



New Varieties of Vegetable Crops

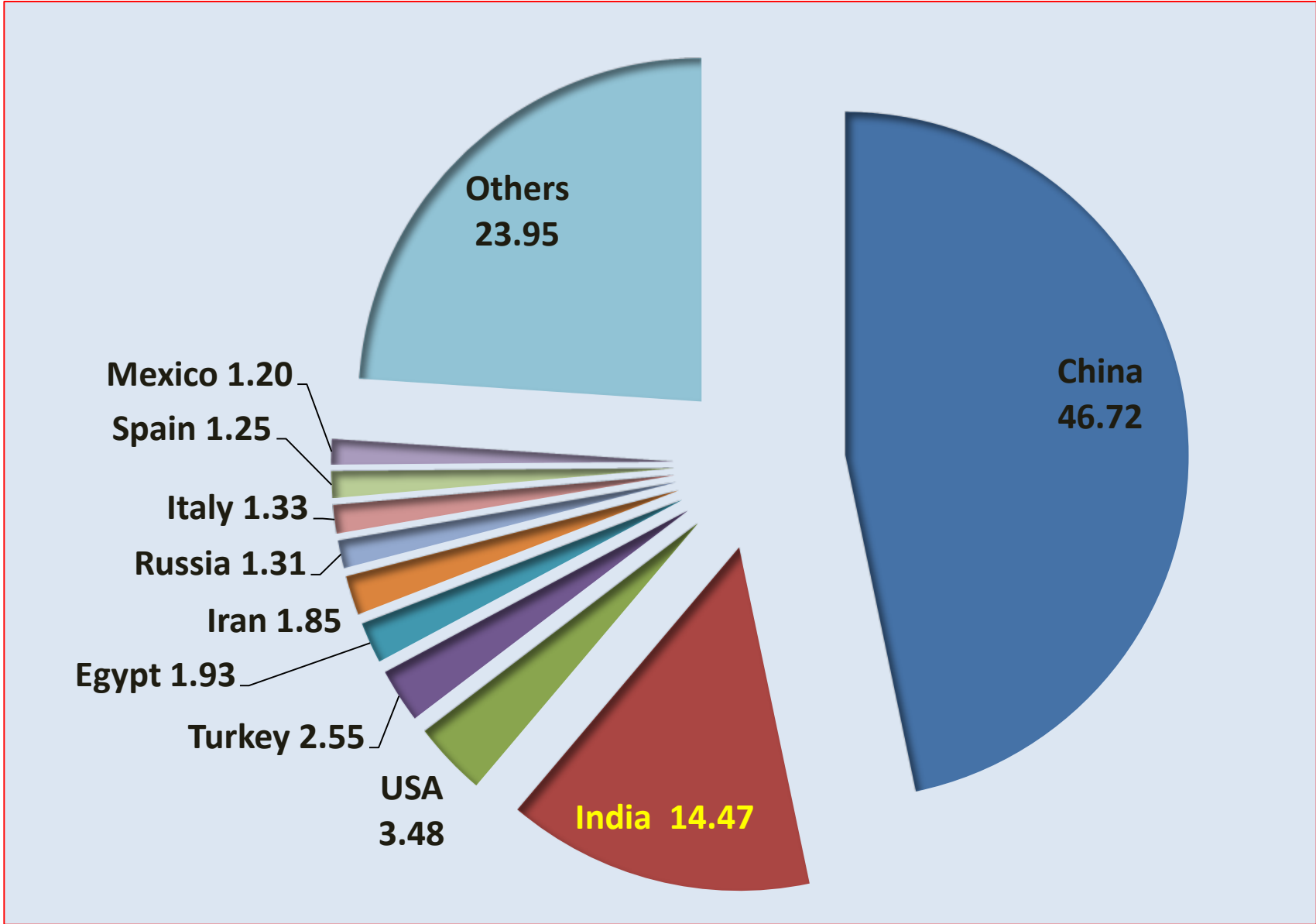


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New Varieties of Vegetable Crops

- ❖ Introduction
- ❖ No. of varieties recommended by AICRP (VC)
- ❖ New vegetable varieties (2009-2019)
- ❖ State-wise & Crop-wise number of varieties :
[SVRC + AICRP-VC]
- ❖ Details of Crop-wise varieties through AICRP-VC
- ❖ Details of varieties identified by SVRC (for various States)
- ❖ Variety promotion /commercialization

Leading Vegetable producing countries



Leading Vegetable Producing States in India

States	Production (mt)	% Share
U.P.	28.62	15.27
W. B.	28.13	15.01
M. P.	18.14	9.68
Bihar	15.97	8.43
Gujarat	12.34	6.58
Maharashtra	11.61	6.19
Karnataka	8.73	4.66
Odisha	8.75	4.67
Chhattisgarh	6.78	3.62
Tamil Nadu	6.44	3.44
Others	42.13	22.47
Total	187.47	100.00

Presently India produces 187.47 million tonnes of vegetables from an area of 10.43 million ha with a productivity of 17.90 t/ha



AICRP (VC: Regular Centers (36))

ICAR Based Institute (11)

I.A.R.I., New Delhi	ICAR Res. Comp. for NEH Region, Barapani
IARI R.S., Katrain, Kullu, H.P.	ICAR Res. Comp. for Eastern Region, Ranchi
I.I.H.R., Bangaluru, Karnataka	ICAR Res. Comp. for Goa
I.I.V.R., Varanasi, U.P.	C.A.R.I., Portblair
IARI R.S., Karnal, Haryana	C.I.A.H., Bikaner
V.P.K.A.S., Almora	

SAU's/CAU (25)

P.A.U., Ludhiana, Punjab	B.C.K.V., Kalyani, W.B
B.A.U., Sabour, Bihar	M.A.U., Parbhani, M.S.
M.P.K.V., Rahuri, Maharashtra	H.A.U., Hisar, Haryana
T.N.A.U., Coimbatore, Tamil Nadu	N.D.U.A.&T. Faizabad, U.P.
G.B.P.U.A.&T., Pantnagar, Uttarakhand	K.A.U., Vellanikkara, Kerala
C.S.U.A.&T., Kanpur, U.P.	A.P.H.U., R.S. Hyderabad, A.P.
Y.S.P.U.H.&F., Solan	J.A.U., Junagadh, Gujarat
O.U.A.&T., Bhubaneswar, Odisha	U.H.S., Bagalkot, R.S. Dharwad, Karnataka
J.N.K.V.V., Jabalpur, M.P.	I.G.K.V., Raipur, C.G.
A.P.H.U., R.S. Lam, Guntur, A.P.	R.A.U., Pusa Samastipur
A.R.S., Durgapura, Jaipur, Rajasthan	A.A.U., Jorhat, Assam
S.A.S.R.D., Medziphema, Nagaland	C.A.U., Passighat, Arunchal Pradesh

Voluntary Centers

SAU's

1. PDKV, Akola
2. HBS, AAI, Allahabad
3. AAU, Anand
4. KKV, Dapoli
5. SKUAS&T, Jammu
6. NAU, Navsari
7. HPKV, Palampur
8. PJNCARI, Pondicherry
9. GBPUAT, Ranichauri
10. MPAUT, Udaipur
11. HCRI, TNAU, Periyakulam

ICAR institutes

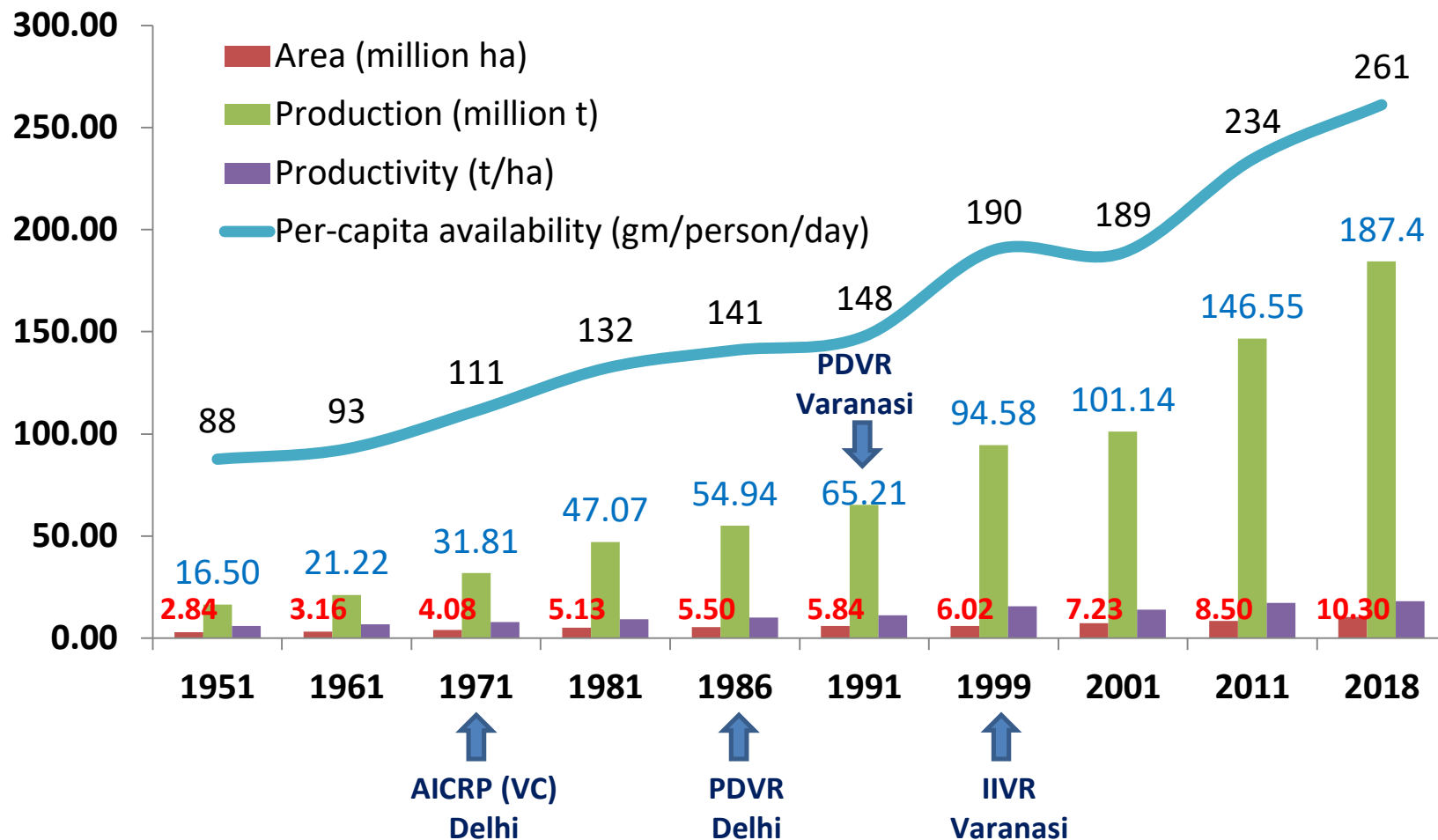
1. ICAR Research Complex., Tripura
2. NBPGR, New Delhi
3. CHES (IIHR), Bhubaneshwar

Others

1. DIBER (DARL), Pithoragarh
2. NHRDF, Nasik
3. NHRDF, Karnal



Growth of vegetable sector in India



- ❖ Horticulture (311.7 million t) has surpassed food grain production (284.8 million t)
- ❖ **Vegetables contribute 59.2 % to horticulture production**
- ❖ Enhancement in area (3.6 fold), productivity (3.1 fold; 5.8 to 17.9 t/ha), production (11.2 fold) and per-capita availability (3 fold; 88 g to 261 g)

Varieties Recommended through AICRP (VC)

- ✚ A total of **526** vegetable varieties in **28 vegetable crops** have been recommended for cultivation in various agro climatic zones of the country.
- ✚ This includes **309** O.P. varieties, **163** hybrids and **54** O.P./ hybrids resistant to different biotic and abiotic stresses.

Agro climatic zones	States
I. Humid western Himalayan region	J&K, Himachal Pradesh and Uttarakhand
II. Humid Bengal –Assam basin	West Bengal and Assam
III. Humid eastern Himalayan and bay islands	Sikkim, Meghalaya, Manipur, Nagaland, Mizoram, Tripura, Arunachal Pradesh and Andaman & Nicobar Islands
IV. Sub-humid Sutlej Alluvial plains	Punjab, Uttar Pradesh, Bihar and Jharkhand
V. Sub-humid eastern and south eastern uplands	Chhattisgarh, Odisha, Andhra Pradesh and Telangana
VI. Arid western plain	Rajasthan, Gujarat, Haryana and Delhi
VII. Semi arid plateau and central highlands	Madhya Pradesh, Maharashtra and Goa
VIII. Humid to semi arid western Ghats and Karnataka plateau	Karnataka, Tamil Nadu, Kerala and Pondicherry

Varieties/Hybrids developed under AICRP –Veg. Crops

CROPS	O.P. Varieties	Hybrid	Resistant	Total
Tomato	45	44	10	99
Cherry Tomato	1	-	-	1
Brinjal	54	41	9	104
Chilli	25	16		41
Capsicum	2	6		8
Garden Pea	30		14	44
Cowpea	13			13
French Bean	11			11
Dolichos	7			7
Okra		13	18	31
Onion	25			25
Garlic	10			10
Cauliflower	16	8	-	24
Yard long bean	1	-	-	1

Cont....

Varieties/Hybrids developed under AICRP –Veg. Crops Contd...

CROPS	OP Varieties	Hybrid	Resistant	Total
Cabbage	3	8	-	11
Kale	1	-	-	1
Carrot	3	1	-	4
Radish	2	-	-	2
Muskmelon	10	2	3	15
Water melon	3	2	-	5
Bitter gourd	6	5	-	11
Pumpkin	8	-	-	8
Cucumber	4	5	-	9
Ridge gourd	4	3	-	7
Bottle gourd	10	5	-	15
Sponge gourd	7	1	-	8
Ash gourd	6	2	-	8
Long melon	1			1
Mustard green	1	-	-	1
Total	309	163	54	526



New vegetable varieties



During 2009 – 2019, a total of **126** varieties including **66** OPV, **50** F₁ hybrids and **10** resistant varieties have been **identified and recommended by the AICRP (VC) in 24** vegetables

SN	Crop	OP Varieties	Hybrid	Resistant	Total
1	Tomato	11	14	2	27
2	Brinjal	10	10	-	20
3	Chilli	7	8	-	15
4	Capsicum	2	2	-	4
5	Cherry Tomato	1	-	-	1
6	Vegetable Pea	4	-	4	8
7	Cowpea	3	-	-	3
8	French bean	4	-	-	4
9	Dolichos bean	3	-	-	3
10	Yard long bean	1	-	-	1
11	Bottle gourd	3	2	-	5
12	Bitter gourd	1	1	-	2
13	Sponge gourd	2	1	-	3
14	Ridge gourd	1	2	-	3
15	Ash gourd	3	2	-	5
16	Cucumber	1	2	-	3
17	Pumpkin	1	-	-	1
18	Long melon	1	-	-	1
19	Okra	-	4	4	8
20	Cabbage	1	1	-	2
21	Cauliflower	2	1	-	3
22	Radish	2	-	-	2
23	Kale	1	-	-	1
24	Mustard Green	1	-	-	1
	Total	66	50	10	126



Summary of Varieties notified though SVRC & CVRC (AICRP-VC): 2009 to 2019



S.N.	State	Crop	SVRC		CVRC (AICRP)		Total
			OPV	Hybrid	OPV	Hybrid	
1	A&N Islands	4			4		4
2	Andhra Pradesh	8	5		11	4	20
3	Arunachal Pradesh	4			4		4
4	Assam	4			2	3	5
5	Bihar	16	1		33	25	59
6	Chhattisgarh	8	5		11	4	20
7	Goa	10			14	10	24
8	Gujarat	15	10	3	8	8	29
9	Haryana	12	6	1	9	7	23
10	Himachal Pradesh	17	10		18	11	39
11	J&K	14			17	10	27
12	Jharkhand	16			33	24	57
13	Karnataka	10	5	2	15	6	28
14	Kerala	14	18	2	15	6	41
15	Madhya Pradesh	10			14	9	23
16	Maharashtra	15	8	2	15	8	33
17	Manipur	4	2		4		6
18	Meghalaya	3	1		3		4
19	Mizoram	4			4		4
20	Nagaland	4			4		4
21	NCT	10	3		7	8	18
22	Odisha	11	7		11	4	22
23	Pondicherry	8			15	5	20
24	Punjab	16	0		32	24	56
25	Rajasthan	19	12		8	8	28
26	Sikkim	4			4		4
27	Tamil Nadu	17	11	5	16	5	37
28	Tripura	4			4		4
29	Uttar Pradesh	26	31	6	31	25	93
30	Uttarakhand	15	12	5	17	8	42
31	West Bengal	5	4		2	3	9
	Grand Total		151	26	385	225	787

State-wise and Crop-wise Varieties notified through SVRC and CVRC (AICRP-VC) during 2009 to 2019

State	Crop	SVRC		CVRC (AICRP)		Total
		OPV	Hybrid	OPV	Hybrid	
A&N Islands	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4
Andhra Pradesh	Chilli	5		3		8
	Ridge gourd				1	1
	Cowpea			1		1
	Brinjal			2		2
	Dolichos			2		2
	Okra			2	2	4
	French bean			1		1
	Tomato				1	1
Total	8	5		11	4	20
Arunachal Pradesh	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Assam	Tomato				1	1
	Brinjal				1	1
	Chilli			1	1	2
	Radish			1		1
Total	4			2	3	5
Bihar	Cauliflower	1		1		2
	Okra			2		2
	Pea			5		5
	Cowpea			1		1
	Dolichos			1		1
	Bottle gourd			2	3	5
	Cucumber			1		1
	Long melon			1		1
	Bitter gourd			1		1
	Sponge gourd			2	1	3
	Ridge gourd			1		1
	Ash gourd			1	1	2
	Yard Long bean			1		1
	Chilli			1	4	5
	Brinjal			7	9	16
Tomato			5	7	12	
Total	16	1		33	25	59

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Chhattisgarh	Chilli	1		3		4
	Okra			2	2	4
	Cowpea	1		1		2
	Tomato				1	1
	Ridge gourd				1	1
	French bean			1		1
	Brinjal	1		2		3
	Dolichos	2		2		4
Total	8	5		11	4	20
Goa	Tomato			2	2	4
	French bean			1		1
	Cherry Tomato			1		1
	Brinjal			3		3
	Chilli			1	3	4
	Dolichos			3		3
	Bottle gourd			2		2
	Cauliflower			1		1
	Ridge gourd				1	1
	Okra				4	4
Total	10			14	10	24

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Gujarat	Brinjal	2	1	3	1	7
	Bitter gourd			1		1
	Ash gourd				1	1
	Cauliflower				1	1
	Cabbage				1	1
	Pumpkin	1				1
	Ridge gourd	1				1
	Okra	1			2	3
	Chilli	1	1			2
	Cowpea			1		1
	French bean			1		1
	Garlic	1				1
	Onion	1				1
	Tomato	2		2	2	6
	Bottle gourd		1			1
Total	15	10	3	8	8	29

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Haryana	Onion	2				2
	Okra				2	2
	Bitter gourd			1		1
	French bean			1		1
	Cowpea			1		1
	Bottle gourd	1	1			2
	Ash gourd				1	1
	Cabbage				1	1
	Cauliflower				1	1
	Tomato			3	1	4
	Brinjal	2		3	1	6
Garlic	1				1	
Total	12	6	1	9	7	23

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Himachal Pradesh	Carrot	2				2
	Chilli			1		1
	Bottle gourd			1		1
	Pumpkin			1		1
	Cabbage				2	2
	Kale			1		1
	Cherry Tomato			1		1
	Radish			1		1
	Cauliflower				1	1
	Knol-Khol	1				1
	Tomato	3		3	4	10
	Capsicum	1		2	2	5
	French bean	1		2		3
	Vegetable pea			4		4
	Brinjal			1		1
	Lettuce	1				1
Cucumber	1			2	3	
Total	17	10		18	11	39

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
J&K	Tomato			3	3	6
	Cherry tomato			1		1
	Pea			3		3
	French bean			2		2
	Bottle gourd			1		1
	Cauliflower				1	1
	Cucumber				2	2
	Pumpkin				1	1
	Kale			1		1
	Brinjal			1		1
	Chilli			1		1
	Capsicum			3	1	4
	Cabbage				2	2
	Radish			1		1
Total	14			17	10	27

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Jharkhand	Tomato			5	7	12
	Yard Long bean			1		1
	Cucumber			2		2
	Long melon			1		1
	Okra			2		2
	Cauliflower			1		1
	Brinjal			6	9	15
	Chilli			2	4	6
	Pea			4		4
	Cowpea			1		1
	Dolichos			1		1
	Bottle gourd			2	2	4
	Bitter gourd			1		1
	Sponge gourd			2	1	3
	Ridge gourd			1		1
Ash gourd			1	1	2	
Total	16			33	24	57

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Karnataka	Chilli		2	4	1	7
	Brinjal			1	1	2
	Ash gourd			2	1	3
	Capsicum				1	1
	French bean	1		3		4
	Onion	1				1
	Vegetable pea			1		1
	Tomato			3	2	5
	Amaranths	2				2
	Yard long bean	1		1		2
Total	10	5	2	15	6	28
Kerala	Chilli	4		4	1	9
	Drumstick	1				1
	Snake gourd	1				1
	Tomato	3		3	2	8
	Ash gourd	1		2	1	4
	Brinjal	1		1	1	3
	Cucumber	2	1			3
	Water melon	1	1			2
	Capsicum				1	1
	Vegetable pea			1		1
	French bean			3		3
	Yard long bean	2		1		3
	Culinary melon	1				1
Cowpea	1				1	
Total	14	18	2	15	6	41

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Madhya Pradesh	Tomato			2	2	4
	Cherry Tomato			1		1
	Brinjal			3		3
	Chilli			1	3	4
	Dolichos			2		2
	Bottle gourd			2		2
	Ridge gourd				1	1
	Okra			1	3	4
	Cauliflower			1		1
	French bean			1		1
Total	10			14	9	23
Maharashtra	Dolichos	1		2		3
	Pea	1				1
	Brinjal		1	3		4
	Garlic	1				1
	Chilli			3	1	4
	French bean			1		1
	Cauliflower			1		1
	Ridge gourd				1	1
	Bottle gourd			2		2
	Lettuce	1				1
	Okra	1			4	5
	Cluster bean	1				1
	Tomato	1		2	2	5
	Sponge gourd		1			1
Cherry tomato	1		1		2	
Total	15	2	2	15	8	23

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Manipur	Tomato	2		1		3
	Dolichos			1		1
	Cherry tomato			1		1
	Mustard Green			1		1
Total	4	2		4		6
Meghalaya	Tomato	1		1		2
	Dolichos			1		1
	Mustard Green			1		1
Total	3	1		3		4
Mizoram	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4
Nagaland	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
NCT	Cauliflower	2			1	3
	Brinjal			3	1	4
	Cowpea			1		1
	French bean			1		1
	Bitter gourd			1		1
	Ash Gourd				1	1
	Okra				2	2
	Tomato			1	2	3
	Cabbage				1	1
	Carrot	1				1
Total	10	3		7	8	18
Odisha	Brinjal	1		2		3
	Chilli	1		3		4
	Tomato				1	1
	Ridge gourd				1	1
	Cowpea			1		1
	French bean			1		1
	Ivy gourd	2				2
	Dolichos			2		2
	Okra			2	2	4
	Pointed gourd	1				1
	Spine gourd	2				2
Total	11	7		11	4	22



State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Pondicherry	Tomato			3	2	5
	Brinjal			1	1	2
	Chilli			4	1	5
	Vegetable pea			1		1
	French bean			3		3
	Yard Long bean			1		1
	Capsicum				1	1
	Ash gourd			2		2
Total	8			15	5	20
Punjab	Tomato			5	7	12
	Dolichos			1		1
	Cucumber			1		1
	Long melon			1		1
	Okra			2		2
	Cauliflower			1		1
	Yard Long bean			1		1
	Bottle gourd			2	2	4
	Bitter gourd			1		1
	Sponge gourd			2	1	3
	Ridge gourd			1		1
	Ash gourd			1	1	2
	Brinjal			6	9	15
	Chilli			2	4	6
	Pea			4		4
Cowpea			1		1	
Total	16			32	24	56

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Rajasthan	Cluster bean	1				1
	Sword bean	1				1
	Dolichos	2				2
	Tomato			2	2	4
	Cabbage				1	1
	Cowpea			1		1
	French bean			1		1
	Bitter gourd			1		1
	Ash gourd				1	1
	Okra				2	2
	Cauliflower				1	1
	Ridge gourd	1				1
	Pumpkin	1				1
	Drumstick	1				1
	Brinjal	1		3	1	5
	Long melon	1				1
	Ivy gourd	1				1
	Sponge gourd	1				1
Palak	1				1	
Total	19	12		8	8	28

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Sikkim	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4
Tamil Nadu	Brinjal	1		1	1	3
	Tomato		1	4	1	6
	Capsicum				1	1
	Yard Long bean			1		1
	Cowpea	2				2
	Ash gourd	1		2	1	4
	Bottle gourd	2	1			3
	Amaranths	1				1
	Cluster bean	1				1
	Okra		1			1
	French bean	1		3		4
	Snake gourd		1			1
	Ridge gourd		1			1
	Vegetable pea			1		1
	Chilli			4	1	5
	Garlic	1				1
Ivy gourd	1				1	
Total	17	11	5	16	5	37

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Tripura	Tomato			1		1
	Cherry Tomato			1		1
	Dolichos			1		1
	Mustard Green			1		1
Total	4			4		4
Uttar Pradesh	Amaranths	1				1
	Bathua	2				2
	Bitter gourd	1		1		2
	Bottle gourd	5		1	2	8
	Brinjal	1		7	9	17
	Carrot	1				1
	Cauliflower	1		1		2
	Chilli	1	2	2	4	9
	Cucumber		1	1		2
	Dolichos	2		1		3
	French bean	2				2
	Okra	2	1	2		5
	Poi/Basella	3				3
	Pointed gourd	2				2
	Pumpkin		1			1
	Radish	2				2
	Pea			4		4
	Yard Long bean			1		1
	Cowpea			1		1
	Ash gourd			1	1	2
	Long melon			1		1
	Ridge gourd	1		1		2
	Satputia	1				1
	Sponge gourd	1	1	2	1	5
Summer squash	1				1	
Tomato	1		4	8	13	
Total	26	31	6	31	25	93

State	Crop	SVRC		CVRC		Total
		OPV	Hybrid	OPV	Hybrid	
Uttarakhand	Cucumber	2	2		2	6
	Chilli			1		1
	Kale			1		1
	Cherry Tomato			1		1
	Radish			1		1
	Cauliflower				1	1
	Cabbage		1			1
	Bitter gourd	1				1
	French bean			2		2
	Brinjal			1	1	2
	Bottle gourd	2		1		3
	Tomato	2	2	3	4	11
	Pea	4		4		8
	Pumpkin			1		1
Capsicum	1		1		2	
Total	15	12	5	17	8	42
West Bengal	Brinjal	2			1	3
	Chilli	1		1	1	3
	Tomato				1	1
	Radish			1		1
	Cowpea	1				1
Total	5	4		2	3	9
Grand Total		20	9	19	11	787

- **Number includes varieties/hybrids identified or notified for ZONES**
- **ONE VARIETY/HYBRID MAY BE SUITABLE FOR MORE THAN ONE STATE.**

**Details of vegetables varieties/hybrids
identified for release and notification
through AICRP-VC during 2009-2019**

Tomato

- **Hybrid:** BSS-488
- **Source:** Bejo Sheetal Company, Jalana; 2009
- Indeterminate hybrid, 550 q/ha yield
- Seed rate: 150g/ha, Sowing time: Kharif & Rabi
- **States:** Chhattisgarh, Orissa and A.P.



- **Hybrid:** Himsohna
- **Source:** Syngenta Seed Company, 2009
- Indeterminate hybrid, Yield up to 600 q/ha.
- Seed rate: 150g/ha, Sowing time: Kharif & Rabi
- **States:** West Bengal And Assam



- **Hybrid:** Tai-01458 (TO-01458)
- **Source:** Syngenta Seed Company, 2009
- Determinate hybrid, 450 q/ha yield
- Seed rate: 250g/ha, Sowing time: Kharif & Rabi.
- **States:** Punjab, U.P., Bihar and Jharkhand



Tomato

- **Variety:** Pant T-10 (Pant Tomato-10)
- **Source:** GBPUAT, Pantnagar, 2009
- Determinate variety, tolerant to blight, 350-450 q/ha yield
- Seed rate: 350-400 g/ha, Sowing time: Kharif & Rabi/Spring
- **States:** J&K, H.P., Uttarakhand, Punjab, U.P., Bihar and Jharkhand

Pant Tomato-10






- **Hybrid:** BCTH-4
- **Source:** BCKV, Kalyani, 2010
- Semi-determinate hybrid, Yield 550-600 q/ha.
- Seed rate: 150 g/ha, Sowing time: Kharif and Rabi for zone- IV and spring-summer for zone- I
- **States:** J&K, H.P., Uttarakhand, Punjab, U.P., Bihar and Jharkhand






- **Variety:** PAU-2372
- **Source:** PAU, Ludhiana, 2011
- Indeterminate variety, 450-550 q/ha yield
- Seed rate: 250-400g/ha, Sowing time: Kharif & Rabi/Spring
- **States:** J&K, H.P., Uttarakhand






Tomato




<ul style="list-style-type: none">• Variety: ATL-O1-19 (Anand Tomato-4)• Source: AAU, Anand, 2011• Determinate, tolerant to tomato leaf curl virus disease, 350-400 q/ha yield• Seed rate: 350-400 g/ha, Sowing time: Kharif & Rabi• States: <u>Rajasthan, Gujarat, Haryana and Delhi</u>	
<ul style="list-style-type: none">• Hybrid: ARTH-2104• Source: Ankur Seeds, Nagpur, 2011• Indeterminate hybrid, Yield 500-600 q/ha.• Seed rate: 150-175 g/ha, Sowing time: Kharif and Rabi• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	
<ul style="list-style-type: none">• Hybrid: VRTH-101 (Kashi Abhiman)• Source: ICAR-IIVR, Varanasi, 2011• Determinate hybrid, tolerant to tomato leaf curl virus disease, 850-900 q/ha yield• Seed rate: 250 g/ha, Sowing time: Mid Sept; /Feb-March• States: <u>J&K, H.P., Uttarakhand, Punjab, U.P., Bihar and Jharkhand</u>	

<ul style="list-style-type: none">• Hybrid: Bhagya• Source: Nuziveedu Seeds Pvt. Ltd., 2013• Determinate, good firmness, 300-350 q/ha yield• Seed rate: 250 g/ha, Sowing time: Kharif & Rabi• States: <u>Rajasthan, Gujarat, Haryana and Delhi</u>	
<ul style="list-style-type: none">• Variety: VRT-0801 (Kashi Aman)• Source: ICAR-IIVR, Varanasi, 2013• Determinate variety, resistant to ToLCV, Yield 500-600 q/ha.• Seed rate: 400 g/ha, Sowing time: Kharif and Rabi• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	
<ul style="list-style-type: none">• Variety: DARL-68• Source: DIBER, Pithoragarh, 2014• Indeterminate, 320 q/ha yield• Seed rate: 150-200 g/ha, Sowing time: Rabi/Spring -summer• States: <u>Sikkim, Meghalaya, Manipur, Nagaland, Mizoram, Tripura, Arunachal Pradesh, Andaman & Nicobar Islands, Punjab, U.P., Bihar and Jharkhand</u>	



Tomato

<ul style="list-style-type: none">• Variety: Punjab Ratta• Source: PAU, Ludhiana, 2014• Determinate variety, processing quality, 560 q/ha yield• Seed rate: 350-400 g/ha, Sowing time: Kharif & Rabi• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	
<ul style="list-style-type: none">• Hybrid: 2011/TODHyb-2• Source: Private sector, Code yet not opened , 2014• Determinate hybrid, Yield 350-450 q/ha.• Seed rate: 150 g/ha, Sowing time: Kharif and Rabi• States: <u>J&K, H.P., Uttarakhand</u>	
<ul style="list-style-type: none">• Hybrid: Improved Bhagya• Source: Nuziveedu Seeds, 2014• Joint Pedicel, good firmness, 350-400 q/ha yield• Seed rate: 250 g/ha, Sowing time: Kharif & Rabi.• States: <u>Punjab, U.P., Bihar, Jharkhand, M.P., Maharashtra and Goa</u>	

Tomato

<ul style="list-style-type: none">• Hybrid: IIHR-H-240 (Arka Samrat)• Source: ICAR-IIHR, Bangalore, 2015• Semi-determinate variety, resistance to ToLCV, BW and early blight, processing quality, 800-850q/ha yield• Seed rate: 150 g/ha, Sowing time: Kharif, Rabi & Zaid• States: <u>Karnataka, Tamil Nadu, Kerala and Pondicherry</u>	
<ul style="list-style-type: none">• Variety: ATL 08-21• Source: AAU, Anand, 2016• Determinate variety, tolerant to borer and leaf miner, Yield :450-500 q/ha.• Seed rate: 350-400 g/ha, Sowing time: Kharif and Rabi• States: <u>Rajasthan, Gujarat, Haryana and Delhi</u>	
<ul style="list-style-type: none">• Variety: Kashi Amul (VRT-1202)• Source: ICAR-IIVR, Varanasi, 2016• Semi determinate; Disease resistant, 500-600 q/ha yield• Seed rate: 400 g/ha, Sowing time: Kharif, Rabi & Zaid• States: <u>Karnataka, Tamil Nadu, Kerala and Pondicherry</u>	

Tomato

<ul style="list-style-type: none"> • Variety: Kashi Adarsh (VRT-1201) • Source: ICAR-IIVR, Varanasi, 2016 • Semi-determinate variety, resistant to viral disease, 600 q/ha yield • Seed rate: 400 g/ha, Sowing time: Kharif & Rabi • States: <u>M.P., Maharashtra and Goa</u> 	
<ul style="list-style-type: none"> • Hybrid: Kaveri - 304 (KTH-304) • Source: Private Sector hybrid, code not open, 2018 • Semi-determinate hybrid, tolerant to blight & ToLCV, Yield 900-1000 q/ha. • Seed rate: 150 g/ha, Sowing time: Kharif and Rabi • States: <u>Punjab, U.P., Bihar and Jharkhand</u> 	
<ul style="list-style-type: none"> • Hybrid: 2013/TODHYB-05 • Source: Private sector, Code yet not opened , 2017 • Good firmness, 325 q/ha yield • Seed rate: 250 g/ha, Sowing time: Kharif & Rabi. • States: <u>Punjab, U.P., Bihar, Jharkhand</u> 	

Tomato

- **Variety: 2014/TOLCVRES-5**
 - **Source:** Private sector, Code yet not opened , 2018
 - ToLCV resistant, 350 q/ha yield
 - Seed rate: 150 g/ha, Sowing time: Kharif, Rabi
 - **States: Karnataka, Tamil Nadu, Kerala and Pondicherry**
-
- **Variety: BT 19-1-1-1**
 - **Source:** OUAT, Bhubaneswar, 2019
 - Fruit wt.: 70-80g; Fruit shape: Round; Tolerant to Bacterial Wilt
 - Yield: 300.0 q/ha; Seed rate: 350 g/ha, Sowing time: Kharif, Rabi
 - **States: Jammu & Kashmir (J&K), Himachal Pradesh and Uttarakhand)**
-
- **Variety: Kashi Chyan**
 - **Source:** IIVR, Varanasi, 2019
 - Indeterminate; resistant to ToYLCVD carrying Ty3 gene and tolerant to early blight. yield potential is 600 -700 q/ha in crop duration of 140 days
 - Seed rate: 400 g/ha, Sowing time: Kharif, Rabi
 - **States: Punjab, U.P., Bihar, Jharkhand, Madhya Pradesh, Maharashtra and Goa**



Tomato

- **Hybrid : CTH-1**
- **Source:** TNAU, Coimbatore , 2019
- Fruits flat round, thick pericarp (5.84 mm) shelf life 10 days at room temp.
- Fruit yield 800-900 q/ha;
- Seed rate: 400 g/ha, Sowing time: Kharif, Rabi
- **States:** Rajasthan, Gujarat, Haryana, Delhi, Madhya Pradesh, Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Pondicherry



Cherry Tomato

- **Variety:** VT-95
- **Source:** VPKAS, Almora, 2019
- Pure line selection of introduced AVRDC line EC 461693.
- Fruits oval, firm, high TSS (6-7.0 °Brix), rich in Vitamin C; Fruit yield 250-300 q/ha;
- Seed rate: 400 g/ha, Sowing time: Kharif, Rabi
- **States:** Punjab, U.P., Bihar, Jharkhand, Madhya Pradesh, Maharashtra and Goa



Brinjal

- **Variety:** PB-67
- **Source:** GBAU&T, Pantnagar, 2009
- Early maturity, resistant to bacterial wilt and *Phomopsis*, yield potential of 410 q/ha
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand



- **Hybrid:** Rasika
- **Source:** Bejo Sheetal Seeds Pvt. Ltd. Jalana, 2009
- Fruit length of 16.37 cm, 400-580 q/ha yield
- Seed rate: 150-200 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar, Jharkhand



Brinjal

- **Hybrid:** Shamli
- **Source:** Seminis Seeds, 2009
- Long fruited hybrid, yield potential of 350-650 q/ha
- Seed rate: 150-200 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand






- **Hybrid:** VNR-51C
- **Source:** VNR Seeds Pvt. Ltd., Raipur, 2009
- Small round hybrid, 450-500 q/ha yield
- Seed rate: 150-200 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar, Jharkhand



- **Hybrid:** HABH-8
- **Source:** ICAR-ICER, RC, Ranchi, 2009
- Small round fruited hybrid, 375-544 q/ha yield
- Seed rate: 150-200 g/ha, Sowing : Kharif, Rabi & Zaid
- **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry



<ul style="list-style-type: none"> ➤ Variety: PB-70 ➤ Source: GBPUAT, Pantnagar, 2010 ➤ Resistance to <i>Phomopsis</i> blight, bacterial wilt and shoot and fruit borer, yield potential of 400 q/ha ➤ Seed rate: 400-500 g/ha, Sowing time: Kharif, Rabi & Zaid ➤ States: <u>Punjab, U.P., Bihar and Jharkhand, Chhattisgarh, Orissa, A.P., M.P., Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Pondicherry</u> 	
<ul style="list-style-type: none"> ➤ Variety: DBL-02 ➤ Source: ICAR- IARI, New Delhi, 2010 ➤ Fruits are long, violet-purple in colour, 370-390 q/ha yield ➤ Seed rate: 400-500 g/ha, Sowing time: Kharif & Spring ➤ States: <u>J&K, H.P. and Uttarakhand, Punjab, U.P., Bihar, Jharkhand, Rajasthan, Gujarat, Haryana and Delhi</u> 	 <p>DBL-02</p>
<ul style="list-style-type: none"> ➤ Hybrid: DBHL-20 ➤ Source: ICAR- IARI, New Delhi, 2009 ➤ Fruits are long, dark purple, glossy, 450-675 q/ha yield ➤ Seed rate: 150-200 g/ha, Sowing time: Kharif ➤ States: <u>Punjab, U.P., Bihar and Jharkhand</u> 	 <p>DBHL-20</p>



Brinjal

- **Hybrid:** PHBL-51
- **Source:** PAU, Ludhiana, 2012
- Fruits are medium-long, thin, shining deep purple, 550-650 q/ha yield
- Seed rate: 150-200 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand






- **Hybrid:** PBHSR-31
- **Source:** PAU, Ludhiana, 2012
- Fruits small-oblong, shiny purple, 600-650 q/ha yield
- Seed rate: 150-200 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar, Jharkhand, Rajasthan, Gujarat, Haryana and Delhi



<ul style="list-style-type: none">• Hybrid: VNR-218• Source: VNR Seeds Pvt. Ltd., Raipur, 2012• Small long fruited hybrid, resistant to bacterial wilt• Seed rate: 150-200 g/ha, Sowing time: Kharif & Rabi• States: <u>West Bengal And Assam</u>	
<ul style="list-style-type: none">• Variety: HABR-21• Source: ICAR-RCER, Ranchi, 2013• Fruits are oblong, blackish purple, 550-600 q/ha yield• Seed rate: 400-500 g/ha, Sowing time: Kharif• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	
<ul style="list-style-type: none">• Hybrid: PBHL-52• Source: PAU, Ludhiana, 2014• Fruits are long, medium sized, shiny purple, 675 q/ha yield• Seed rate: 150-200 g/ha, Sowing time: Kharif• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	

Brinjal

<ul style="list-style-type: none">• Hybrid: Nishant• Source: Advanta seeds Pvt. Ltd, 2015• 12-15cm long violet fruits with green calyx in clusters, 300-350 q/ha yield• Seed rate: 150-200 g/ha, Sowing time: Kharif• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	 <p>A photograph showing several clusters of small, elongated, purple brinjals with green calyxes growing on a plant with large green leaves and a single purple flower.</p>
<ul style="list-style-type: none">• Variety: DBL-175• Source: ICAR-IARI, New Delhi, 2018• Fruits are long, cylindrical, shiny purple, 350-400 q/ha yield• Seed rate: 400-500 g/ha, Sowing time: Kharif• States: <u>Rajasthan, Gujarat, Haryana, Delhi, M.P., Maharashtra and Goa</u>	 <p>A photograph showing several long, cylindrical, shiny purple brinjals hanging from a plant with large green leaves.</p>
<ul style="list-style-type: none">• Variety: IC-0598429• Source: IIHR-CHES, Bhubaneswar, 2018• Fruits oval, and purple green in colour with white patches, 350-360 q/ha yield• Seed rate: 400-500 g/ha, Sowing time: Kharif• States: <u>Chhattisgarh, Orissa and A.P.</u>	 <p>A photograph showing several oval-shaped brinjals with a purple-green color and white patches, growing on a plant with large green leaves.</p>

Brinjal

- **Variety:** PBL-232
- **Source:** PAU, Ludhiana, 2019
- Early maturing, Fruits medium long (16.3 cm), deep purple and shining. Calyx green; Yield: 360 q/ha
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Rajasthan, Gujarat, Haryana, Delhi, Madhya Pradesh, Maharashtra and Goa



- **Variety:** IVBL-23
- **Source:** IIVR, Varanasi, 2019
- Tolerant to *Phomopsis* blight in brinjal and *Fusarium* wilt, Early maturing, Fruits 14 cm, crimson colour, Frt Wt. 150 g ; Yield: 400 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand



Brinjal

- **Variety:** DBPR-23 (**Pusa Vaibhav**)
- **Source:** IARI, New Delhi, 2019
- Plants are tall (105-110 cm); Fruits are round (15 cm length, 7.5 cm diameter), shiny purple in colour with non-spiny green calyx, frt. Wt. 250 g;
- Yield 410 q/ha.
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand



- **Variety:** PC-7 (Pant Chilli-3)
- **Source:** GBPUAT, Pantnagar, 2009
- Fruit long, tolerant to LCV and anthracnose diseases, 150-175 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Chhattisgarh, Orissa and A.P.






- **Variety:** HS-HP-154
- **Source:** SKUA&T, Srinagar, 2009
- Fruits are 6 – 7 cm long, 150-200 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif, Rabi & Zaid
- **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry






- **Variety:** IVPBC-535 (Kashi Sinduri)
- **Source:** ICAR-IIVR, Varanasi, 2009
- **Non-pungent and high oleoresin content (15 percent),** 150 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif, Rabi & Zaid
- **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry



Chilli

<ul style="list-style-type: none"> • Hybrid: BSS-453 • Source: Bejo Sheetal Seeds Pvt. Ltd., Jalana, 2009 • 9-11 cm long fruits, 90-120 q/ha yield • Seed rate: 400-500 g/ha, Sowing time: Kharif & Rabi • States: <u>West Bengal And Assam</u> 	
<ul style="list-style-type: none"> • Variety: PC-56 • Source: GBPUAT, Pantnagar, 2010 • Tolerant to LCV, anthracnose diseases and nematode, 150-170 q/ha yield • Seed rate: 400-500 g/ha, Sowing time: Kharif, Rabi & Zaid • States: <u>J&K, H.P. and Uttarakhand, Punjab, U.P., Bihar, Jharkhand, Chhattisgarh, Orissa, A.P., M.P., Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Pondicherry</u> 	
<ul style="list-style-type: none"> • Hybrid: NCH-587 • Source: Nirmal Seeds Pvt. Ltd., Jalgaon (MS), 2010 • Tolerant to biotic and abiotic stress, 120-135 q/ha yield • Seed rate: 250-300 g/ha, Sowing time: Kharif • States: <u>Punjab, U.P., Bihar, Jharkhand, M.P., Maharashtra and Goa</u> 	

<ul style="list-style-type: none">• Hybrid: VNR-332 (Rani)• Source: VNR Seeds Pvt. Ltd., Raipur, 2010• Tolerant to <i>Fusarium</i> wilt and LCV, 175-200 q/ha yield• Seed rate: 250-300 g/ha, Sowing time: Kharif, Rabi & Zaid• States: <u>Punjab, U.P., Bihar, Jharkhand, Karnataka, Tamil Nadu, Kerala and Pondicherry</u>	
<ul style="list-style-type: none">• Variety: VR-338 (Kashi Gaurav)• Source: ICAR-IIVR, Varanasi, 2011• Tolerant to anthracnose, thrips & mites, 150 q/ha yield• Seed rate: 400-500 g/ha, Sowing time: Kharif & Rabi• States: <u>West Bengal and Assam</u>	
<ul style="list-style-type: none">• Variety: ACS-06-2• Source: AAU, Anand, 2011• Fruits are pungent, elongated, 110-130 q/ha yield• Seed rate: 400-500 g/ha, Sowing time: Kharif, Rabi & Zaid• States: <u>Karnataka, Tamil Nadu, Kerala and Pondicherry</u>	

<ul style="list-style-type: none">• Hybrid: HH-41786• Source: Syngenta Seeds Pvt, Ltd.2011• Long fruited, 100-130 q/ha yield• Seed rate: 250-300 g/ha, Sowing time: Kharif• States: <u>M.P., Maharashtra and Goa</u>	
<ul style="list-style-type: none">• Hybrid: BSS-378 (Garima)• Source: Bejo Sheetal Seeds Pvt. Ltd. Jalana, 2012• Long fruits 14-16 cm, yellowish green, 150 q/ha yield• Seed rate: 250-300 g/ha, Sowing time: Kharif• States: <u>M.P., Maharashtra and Goa</u>	
<ul style="list-style-type: none">• Hybrid: Vidya• Source: VNR Seeds Ltd., Raipur, 2013• Tolerant to <i>Fusarium</i> wilt, 200-220 q/ha yield• Seed rate: 250-300 g/ha, Sowing time: Kharif• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	

- **Variety:** LCA-620
- **Source:** Dr YSRHU, RS, Lam, 2014
- Excellent dry fruit colour, 138 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Chhattisgarh, Orissa and A.P



- **Hybrid:** 2014/CHIHYP-3
- **Source:** Private sector, Code yet not opened , 2014
- fruit length ranges from 7-13 cm, 125-150 q/ha yield
- Seed rate: 250-300 g/ha, Sowing time: Kharif
- **States:** Punjab, Uttar Pradesh, Bihar and Jharkhand

- **Hybrid:** CH-27
- **Source:** PAU, Ludhiana, 2019
- Plants spreading, tall, Fruits length 7.5 cm; pungent (0.8% capsaicin), rich in colouring matter (242 ASTA units); resistant to leaf curl virus, fruit rot and root knot nematodes; 145 q/ha yield
- Seed rate: 400-500 g/ha, Sowing time: Kharif
- **States:** Punjab, U.P., Bihar and Jharkhand



Capsicum

- **Hybrid:** PRCH-101
- **Source:** UUHF, Ranichauri, 2013
- 80 g average fruit weight, 300-320 q/ha yield
- Seed rate: 1.5-2.0 Kg/ha, Sowing time: Spring-summer
- **States:** J&K, H.P. and Uttarakhand



- **Variety:** DARL-70
- **Source:** DIBER, Pithoragadh, 2013
- Tolerant to *Fusarium* wilt and powdery mildew, 200-220 q/ha yield
- Seed rate: 1.5-2.0 Kg/ha, Sowing time: Spring-summer
- **States:** J&K, H.P. and Uttarakhand



- **Variety:** KTC-1
- **Source:** IARI (RS), Katrain, 2019
- Plant bear 6-7 fruits/plant; fruit wt. 70g; Yield: 200q/ha
- Seed rate: 1.5-2.0 Kg/ha, Sowing time: Spring-summer
- **States:** J&K, H.P. and Uttarakhand



- ✓ **Variety:** VRPMR-11 (Kashi Samridhi)
- ✓ **Source:** ICAR-IIVR, Varanasi, 2009
- ✓ Plant semi-determinate, Resistant to powdery mildew, 110-130 q/ha yield
- ✓ Seed rate: 140-150kg/ha, Sowing time: 25th Oct to 20th Nov
- ✓ **States:** Punjab, UP, Bihar and Jharkhand



- ✓ **Variety:** VP-233 (Vivek Mater-11)
- ✓ **Source:** ICAR-VPKAS, Almora, 2009
- ✓ Resistant against PM; suitable for late season, 100-110 q/ha yield; Seed rate: 140-150kg/ha, Sowing time: last week of Oct to II week of Nov.
- ✓ **States:** J.&K, H.P. & Uttarakhand



- ✓ **Variety:** Mattar Ageta-7
- ✓ **Source:** PAU, Ludhiana, 2009
- ✓ Early maturity, 60-65 DAS; 12-15 pods/plant 7-8 seeds/pod; Yield 95 q/ha; Seed rate: 140-150kg/ha, Sowing : last week of Oct to II week of Nov.
- ✓ **States:** Punjab, U.P., Bihar and Jharkhand



Vegetable Pea

- ✓ **Variety:** VP 434
- ✓ **Source:** ICAR-VPKAS, Almora, 2012
- ✓ Medium maturity group and resistant to powdery mildew, 110-120 q/ha yield
- ✓ Seed rate: 140-150kg/ha, Sowing time: last week of Oct to II week of Nov.
- ✓ **States:** J.&K, H.P. & Uttarakhand



- ✓ **Variety:** GP- 17 (Pusa Agrani)
- ✓ **Source:** ICAR-IARI, New Delhi, 2013
- ✓ It has dark green color pods having 6–7 seeds/pod, 90-100 q/ha yield
- ✓ Seed rate: 140-150kg/ha, Sowing time: last week of Oct to II week of Nov.
- ✓ **States:** J.&K, H.P. & Uttarakhand



- ✓ **Variety:** VRPE- 25 (Kashi Ageti)
- ✓ **Source:** ICAR-IIVR, Varanasi, 2013
- ✓ Pods are 9 -10 cm long, attractive, with 8-9 numbers of seeds per pod, 90-100 q/ha yield
- ✓ Seed rate: 95-105 kg/ha, Sowing time: 25th Oct to 20th Nov
- ✓ **States:** Punjab, U.P., Bihar and Jharkhand



Vegetable Pea

- ✓ **Variety:** IIHR-1 (Arka Priya)
- ✓ **Source:** ICAR-IIHR, Bangalore, 2016
- ✓ Resistant to powdery mildew and rust, 120 q/ha yield
- ✓ Seed rate: 140-150 Kg/ha, Sowing time: Oct-Nov
- ✓ **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry



Cowpea

- ❖ **Variety:** VRCP-6 (Kashi Nidhi)
- ❖ **Source:** ICAR-IIVR, Varanasi, 2011
- ❖ Plants dwarf, erect and bushy, with 20-25 pods per plant, 140-150 q/ha yield
- ❖ Seed rate: 20-25 kg/ha, Sowing time: Summer & rainy season
- ❖ **States:** Punjab, UP, Bihar and Jharkhand



- ❖ **Variety:** Ankur Gomti
- ❖ **Source:** Ankur Seeds Pvt. Ltd., 2011
- ❖ Bush type variety, 80-90 q/ha yield
- ❖ Seed rate: 20-25 kg/ha, Sowing time: Spring-summer and Kharif.
- ❖ **States:** Chhattisgarh, Orissa and A.P.



- ❖ **Variety:** CP-55
- ❖ **Source:** ICAR-IARI, New Delhi, 2018
- ❖ The pods are smooth, slender, round, straight and light green, 120-150 q/ha yield
- ❖ Seed rate: 20-25kg/ha, Sowing: Spring-summer & Kharif.
- ❖ **States:** Rajasthan, Gujarat, Haryana and Delhi



French bean

- **Variety:** Arka Anoop
- **Source:** ICAR-IIHR, Bangalore, 2009
- Resistance to rust & tolerant to bacterial blight, 200 q/ha yield
- Seed rate: 70-80 kg/ha, Sowing time: Oct-Nov
- **States:** J&K, H.P. and Uttarakhand, Chhatisgarh, Orissa, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala and Pondicherry



- **Variety:** HAFB – 3
- **Source:** ICAR- RCER, RC, Ranchi, 2009
- Bush type variety, 80-90 q/ha yield
- Seed rate: 70-80 kg/ha, Sowing time: Oct-Nov
- **States:** Rajasthan, Gujarat, Haryana and Delhi



French bean



- **Variety:** HAFB – 4
- **Source:** ICAR -RCER, RC, Ranchi, 2009
- Pole type, 200-250 q/ha yield
- Seed rate: 25-30 kg/ha, Sowing time: Oct-Nov
- **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry



- **Variety:** VPFBP-14
- **Source:** IIVR, Varanasi, 2019
- Pole type (250-300 cm vine length); Days to first picking: 70-80 days after sowing; Pod color: Purple; length: 14-15 cm; Round, slightly curved, fleshy, free from parchment and smooth surface.
- Pod yield: 16.0 t/ha, Seed rate: 25-30 kg/ha, Sowing : Oct-Nov
- **States:** Jammu & Kashmir (J&K), Himachal Pradesh, Uttarakhand, Madhya Pradesh, Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Pondicherry



- **Variety:** HADB – 3
- **Source:** ICAR –RCER, RC, Ranchi, 2009
- Pole type, pods are slightly curled and flat fibreless, 350-400 q/ha yield
- Seed rate: 25-30 kg/ha, Sowing time: Oct-Nov
- **States:** Chhattisgarh, Orissa and A.P. and Telangana



- **Variety:** IIVR Sem-8 (Kashi Haritima)
- **Source:** ICAR-IIVR, Varanasi, 2010
- Pole type plants. 250-300 pods per plant, 350 q/ha yield
- Seed rate: 30 kg/ha, Sowing time: Kharif (July-Aug)
- **States:** NE States & Arunachal Pradesh, Andaman & Nicobar, Punjab, U.P., Bihar and Jharkhand, Chhattisgarh, Orissa and A.P., M.P., Maharashtra and Goa.



- **Variety:** DB-10
- **Source:** ICAR-IARI, Pusa, New Delhi, 2018
- Pole type, resistant to common bean mosaic virus and *cercospera* disease, 300-350 q/ha yield
- Seed rate: 30 kg/ha, Sowing time: Kharif (July-August)
- **States:** M.P., Maharashtra and Goa



Bottle gourd




- **Variety:** NDBG-619
- **Source:** NDUA&T, Faizabad, 2009
- Long cylindrical attractive fruits, 635 q/ha yield
- Seed rate: 4.0-4.5 kg/ha, Sowing: Kharif & Spring-summer
- **States:** Madhya Pradesh, Maharashtra and Goa



- **Hybrid:** Santosh-20 (KBGH-20)
- **Source:** Krishidhan Vegetable Seeds India Pvt. Ltd., 2010
- Tolerant to powdery mildew and downy mildew, 350-400 q/ha yield
- Seed rate: 2.0-3.0 kg/ha, Sowing: Kharif & Spring-summer
- **States:** Punjab, U.P., Bihar and Jharkhand



Bottle gourd

<ul style="list-style-type: none">• Variety: PBOG-89• Source: GBPUAT, Pantnagar, 2010• Fruits are cylindrical and attractive , 350q/ha yield• Seed rate: 4.0-4.5 kg/ha, Sowing time: Kharif and Spring-summer• States: <u>J&K, H.P. and Uttarakhand, Punjab, U.P., Bihar, Jharkhand, Madhya Pradesh, Maharashtra and Goa</u>	
<ul style="list-style-type: none">• Hybrid: Anurag• Source: Nuziveedu Seeds Pvt. Ltd., 2013• Suitable for long distance transport, 300-350 q/ha yield• Seed rate: 2.0-3.0 kg/ha, Sowing time: Kharif and Spring-summer• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	
<ul style="list-style-type: none">• Variety: NDBG-10 (Narendra Pooja)• Source: NDUA&T, Faizabad, 2013• Tolerance to downy mildew., 300-500 q/ha yield• Seed rate: 4.0-4.5 kg/ha, Sowing time: Kharif and Spring-summer• States: <u>Punjab, U.P., Bihar and Jharkhand</u>	

Bitter gourd

- **Variety:** Sel-1 (Pusa Aushadhi)
- **Source:** ICAR-IARI, New Delhi; 2013
- Fruits are light green, medium long (16.5 cm) and medium thick (6.0 cm) , 200-220q/ha yield
- Seed rate: 4.0-4.5 kg/ha, Sowing time: Kharif & Spring-summer
- **States:** Rajasthan, Gujarat, Haryana and Delhi



- **Hybrid:** NBIH-2009
- **Source:** Nuziveedu Seeds Pvt. Ltd., 2018
- Fruits dark green, sharp and dense tubercles, fruit length 22-24 cm, 4-5cm thick, medium bitter in taste, 150-200 q/ha yield
- Seed rate: 2.5-3.0 kg/ha, Sowing time: Kharif & Spring-summer
- **States:** Punjab, U.P., Bihar and Jharkhand



Sponge gourd

- **Variety:** VR-1 (Kashi Divya)
- **Source:** ICAR-IIVR, Varanasi, 2010
- Fruits are cylindrical, light, fruit length 20-25 cm, yield potential of 130-160 q/ha.
- Seed Rate: 3.5-4.0 Kg/ha; Spring summer and kharif
- **States:** Punjab, U.P., Bihar and Jharkhand

- **Variety:** VRSG-1 (Kashi Shreya)
- **Source:** ICAR-IIVR, Varanasi, 2018
- Fruits are dark green, long (20-25 cm on flat bed, up to 32 cm on bower) and 3-3.75 cm diameter.
- Seed Rate: 3.5-4.0 Kg/ha; Spring summer and kharif
- **States:** Punjab, U.P., Bihar and Jharkhand

- **Hybrid:** Kashi Rakshita
- **Source:** ICAR-IIVR, Varanasi, 20218
- Fruits dark green, long (20-25 cm on flat bed and may on up to 30 cm on bower) with 3-4 cm dia.
- Seed Rate: 3.5-4.0 Kg/ha; Spring summer and kharif
- **States:** Punjab, U.P., Bihar and Jharkhand



Ridge gourd

- **Hybrid** : Pallavi
- **Source**: Sungro Seed Pvt. Ltd. ; 2009
- Green long fruits with highly ridged. Yield potential of this variety is 138-185 q/ha.
- Seed rate: 3.0-4.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States**: Chhattisgarh, Orissa and A.P., Telangana



- **Hybrid**: NHYRGH-5HB (Haritham)
- **Source**: APHU, Hyderabad., 2009
- Fruits are light in colour and can be harvested after 65-68 days of seeding. It has yield potential of 201-260 q/ha.
- Seed rate: 3.0-4.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States**: Madhya Pradesh, Maharashtra and Goa



Ridge gourd

- **Variety** : Kashi Shivani (VRRG-27)
- **Source**: ICAR-IIVR, Varanasi ; 2016
- Fruits are green, long straight (20-30 cm and may increase on bower up to 40cm) with a diameter of 3-4 cm, Yield: 180-200 q/ha
- Seed rate: 3.0-4.0 kg/ha, Sowing time: Kharif & Spring-summer
- **States**: Punjab, Uttar Pradesh, Bihar and Jharkhand



Ash gourd

- **Variety** : IVAG-3 (Kashi Surabhi)
- **Source**: ICAR-IIVR, Varanasi ; 2009
- Fruits are oblong with white wax coating. Maturing 105-110 days after sowing, yield potential of 550-600 q/ha. Resistant to anthracnose disease
- Seed rate: 3.0-4.0 kg/ha, Sowing time: Kharif
- **States**: Punjab, Uttar Pradesh, Bihar and Jharkhand



Ash gourd

- **Variety** : KAG-1
- **Source**: CSAU&T, Kanpur; 2011
- Vines are medium long, yield range form 539-787 q/ha.
- Seed rate: 2.0-2.5 kg/ha, Sowing time: Kharif and Spring-summer
- **States**: Karnataka, Tamil Nadu, Kerala and Pondicherry



- **Hybrid**: DAGH-16 (Pusa Urmi)
- **Source**: ICAR-IARI, New Delhi; 2013
- Fruits are oblong ellipsoid with greenish white rind and white flesh. yield 475 q/ha.
- Seed rate: 2.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States**: Rajasthan, Gujarat, Haryana and Delhi; and Karnataka, Tamil Nadu and Kerala



Ash gourd

- **Hybrid:** DAGH-14 (Pusa Shreyali)
- **Source:** ICAR-IARI, New Delhi; 2013
- Fruits cylindrical with white rind and white flesh. Fruits weight 10.5kg; yield 520 q/ha.
- Seed rate: 2.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States:** Punjab, U.P., Bihar and Jharkhand



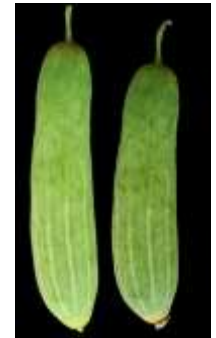
- **Variety :** DAG-12
- **Source:** ICAR-IARI, New Delhi; 2014
- Fruits cylindrical and easy for long distance transportation. Greenish white rind and white flesh, Av frt wt. 3.5 kg, yield 360 q/ha.
- Seed rate: 2.0- 2.5 kg/ha, Sowing time: Kharif and Spring-summer
- **States:** Karnataka, Tamil Nadu, Kerala and Pondicherry



- **Hybrid** Rajani-Cu-05
- **Source:** Syngenta Seeds Pvt. Ltd.; 2013
- Fruits are cylindrical, dark green and medium long. It has yield potential of 200-250 q/ha.
- Seed rate: 1.0- 2.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States:** J&K, H.P. and Uttarakhand



- **Variety :** DC-83
- **Source:** ICAR-IARI, Pusa, New Delhi; 2018
- Straight, rudimentary spines, soft skinned with tender and crispy flesh. Harvest at 45-50 DAS, yield potential of 200-250 q/ha.
- Seed rate: 1.0- 2.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States:** Punjab, U.P., Bihar and Jharkhand



- **Hybrid:** DGCH-18
- **Source:** ICAR-IARI, Pusa, New Delhi; 2019
- Gynoecy based hybrid of cucumber with predominately gynoecious behavior, earliness (45 DAS); suitable for spring summer and Kharif season cultivation. Yield: 240 q/ha
- Seed rate: 1.0- 2.0 kg/ha, Sowing time: Kharif and Spring-summer
- **States:** J&K, H.P. and Uttarakhand



Pumpkin

- **Hybrid** : HAPK-10 (Swarna Amrit)
- **Source**: ICAR-ICER,RC, Ranchi; 2009
- Round flat fruits. First fruits harvest 75-80 days after sowing and has yield potential of 450-500 q/ha
- Seed rate: 3.5-4.0 kg/ha , Sowing time: Kharif and Spring-summer
- **States**: J&K, H.P. and Uttarakhand



Long melon

- **Variety**: VRSLM-16
- **Source**: ICAR-IIVR, RS, Sargatia, Kushinagar; 2015
- average fruit length – 30 cm, frt wt. 50-60 g, fruit crispy, light green, smooth prominent ridges. yield potential of 150-200 q/ha
- Seed rate: 2.5-3.0 kg/ha , Sowing time: Kharif and Spring-summer
- **States**: Punjab, U.P., Bihar and Jharkhand

- **Hybrid** : JOH-05-9
- **Source**: JAU, Junagadh; 2010
- Flowering 50% in 39 days DAS, bears 26-27 fruits/plant, average fruit length 11 cm, yield potential of 140-150 q/ha
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States**: Chhatisgarh, Orissa and Andhra Pradesh, AND Rajasthan, Gujarat, Haryana and Delhi and Madhya Pradesh, Maharashtra and Goa.



- **Variety**: VRO-22 (Kashi Kranti)
- **Source**: ICAR-IIVR, Varanasi; 2011
- Flowering 50% in 46 DAS, Fruits are 8-10 cm long at marketable stage, average 17-18 per plants. Average fruit yield 125-140 q/ha. Resistant to YVMV and OLCV.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States**: Punjab, U.P., Bihar and Jharkhand



- **Variety:** JOL-2K-19 (GJO-3)
- **Source:** JAU, Junadadh; 2011
- Moderately resistant to Jassids, whitefly and pod borer damage and field resistant to YVMV , Attractive green pods and good keeping quality. It has average green fruit yield is 150-240 q/ha.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States:** Chhattisgarh, Orissa and A.P.



- **Hybrid:** OH-597
- **Source:** Syngenta India Limited, Pune; 2012
- dark green leaves and produced tender green pods. It is resistant to YVMV disease. It has yield potential of 120-150 q/ha.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States:** M.P., Maharashtra and Goa



- **Hybrid:** AROH-631
- **Source:** Ankur Seeds Pvt. Ltd., 2012
- Picking starts at 40-50 DAS, fruits cylindrical, smooth, dark green and medium long with average fruit weight 60-70g. yield potential of 125-160 q/ha.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States:** Chhattisgarh, Orissa and A.P., and M.P., Maharashtra and Goa



- **Hybrid:** JOH-0819
- **Source:** JAU, Junagadh; 2014
- Fruits medium long in size with attractive in light green colour with good shining. Average fruit length ranges from 10-15 cm, fruit girth 2-5 cm and fruit weight 10-150g. Average fruit yield 160 q/ha.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States:** Rajasthan, Gujarat, Haryana and Delhi & M.P., Maharashtra and Goa



Okra

- **Variety:** VRO-25 (Kashi Vardan)
- **Source:** ICAR-IIVR, Varanasi., 2014
- Early variety with short internodes along with 2 to 3 branches. takes 42-44 days for first flowering, The yield potential is around 140-150 q/ha.
- Seed rate: 10-12 kg/ha for spring summer crop and 8-10 kg/ha for rainy season crop.
- **States:** Punjab, U.P., Bihar and Jharkhand



Cabbage

- **Hybrid:** KTCBH- 81
- **Source:** IARI, RS, Katrain; 2013
- Dark green, head is round shaped, compact and covered with outer leaf, ready for harvest in 60-65 DAT, yield potential 400-450 q/ha
- Seed rate: 250-300 g/ha. Sowing time: Rabi for plain areas and Zaid for hill areas
- **States:** J&K, H.P. and Uttarakhand



- **Hybrid:** KTCBH-822
- **Source:** IARI, RS, Katrain; 2019
- Dark green and waxy leaves, flat and very compact head covered with outer leaf. Maturity in 70-75 DAT; has very good field staying capacity after head formation; Yield 400 q/ha
- Seed rate: 250-300 g/ha. Sowing time: Rabi for plain areas and Zaid for hill areas
- **States:** J&K, H.P., Uttarakhand, Raj., Guj., Haryana, Delhi



Cauliflower



- **Variety** : SBECF - 102 (Sabour Agrim)
- **Source**: BAU, Sabour; 2014
- Early; form curd at average temp. 22-27 °C, plants are erect to semi spreading; 65 - 68 days for 50% curd (450g) maturity, yield potential of 150-200q/ha.
- Seed rate: 400-450 g/ha. Sowing time: Kharif (June-July)
- **States**: M.P., Maharashtra and Goa



- **Variety** : DC 31
- **Source**: IARI, Pusa, New Delhi; 2014
- Suitable for July transplanting and reaches marketable maturity during October. Curds compact with retentive white colour. Curd weight 500-600g with yield potential of 160-180q/ha.
- Seed rate: 400-450 g/ha. Sowing time: Kharif (June-July)
- **States**: Punjab, U.P., Bihar and Jharkhand



- **Hybrid**: KTH-301
- **Source**: IARI (RS), Katrain; 2019
- Suitable for cultivation in the mid-season with the harvesting of curd in the month of November-December; Yield: 390 q/ha.
- Seed rate: 400-450 g/ha. Sowing time: Kharif (June-July)
- **States**: J&K, H.P., Uttarakhand, Raj., Gujarat, Haryana and Delhi



Radish

- **Variety** : Kashi Aardra (VRRAD-150)
- **Source**: ICAR-IIVR, Varanasi, 2019
- Suitable for sowing during mid-September to mid-December; Roots are attractive white in colour, long and icicle in shape. Roots are ready to harvest in 40-45 days after sowing.
- Root yield (24-40 t/ha) .
- Seed rate: 8-10 kg/ha. Sowing time: Rabi
- **States**: West Bengal and Assam



- **Variety** : UHFR-12-1
- **Source**: Ranichauri, 2019
- The **roots are round to slightly tapering**, 10-12 cm in length and width, white in colour.
- Weighing 180-200 g at edible maturity.
- Roots are ready to harvest in 55-60 days after sowing.
- Root yield (35 t/ha). Seed rate: 7-8 kg/ha.
- **States**: J&K, H.P. and Uttarakhand

Kale

- **Variety** : KTK-64
- **Source**: IARI, RS, Katrain; 2013
- Highly serrated, purplish green leaves, 40-50 cm in length and 15-20 cm in width, plant height is 50-60 cm. Leaves available throughout the winter season in multiple harvestings, higher contents of phenols, anthocyanin, ascorbic acid, chlorophyll-a, chlorophyll-b, total chlorophyll, lycopene and total carotenoids, high tolerance to cold and frost conditions. Average leaf yield over locations is 350 q/ha.
- Seed rate: 800-1000 g/ha. Sowing time: Kharif
- **States**: J&K, H.P. and Uttarakhand



Mustard Green

- **Variety** : UHF VR-12-1
- **Source**: Ranichauri; 2018
- Leaves green to purplish green, About 3-4 times leaves can be picked in direct sown crop of Rabi (Oct-April). Leaves are for harvest at 45-50 DAS and has an average leaf yield 350-400 q/ha.
- Seed rate: 2 – 2.5 kg/ha. Sowing time: Rabi (Oct.-Nov.)
- **States**: Sikkim, Meghalaya, Manipur, Nagaland, Mizoram, Tripura, Arunachal Pradesh and Andaman & Nicobar Islands



**Varieties and Hybrids notified through
State Varietal Release Committees (SVRC)
of different States**

Amaranth

**Kashi
Suhaavani**
(VRAM-42)

- Soft succulent green leaf, delayed flowering and high yield potential (30-33 t/ha).
- Suitable for growing during summer and rainy season.
- Sowing time is February-March and June-July in northern India.
- Seed rate 2.5 kg ha.



Bathua

**Kashi
Bathua-
2**

Upright growth, green, plant 180-195 cm long at 160 DAS, excellent source of folic acid, minerals, vitamin A, vitamin C, phenolics and antioxidants, yield 30-32 t/ha.
Seed rate: 800-1000 g/ha




**Kashi
Bathua-
4**


Upright growth habit with purplish green leaf and petiole, excellent source of vitamin C, vitamin A, folic acid, minerals, phenolics and antioxidants, yield - 35 t/ha. Seed rate: 800-1000 g/ha



Bitter gourd

<p>Kashi Mayuri (VRBTG-5)</p>	<p>Medium maturity, fruit 15-18 cm long, with uniform shape-size and higher shelf life, tolerant to anthracnose, downy mildew and mosaic diseases, yield (19 t/ha).</p>	
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Bottle gourd

<p>Kashi Kirti</p>	<p>Fruits are green, small, cylindrical shape (Gutka type), resistant to downey mildew, early maturing and high yielding. Suitable for distant marketing and transportation due to longer post-harvest life, yield 45 t/ha.</p>	
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Bottle gourd

Kashi

Kundal

Attractive **pear shaped** green fruits, medium size, 12-14 fruits/plant, weight of 1.3 to 1.5 kg, resistant to downey mildew, yield (47.5 t/ha).



Kashi

Kiran

Light green attractive **round** fruits, tolerant to downey mildew, Fruit weight 600-700 g, number of fruits 13-14/plant, average yield 45-48 t/ha.



Brinjal

Kashi Himani

Medium long, shiny white fruits with less seeds, suitable for kharif season, tolerant to fruit and shoot borer, moisture deficit and lodging, yield 400-430 q/h.



Carrot

Kashi Krishna

Attractive black self-core colour roots, tolerant to bolting, fewer secondary roots/scars, suitable for salad, juice, halwa, kanji (fermented juice) and nutraceutical purpose, rich source of anthocyanin (285 mg/100g FW), phenolics and antioxidants, root yield (20-22 t/ha). S/rate: 4-5 kg/ha.



Cauliflower

**Kashi
Gobhi-25**

Indian/tropical cauliflower, November maturity (25° C), white compact and hemispherical curd free from riceyness, leafiness and fuzziness, marketable curd weight 600-700 g and yield 25-28 t/ha, S/rate - 600 g/ha



Chilli

**Kashi
Abha**

Fruits short stout with blunt apex (bullet type), highly pungent, tolerant to biotic (anthracnose, CLCV, thrips and mites) and abiotic stress (low and high temperature), yield 15 t/ha, Seed rate: 400-500 g/ha.



Kashi Ratna	CMS based F₁ hybrid suitable for green chillies, tolerant to anthracnose and thrips, fruit contains 0.82% (93450 SHU) capsaicin and 175.6 mg/100g Vitamin C, yield potential of 20-22 t/ha.
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Kashi Tej	CMS based F₁ hybrid, dual purpose (green and dry) , early maturing, mild pungency, tolerant to anthracnose, fruit rot disease and thrips, green fruit yield (15 t/ha).
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Cucumber

Kashi Nutan Early maturing hybrid, cylindrical long, light green colour with mottling at peduncle end, resistant to downy mildew, suitable for Kharif and summer, yield 17.5 t/ha, S/rate: 350 g/ha.



Dolichos Bean

Kashi Sheetal Semi-pole type, tolerant to low temperature and DYMV, rich in protein (590.8mg/g) and low in total sugar (0.621g/100g), yield 18-20 t/ha, Seed rate: 10-12 kg/ha



Kashi Khushal Semi-pole type, pods shiny dark green, slightly curved, glabrous, tolerant to high temperature and DYMV, rich protein (635.6 mg/g), low total sugar, yield 35 t/ha.



**Kashi
Chaman**

Plants medium tall (120-125 cm), flowering 39-41 DAS, fruiting period 45-100 days, fruits dark green, length 11-14 cm, **resistant to YVMV and OLECV** under field conditions, suitable for summer and rainy season, yield 15-16 t/ha; S/rate:8-9 kg/ha in Kharif & 10-12 kg/ha for zaid-summer crops



**Kashi
Lalima**




Reddish purple fruits, tolerant to YVMV and OLCV, medium tall and short internodes, rich in anthocyanin and phenolics, suitable for both summer and *Kharif* season, fruit yield of 14-15 t/ha.



**Kashi
Shristi**

F₁ hybrid, medium tall, short internodes, narrow angled 2-3 branch, tolerant to YVMV, dark green fruits, medium fruit length, suitable for both summer and *Kharif* season, high yield potential (18-19 t/ha).



<p>Kashi Poi-1</p>	<p>Soft, lush green shoots, early picking with delayed flowering, green vines/stem with green succulent leaves, tolerant to water lodging, excellent source of antioxidant with low oxalate content, picking starts 40 DAT and continues up to 220-230 days at 20-30 days interval, high yield 50.7 t/ha. S/rate: 2-3 kg/ha (ground) and 3-4 kg/ha overhead trellis.</p>	
<p>Kashi Poi-2</p>	<p>Fast growing bush type, green stems and leaves, suitable for making saag, pakode, soup etc. excellent source of antioxidant with slightly lower oxalate content, first picking starts 38-40 DAT and continues up to 140-150 days at 20-30 days interval, yield 63.5 t/ha.</p>	
<p>Kashi Poi-3</p>	<p>Fast growing plant with twinning growth habit, red stem and mid ribs, high betalain content, suitable for year round cultivation, rich source of carotenoids with lower oxalate content, picking starts 40 DAT and continues up to 240-250 days at 20-25 days interval, yield 61.3t/ha.</p>	

Kashi Amulya

Less seeded (5-8 seed/fruit as compared to 25-30 seeds in normal variety), suitable for confectionary purpose, more fleshy, attractive light green fruit with sparsely distributed white stripes, yield 20-22 t/ha. Planting of 8000-10000 cuttings /ha in 9:1 ratio of female: male.



Kashi Suphal

Attractive light green with mild stripes, fleshy fruit with soft seed, long duration of fruit retention in plant, better keeping quality suitable for culinary purpose and sweet making, yield 18-20 t/ha.



Kashi Shishir

Early maturing hybrid with small round and mottled green fruits (2 - 2.25 kg), 3-4 fruits/plant, suitable for season summer as well as Kharif.; yield (38-42 t/ha); S/rate : 4-4 kg/ha.



Radish

Kashi Mooli-40

Tolerant to high temperature (35-42 ° C), suitable for summer cultivation, delayed bolting, less pithiness, icicle root shape, attractive white colour, having root yield of 30-35 t/ha in normal season and 20-23 t/ha during summer season. Seed rate: 5-6 kg/ha



Kashi Lohit

Attractive red colour roots, icicle root shape, suitable for salad dressing, rich antioxidants (80-100% higher than white radish), good source of anthocyanin and phenolic content, tolerant to pithiness, root yield 40-45.0 t/ha.



Satputia

Kashi Khushi	Hermaphrodite flower, cluster bearing , early maturing with light green fruit and ten dark superficial and continuous longitudinal ridges, yield (12.7 t/ha). Seed rate : 4-5 kg/ha.
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Sponge gourd

Kashi Saumya	Medium maturing hybrid, dark green fruits , resistant to SGMV and tolerant to downy and powdery mildew under field condition, yield (18-19 t/ha).
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Kashi Jyoti	Light green fruits of 100-150 g, resistant to sponge gourd mosaic virus tolerant to downy mildew and root knot nematode, yield 15-18t/ha.; Seed rate : 4-5 kg/ha.
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Summer Squash

Kashi Subhangi

Medium maturity, bushy, 8-10 fruit/plant, medium size, elongated, dark green shiny, fruit weight (800-900g), resistant to downy mildew, suitable for autumn-spring season, yield 60-65 t/ha.



Tomato

Azad T-8

- Moderately resistant to leaf curl mosaic and root knot nematode; alternaria blight
- Suitable for high density planting for yield maximization.

Narendra Dev University of Agriculture and Technology (NDUAT), Faizabad, U.P.

Bottle gourd

Narendra Pooja (NDBG-10)

- Near cylindrical shape
- Suitable for Uttar Pradesh

Narendra Prabha (NDBG-619)

- Triangular seeds, cylindrical shape
- Suitable for Uttar Pradesh

ICAR-IIHR, Bangalore,

Chilli

Arka Haritujha

- **F₁ hybrid**, high yielding, fruits are green, red on maturity, smooth, Highly pungent; tolerant powdery mildew & viruses
- **Karnataka - Karnataka state varietal release committee**



Arka Neelanchal Prabha

- A mid- season variety, moderately tolerant to anthracnose
- Yield 100-120 q/ha

Arka Khyati

- **C MS based F₁ hybrid** of the cross MS4 (A line) X IHR 3315 (R line) (INGR No. 05024).
- Yield Green 350-380 q/ha and red 50-55 q/ha
- **Released for Karnataka State**



Brinjal

Arka Neelanchal Shyama

- An early variety developed through selection
- Suitable for rabi season; round and green with light purple shade; Fruits weigh: 190-200g; moderately tolerant to *Phomopsis* blight
- Yield 340 q/ha
- **Released for Karnataka State**



Ivy gourd

Arka Neelanchal Kunkhi

- A dual-purpose (salad as well as cooked) early variety; Fruits are long (8.4 cm), weighing around 15-20 g, uniform, cylindrical with attractive stripes.
- Yield 200-250 q/ha; 800 fruits/plant/season
- Released for Odisha Sate



Arka Neelanchal Sabuja

- Vigorous (>10m long) and produce high biomass; dark green in appearance with fractured stripe and conical in shape
- It gives 70-80 harvest per season (10-11 months)
- Yield 200-250 q/ha
- Released for Odisha Sate



Pointed Gourd

Arka Neelanchal Kirti

- Fruits are spindle shaped, dark green in colour with 3-4 fragmented stripes of cream colour; Medium (10.45 x 3.5 cm); 40-45g with solid core
- Yield 150 q/ha
- **Released for Odisha State**



Spine Gourd

Arka Neelanchal Shanti

- It is developed through hybridization between spine gourd and teasel gourd, naturally pollinated; Fruits are medium (20g)
- Moderately tolerant to fruit borer, anthracnose and downy mildew
- Yield 80-90 q/ha.
- **Released for Odisha State**



Teasel Gourd

Arka Neelanchal Gaurav

- Fruits are attractive, uniform lush green round-oval fruit with soft seed and high-quality edible portion for culinary purposes
- Tolerant to downy mildew and anthracnose
- Yield 180-200 q/ha
- **Released for Odisha State**



French bean

Arka Sharath

- Plants are bushy and photo-insensitive; round, string-less, smooth pods suitable for steam cooking; **Pods are crispy, fleshy with no parchment and perfectly round on cross section.**
- Pod yield: 18 t/ha.
- **Released for Karnataka State**



Yard long bean

Arka Mangala

- **Plants tall (3-4 m)**, pods are very long (50-60 cm), light green, string-less, round, tender with crisp texture and matures in 60 days. Pod yield: 250 q/ha.
- **Released for Karnataka State**



Vegetable Amaranth



Arka Samraksha

- Pulling type amaranth with green stem; medium large, lanceolate shaped green leaves
- Yield potential: 109.1 q/ha in 30- 35 days
- High Antioxidant, Nitrate content
- **Released for Karnataka State**

Arka Varna

- Pulling type amaranth with pink stem, petiole and veins; Small ovate shaped pinkish green leaves
- Yield potentials: 10.58 t/ha in 30-35 days duration
- **Released for Karnataka State**



New Delhi : ICAR-IARI,

Cauliflower

Pusa Shukti

- Curds cream white, compact having semi-blanching of inner leaves. It takes 80-85 days to reach to marketable stage and duration of harvesting lasts for 14-15 days. It belongs to **December-January maturity group** with average curd wt. 800-900 g. Curd yield 300-330 q/ha and marketable yield 420-440 q/ha. Tolerant to downy mildew and black rot diseases.
- **Suitable for cultivation in NCT, Delhi**

Pusa Paushja

- Mid-late maturity group i.e. **December-January**. Bluish green, narrow conical leaf top. Curd is of retentive white colour, compact, weighing about 900 g with an average curd yield potential of 30-35 tonnes per hectare
- **Suitable for cultivation in NCT, Delhi**

Carrot

Pusa Vrishti

- High heat and humidity tolerant tropical carrot. Obtriangular in shape with light purple pigmentation on shoulders and self red colour. 90-95 days for harvesting. Average root weight is 150-200g; 250 q/ha root yield.
- **Suitable for cultivation in NCT, Delhi**

Himachal Pradesh

ICAR-IARI, Reg. Stn., Katrain

Knol- Khol

Pusa Virat

- Open Pollinated
- Bigger size knobs with little or no fibres
- Released for Himachal Pradesh

**Carrot
(Temperate)**

Pusa Nayanjyoti

- F1 hybrid
- Orange roots with self-coloured core and high yield
- Released for Himachal Pradesh

Dr. Y.S. Parmar University of Horticulture & Forestry (YSPUH&F), Solan

Tomato

Solan Garima

- An **indeterminate F_1 hybrid**, average fruit weight is **80-85g**, bears 3-4 fruits /cluster and average yield is 660 q/ha
- **Suitable for low and mid hills of HP and other hilly states**

Solan Red Round

- An Indeterminate, **high yielding cherry tomato** developed by selection, bears fruits in clusters, average fruit weight is 7-10 g, first harvesting in 70-75 days after transplanting and Average fruit yield is 300-350 q/ha
- **Suitable for low and mid hills of HP and other hilly states**

Solan Lalima

- **Indeterminate and open-pollinated**; High yielding variety developed by selection.
- Average fruit weight is 70-80g, and gets ready for harvesting in 70-80 days after transplanting, and average fruit yield is 750-800 q/ha
- **Suitable for low and mid hills of HP and other hilly states**

Capsicum

Solan Bharpur

- Open pollinated variety, High yielding, tolerant to *Phytophthora* fruit rot, average fruit weight is 50-60g
- Yield 300-350 q/ha
- **Suitable for cultivation in mid and high hills of HP and other hilly states**

Lettuce

Solan Kriti

- It is an open type (non-heading) cultivar of lettuce having long leaves, soft & dark green in color. Early in maturity (70 days), rich in beta-carotene (5.59 μ g/100g), iron (1.63mg/100g) and calcium (58.07mg/100g). Average leaf yield is 25 t/ha in open field conditions.
- **Suitable for cultivation in Himachal Pradesh.**

French Bean

Solan Naina

- High yielding, bush type, bears straight pods, string-less, having attractive green colour and mature in 50-55 days after sowing.
- Average pod yield: 100-120 q/ha.
- **Suitable for HP and other hilly states**

Carrot

Solan Rachna

- An open pollinated variety, long, smooth, orange colour, self-core, stumpy to semi-stumpy roots, rich in beta-carotene, early in maturity
- Yield 250q/ha
- **Suitable for cultivation in HP and other hilly states**

Cucumber

Solan Srijan

- A prolific fruit bearer gets mature in 55-60 days after sowing. Fruits are cylindrical, crispy, and green in colour having 18-22 cm length with average fruit weight of 255-265 g. Bears around 10-15 fruits /plants.
- Average yield is 200-225 q/ha.
- **Suitable for cultivation in HP and other hilly states**

Haryana

CCS Haryana Agriculture University , Hisar

Brinjal

HLB-25

- Early, erect, semi-spreading and bushy type medium long fruit with bright purple black color and green calyx
- **Released for Haryana**

HLB-12

- Intermediate, bushy type, light purple calyx, 2-3 prickles on midrib, fruits long and purple with slight curve at blossom end
- **Released for Haryana**

Bottle gourd

GH-22

- Medium long, green color fruit, stem-end with round bottom and slight bending at neck
- **Suitable for cultivation in Haryana**

HBGH-35

- F₁ hybrid, fruit medium long cylindrical green colour, soft texture and higher number of fruits per plant, the stem-end with bit flat blossom-end portion
- **Suitable for cultivation in Haryana**

Tamil Nadu : TNAU, Coimbatore

Tomato

CO-3

- F1 hybrid, resistant to leaf curl virus disease and moderately resistant to root knot nematode.
- Yield: 962 q/ ha
- **Suitable Tamil Nadu**

Brinjal

VRM 1

- Pureline selection from Elavambadi village of Vellore District Cluster bearing, resistant to leaf spot, verticillium wilt.
- Yield: 400-450 q/ha
- **Suitable for Tamil Nadu**

Cowpea

PKM 1

- Pureline selection from germplasm.
- Pods: long 40-45 cm & cluster bearing.
- Yield: 250 q/ha green pods
- **Suitable for Tamil Nadu**

Ash gourd

Ash gourd Hybrid CO 1

- F₁ hybrid of IC397681 x CO 2; Fruits: oblong & medium sized .
- Yield: 900 q/ ha
- **Suitable for all districts of Tamil Nadu**

Bottle gourd

Bottle gourd hybrid CO 1

- F₁ hybrid of IC418246 x IC393752, Fruits: cylindrical.
- Yield: 600 q/ ha.
- **Suitable for all districts of Tamil Nadu**

Coccinia

TNAU Coccinia CO 1

- It is a clonal selection from Annaikatti, fruits less seeded and sweet in taste. Suitable for culinary purpose and salad.
- Yield: 500 q/ha
- **Suitable for all districts of Tamil Nadu**

Amaranthus

Amaranthus PLR 1

- Selection from Thiruvannamalai local Sirukeerai type.
- Early harvest and moderately resistant to white rust.
- Yield: 80-90 q/ha (greens) & 200 kg/ha (Seeds).
- **Suitable for all districts of Tamil Nadu**

Cluster bean

Cluster bean MDU 1

- Selection from IC 432117 Erect growing habit , cluster bearing.
- Fruits : long attractive
- Yield: 178 q/ha
- **Suitable for all districts of Tamil Nadu**

Bhendi/ Okra

Bhendi hybrid CO4

- **F₁ hybrid of IC-620618 x IC-620619**; Resistant to YVMV.
- Yield 25 t/ha.
- **Suitable for all the districts of Tamil Nadu except hilly regions.**

French bean

French bean Ooty 3

- Pureline selection. Pole type and stringless
- Shelf life : 7 days (hills) & 4 days (plains)
- Yield: 350 q/ ha
- **Suitable for all districts of Tamil Nadu**

Snake gourd

Snake gourd COH1

- **F₁ hybrid** of (IC 622556) x (IC0599591) Fruits: white, extended harvest, No. of fruits: 55/plant.
- Yield of 700 t/ha.
- **Suitable for all districts of Tamil Nadu**

Bottle gourd

Bottle gourd PLR 1

- Selection from Palur local type; Fruits : good taste & suited for salad
- Yield: 310 q/ha.
- **Suitable for all the districts of Tamil Nadu except hilly regions.**

Bottle Gourd PLR 2

- PLR-2 is a selection, from Uchimedu, with round fruit and no bottleneck, very appealing light green fruit colour. Average fruit weight is 975 g.
- High yielding (410 q/ha) with excellent taste..
- **Suitable for all the districts of Tamil Nadu except hilly regions.**

Ridge Gourd

Ridge Gourd CoH 1

- F₁ hybrid; very early (days to first harvest is 30-35); prolific bearer (350 q/ha).
- Fruits are attractive green with soft pulp, long (40 - 45 cm), ridged with a fruit weight of 370-380 g.
- The fruits can be harvested for 15 – 17 times in 4 months duration.
- **Suitable for all districts of Tamil Nadu**

Vegetable Cowpea

PKM 1

- Plants are semi training; Pods are long (40-45 cm) curved, slender, Light yellowish green; High protein and moderate fibre content.
- Yield: 297.3 q/ha of green pod in 90-100 days
- **Suitable for all districts of Tamil Nadu**

Chilli

Vellayani Samrudhi

- Fruits are medium sized, creamy white with moderate pungency, shade tolerant, suitable for homestead cultivation.
- Yield 300 q/ha
- **Suitable for cultivation in Kerala**

Vellayani Thejus (*Capsicum chinense*)

- Highly pungent, perennial, shade tolerant, suitable for homestead cultivation.
- Yield 300 q/ha
- **Suitable for cultivation in Kerala**

Keerthi

- Medium sized, green long fruits, mildly pungent; fruit length of 10-12 cm, single fruit weight of 8 g; tolerant to mosaic.
- Yield 110 q/ha
- **Suitable for cultivation in Kerala**

Drumstick

Anupama

- Early bearing; protracted flowering; more harvest; long green fruits; fruit length 65 cm; Yield: 500 q/ha.
- **Suitable for all the districts of Kerala**

Snake gourd

Harithasree

- High yielding variety having green fruits with white stripes
- **Suitable for all districts of Kerala**

Tomato

Akshaya

- Resistant to bacterial wilt, Semi-determinate growth habit, fruit size (50-55g), fruit shape- oval
- **Suitable for all districts of Kerala**

Manuprabha

- Wilt resistant tomato; Fruit colour and shape, Round, Uniform ; Fruit yield- 1.880 kg/plant; Av. Fruit weight 55-60 g
- **Suitable for all districts of Kerala**

Thara

Ash gourd

- Small fruited variety, average weight of fruits 2.5-2.7 kg, fruit length 25-28 cm, fruit width 13-15 cm, flesh thickness 3.1-3.3 cm;
- Yield: 180 q/ha.
- **Suitable for all the districts of Kerala**

Ponny

Brinjal

- BW resistant, vigorous plants; long duration; non spiny stem and leaves; inwardly curved light green long fruits, yield 316 q/ha
- **Suitable for all districts of Kerala**

Heera

Cucumber

- Light green colour fruit (15.5 cm long, 0.26 kg fruit weight, average yield 73.2 t/ha). Suitable for open and rain shelter cultivation
- **Suitable for all districts of Kerala**

Shubra

- Greenish white colour fruit (15.5 cm long, 275 g fruit weight, average yield 600 q/ha). Suitable for open and rain shelter cultivation
- **Suitable for all districts of Kerala**

KPCH - 1

- **KAU Parthenocarpic Cucumber Hybrid** is suitable for polyhouse cultivation. Early maturing with long dark green fruits. Yield 1148.7 kg/100 m²
- **Suitable for all districts of Kerala**

Yard long bean

Githika

- High yielding (275 q/ ha). Long pods (50 cm) with reddish brown seeds, tolerant to mosaic and pod borer, good cooking quality and shelf life
- **Suitable for all districts of Kerala**

Manjari

- Ideal for intercropping, tolerant to mosaic, good culinary characteristics. Pods are light green with red seeds. Days to first harvest 48-50 days.
- **Suitable for Problem zone in Kerala**

Cowpea

Mithra

- Trailing growth habit, attractive long (40 cm) light green pods and deep brown seeds with white speck at one end. Field tolerance to *Fusarium* wilt and *Pythium* rot. Yield 207 q/ha.
- **Suitable for all the districts of Kerala**

Water melon

Shonima

- Red seedless water melon hybrid developed through polyploidy breeding, high TSS, yield 185 q/ha.
- Suitable for all the districts of Kerala

Swarna

- First yellow fleshed seedless water melon in India developed through polyploidy breeding. High in citrulline 5.1 mg/g, fruit weight 3.08 kg, Yield 102 q/ha
- Suitable for all districts of Kerala

Culinary melon

KAU Vishal

- High yielding (330 q/ha), medium to large sized, cylindrical fruits, creamy white with green stripes when tender, slight yellowish with dull green at ripening.
- Suitable for Thiruvananthapuram district of Kerala

Maharashtra

Mahatma Phule Krishi Vidayapeeth (MPKV), Rahuri

Dolichos bean

Phule Suruchi

- Pods straight slightly curved, attractive green colour with purple tinge at both edges
- **Suitable for Western Maharashtra**

Pea

Phule Priya

- Pods straight, green, tender, sweet, 8-10 grains per pod, Tolerant to powdery mildew disease, suitable for Rabi season, average yield 100-105 q/ha.
- **Suitable for Western Maharashtra**

Brinjal

Phule Arjun (F₁)

- Good for *Kharif* and Summer season, fruit colour is green with purple and white strips, average fruit weight 60 g, fruits are oval, tender and spiny.
- **Brinjal growing area in Maharashtra**

Lettuce

Padma

- Attractive green and crispy leaves Moderately resistant to downy mildew as well as aphids and cutworms High content of vitamin A and dietary fiber
- **Suitable for Western Maharashtra**

Tomato

Phule Kesari

- Determinate habit, medium round, orange fruits, rich in B-carotene content, tolerant to thrips, white fly & leaf curl and spotted wilt virus
- **Suitable for Tomato growing area in Maharashtra**

Phule Jayshree (Cherry Type)

- Indeterminate growth habit, round fruit shape, total soluble solid (6.30%), orange red fruits, moderately resistant to leaf curl and spotted wilt virus
- **Suitable for Tomato growing area in Maharashtra**

Okra

Phule Vimukta

- Attractive green colour fruits with shinning. resistant to yellow vein mosaic virus disease.
- **Suitable for Western Maharashtra**

Cluster bean

Phule Guar

- Attractive light green pods, pod length 6 cm, average weight of 50 pods is 41 g, moderately resistant to powdery mildew disease
- **Suitable for Western Maharashtra**

Sponge gourd

Phule Komal (F₁)

- Attractive, shiny green, cylindrical fruits, average fruit weight 110 g, Moderately resistant to powdery mildew, downy mildew diseases and pest fruit fly, leaf miner, white fly and thrips at field condition
- **Suitable for Sponge gourd area in Maharashtra**

Uttarakhand :

Defense Institute of Bio-energy Research (DIBER), Pithoragarh

Hybrid : DARL 101

Cucumber

- Specially suited to micro climatic conditions of hilly region. Field tolerant to powdery mildew
- **Suitable for Uttarakhand**

Hybrid: DARL 102

- Excellent for hills in open and protected conditions. Field tolerant to powdery mildew and fruit fly.
- **Suitable for Uttarakhand**

Cabbage

Hybrid DARL 801

- Field tolerant to black rot disease. Early maturing, vigorous growth with compact head
- **Suitable for Uttarakhand**

Bitter Gourd

Variety DARL-41

- Creamy white in color with spines, early maturing, field tolerant to powdery mildew
- **Suitable for Uttarakhand**

Bottle Gourd

Variety DARL-25

- Round fruited with soft skin. Specially suited to micro climatic conditions of hilly region and can be grown in protected conditions.
- **Suitable for Uttarakhand**

Tomato

Hybrid DARL- 305

- Early, determinate, very high yielding, suitable for both fresh market and processing
- **Suitable for Uttarakhand**

G.B.P.U.A.&T., Pantnagar, Uttrakhand

Pea

Pant Sabji Matar-5

- Early maturing variety, gives first picking in 60-65 days after sowing; yield is 90-100 q/ha.
- This variety is resistant to powdery mildew.
- **Suitable for Hills and plains of Uttarakhand**



Pant Sabji Matar-6 (PMR-85)

- Early maturing; high yielding variety.
- The variety is resistance to powdery mildew
- Green pod yield of 110 q/ha
- **Suitable for Hills and plains of Uttarakhand**



Tomato



Pant Poly house Tomato-1

- It is suitable for poly house cultivation.
- No. of fruit per cluster 5-6.
- Average fruit wt. 200 g and yield potential is 1400 q/ha
- **Suitable for Hills and plains of Uttarakhand**

Pant Poly house Tomato Hybrid-1

- It is suitable for poly house cultivation.
- No. of fruit per bunch is 7-8.
- Average fruit wt. 260 g; yield 1800 q/ha
- **Suitable for Hills and plains of Uttarakhand**



Cucumber



Pant Parthenocarpic Khira-2

- Parthenocarpic cucumber variety; suitable for poly house cultivation; female flower/vine- 551.
- Yield potential 210 qt/ha.
- **Suitable for Hills and plains of Uttarakhand**

Pant Parthenocarpic Khira-3

- Parthenocarpic cucumber variety; suitable for poly house cultivation. Female flower per vine is 460.
- Yield potential 200 qt/ha.
- **Suitable for Hills and plains of Uttarakhand**



Bottle gourd



Pant Lauki-4

- Medium duration and high yielding variety.
- Long fruits (40 cm) of light green colour with light strips having hairs.
- Yield potential :300q/ha
- **Suitable for Hills and plains of Uttarakhand**

VL Sabji Matar 13 (VP 907)

Pea

- Early maturity, suitable for August (off-season) sowing under high hills >2000 m AMSL
- 8-10 seeds/pod; Shelling %: 48-50; Av. Green pod yield (q/ha):115 (110-130)
- **Suitable for Uttarakhand**

VL Sabji Matar 15 (VP 1208)

- Medium maturity, No. of seeds/pod: 8-10; Shelling %:50-55
- Moderately resistant to powdery mildew under field conditions.
- Av. Green pod yield (q/ha): 125 (110-130)
- **Suitable for Uttarakhand**

Tomato

VL Tamatar 4

- Maturity days: 60-70 DAT (First picking), suitable for polyhouse conditions; Moderately resistant to fruit rot ; Av. yield (q/ha):200-300
- **Suitable for Hills and plains of Uttarakhand**

Capsicum

VL Shimla Mirch 3

- Maturity days : 70-100 days, suitable for polyhouse conditions
- No. of fruit per plant : 8-12; Av. Fruit weight (g): 80-120; Av. Yield (q/ha):150-300
- **Suitable for Hills and plains of Uttarakhand**

West Bengal: Bidhan Chandra Krishi Vishwavidyalaya (BCKV), Kalyani

Brinjal

Bidhan Supreme

- Matures early; High Yielding Variety 290 q/ha
- Resistant against bacterial wilt disease.
- **Suitable for West Bengal**

Bidhan Super

- Matures early (within 75 days after transplanting, DAT).
- Round fruit with glossy blackish purple colour.
- Yield of this variety is 285 q/ha.
- **Suitable for West Bengal**

Cowpea

Bidhan Sadabahar

- Matures early; average pod yield of this variety is 115 q/ha.
- Determinate growth habit, field resistant against cowpea aphid borne mosaic virus disease.
- **Suitable for West Bengal**

Chilli

Bidhan Chilli-4

- Matures early; Yield 105 q/ha; dual purpose (green and dry chilli)
- Resistance against PepLCV disease.
- **Suitable for West Bengal**

Chhattisgarh: Indira Gandhi Krishi Vishwavidyalya (IGKV), Raipur

Chilli



Indira Mirch-1

- Matures early; yield 90 q/ha
- Resistant against bacterial wilt disease.
- **Suitable for Chhattisgarh**

Cowpea



Indira Barbati Lal

- Matures early (within 50 days).
- Purple poded.
- Yield of this variety is 55-77 q/ha.
- **Suitable for Chhattisgarh State**

Brinjal

Chhattisgarh Safed Baigan-1

- White; soft; long; Yield 348 q/ha
- Tolerant to high temperature, resistance against blight and *Phomopsis* disease.
- **Suitable for Chhattisgarh State**



Dolichos

Chhattisgarh Sem-1

- Early; high yielding - 200 q/ha
- Resistant against bean virus; rhizoctonia blight and insects.
- **Suitable for Chhattisgarh**



Chhattisgarh Purple Sem

- Matures early; Purple podded.
- Yield of this variety is 210 q/ha.
- **Suitable for Chhattisgarh**

Andhra Pradesh : A. P. Horticultural University (APHU) HRS, Lam

Chilli

LCA-436

- High yielding paprika type; erect and intermediate growth habit, fruits are medium (6-8cm) and bold.
- Early, 170-180 days duration; high colour (110-115 ASTA) and low pungency (13500-15500 SHU); Yield: 38-40 q/ha (dry).
- **Suitable for Andhra Pradesh**

LCA-424

- High yielding paprika variety; erect and intermediate growth habit, fruits are long (8-10 cm).
- Early, 160-170 days duration, high colour (110-115 ASTA) and low pungency (15000-16000 SHU); Yield: 35-38 q/ha. (dry)
- **Suitable for Andhra Pradesh**

LCA-620

- high yielding paprika type; intermediate growth habit, fruits 6-8cm.
- Early, 170-180 days duration; High colour (110-115 ASTA) and low pungency (13500-15500 SHU); Yield: 38-40 q/ha.
- **Suitable for Andhra Pradesh**

LCA-625

- High yielding; high colour and high pungency; Medium to long duration.
- Yield 65.00-70.00 q/ha. Suitable for dry powder and oleoresins.
- The pungency of this variety is 45000-50000 SHU.
- **Suitable for Andhra Pradesh**

LCH-111

- **High yielding chilli hybrid**; Seed to seed 165-180 days.
- Yield 75-80 q/ha.
- High colour and medium pungency (70-80 ASTA, 25000-30000 SHU).
- **Suitable for Andhra Pradesh**

Gujarat : Navsari Agriculture University (NAU), Navsari

Brinjal

GNRB-1

- Presence of anthocyanin on stem and young purple green leaves with purple veins
- Calyx is medium size, spineless and purple in colour
- Fruits are round, dark purple in colour
- **Suitable for South Gujarat**

Anand Agriculture University, Anand, Gujarat

Pumpkin

AP 1

- Fruit yield of 245 q/ha
- Medium sized and globular shape fruits with light mottled fruit skin colour pattern.
- Mature flesh colour of the fruit is deep yellow.
- **Suitable for Middle Gujarat**



AAU, Anand, Gujarat

Ridge Gourd

GARG 1

- Fruit yield of 150.70 q/ha
- Medium sized, elliptical shape with green fruit skin colour.
- Moderately resistant to Mosaic and downy mildew disease;
- **Suitable for Middle Gujarat**



Okra

GAO 5

- Fruit yield of 141.11 q/ha
- Dark green; moderately resistance to YVMV and sucking pests.
- Rich in mucilage, chlorophyll and carbohydrates.
- **Suitable for Middle Gujarat**



Chilli

GAVCH 1

- F₁ Hybrid; Fruit yield of 240 q/ha
- Fruits are elongated straight with pointed blossom end having semi wrinkle and light green colour.
- **Suitable for Gujarat**



GARG 1

- Open Pollinated, Fruit yield of 125 q/ha
- Fruits pungent; elongated, light green colour and semi wrinkle.
- Less infection of borer damage and anthracnose disease.
- **Suitable for Gujarat**

Brinjal

GAOB 2

- Open Pollinated, Fruit yield of 445 q/ha
- Anthocyanin, total soluble sugar and lower total phenol
- **Suitable for Middle and North Gujarat**



GABH 3

- F₁ Hybrid; Fruit yield of 615 q/ha
- Dark purple; strong glossiness, medium spininess on leaves and calyx; green leaf blade and calyx colour.
- Moderately resistant to little leaf disease reaction and jassids and whitefly
- **Suitable for Middle Gujarat**



Tomato



GAT 5

- Open Pollinated, Fruit yield of 400 q/ha
- Determinate; dark green shoulder; red in colour and circular in shape with good firmness.
- Less infection of TLCV, leaf miner damage and fruit borer.
- **Suitable for Middle Gujarat**

GACT 1

- Cherry type, Indeterminate, Fruit yield of 75.18 q/ha
- red in colour; ovoid shape and higher total soluble solids, lycopene and total soluble sugar
- **Suitable for Middle Gujarat**



Bottle Gourd

GABGH 1

- F₁ Hybrid; Fruit yield of 271.79 q/ha
- It has low incidence of mosaic and downy mildew
- **Suitable for Middle Gujarat & Saurashtra**



Bihar

Bihar Agricultural University (BAU), Sabour, Bihar

Cauliflower

Sabour Agrim

- Open Pollinated, Fruit yield of 175-190 q/ha
- 450 – 480 g curd weight 70 – 72 days after transplanting.
- **Suitable for Bihar**

Meghalaya :ICAR Research Complex for NEH Region, Barapani,

Tomato

Megha Tomato-3

- Indeterminate; Fruits round, 55-75g, rich in lycopene, TSS, acidity and ascorbic acid.
- The shelf-life of fruits is 12-15 days; It is tolerant to bacterial wilt, disease incidence.
- Yield: 400-450 q/ha.
- **Suitable for throughout Meghalaya**

RC Manikhamenashinba-1

- Moderately resistant to bacterial wilt. Free from fruit cracking
- Yield: 425 q/ha.
- **Suitable for throughout Manipur**

RC Manikhamenashinba-12

- The variety is a progeny of the cross Pusa Sheetal x Lima.
- Fruits - medium in size, round to oval shape, medium to soft firmness, juicy pulp, 5.0 to 7.3 °Brix TSS and good shelf life at proper storage condition.; Yield: 411 q/ha.
- **Suitable for throughout Meghalaya**

Variety popularization/commercialization through NSC, NHRDF and HIL

SN	Crop	NSC	NHRDF	HIL
1	Okra	Kashi Srishti (F ₁ Hyb)	-	Kashi Pragati
		Kashi Pragati	-	Kashi Pragati
		Kashi Vibhuti	-	-
2	Brinjal	Kashi Sandesh (F1 Hyb.)	Kashi Taru	-
		Kashi Taru	-	-
3	Chilli	Kashi Early (F1 Hyb.)	Kashi Anmol	Kashi Anmol
		Kashi Anmol		
4	Vegetable Pea	Kashi Uday	Kashi Uday	Kashi Uday
		Kashi Nandini	Kashi Nandini	-
5	Radish	Kashi Hans	-	Kashi Hans
				Kashi Sweta

SN	Crop	NSC	NHRDF	HIL
6	Pumpkin	Kashi Harit	-	Kashi Harit
7	Dolichos bean	Kashi Haritima	-	-
8	Cowpea	Kashi Kanchan	Kashi Kanchan	Kashi Kanchan
		Kashi Nidhi	Kashi Nidhi	Kashi Nidhi
9	Ash gourd	Kashi Dhawal	-	-
10	Tomato	Kashi Vishesh	Kashi Anupam	Kashi Vishesh
				Kashi Amrit
11	Cauliflower	-	Kashi Gobhi-25	-
			In process of agreement: <u>5 F₁ hybrids –</u> Brinjal- Kashi Sandesh Tomato- Kashi Abhiman Chilli- Kashi Tej Okra- Kashi Srishti Sponge gourd – Kashi Rakshita	

Technology wise consolidated licensing details of ICAR-IIVR, Varanasi up to 15 Feb 2020

Technology Licensed	No. of companies to which licensed
Bottle gourd-Kashi Ganga	: 1 company
Brinjal Hyb. - Kashi Sandesh	: 1 company
Brinjal-Kashi Prakash	: 1 company
Brinjal-Kashi Taru	: 1 company
Chilli Hyb.- Kashi Early	: 1 company
Chilli Hyb. - Kashi Surkh	: 2 companies
Chilli-Kashi Anmol	: 1 company
Cowpea-Kashi Gauri	: 1 company
Cowpea-Kashi Kanchan	: 8 companies
Cowpea-Kashi Nidhi	: 8 companies
Cowpea-Kashi Unnati	: 1 company
Okra Hyb.- Kashi Bhairo	: 1 company
Okra -Kashi Satdhari	: 1 company
Okra-Kashi Chaman	: 1 company
Okra-Kashi Kranti	: 2 companies
Okra-Kashi Vibhuti	: 1 company
Pea-Kashi Nandini	: 1 company
Pea-Kashi Uday	: 2 company
Radish-Kashi Sweta	: 1 company
Tomato-Kashi Adarsh	: 1 company
Tomato-Kashi Aman	: 6 companies
Dried Green Chilli Powder Technology	: 2 company
22 Technologies	: 45 licenses

45 licenses have been executed with private companies for 22 Technologies developed from ICAR-IIVR, Varanasi from 2013-14 to 2019-20 [up to Feb 2020].



**Thank you for your
patience**