
14	Specific attributes/ identifiable characteristics of the variety	Seeds are yellowish brown and having good appearance. The variety is determinate type, likely to be lodging resistance.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Oil content (%) : 19.15</li> </ul>
16	Diseases and pests resistance (give details of any resistance to)	Major diseases and major pest infection was considerably lower.

	pest or diseases including races)	
17	Duration/ Maturity group	101 days/Medium maturity group
18	Originating source/ Institute	Agricultural Research Station, Junagadh Agricultural University, Amreli-365 601 (Gujarat)

