



OVER 225 HI-YIELDING SPICE VARIETIES IN INDIA - (Part II)

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2. CARDAMOM

Sl. No	Variety/ Year of release	Pedigree/ Parentage & Plant type	Institution/ University	*Av. yield kg/ha (dry)	Salient features	Recommended State/Region
1	Mudigere 1984	Clonal selection from Malabar type	Regional Research Station, UAS, Mudigere-577 132, Chikmagalur, (Dist) Karnataka	275 (Pot. yield 1000)	Erect and compact plant, short panicle, pale green, oval bold capsules, suitable for high density planting, moderately tolerant to thrips, hairy caterpillar and white grubs, pubescent leaves. Contains 8.0% oil, 36.0% 1, 8 cineol, 42.0% a-terpenyl acetate, dry recovery 20.0%.	Traditional cardamom growing tracts of Karnataka
2.	Mudigere 2 1996	Clonal selection from open pollination of Malabar type	-do-	475 (Pot yield 1000)	Early maturing, suitable for high density planting, round/oval and bold capsules, oil 8.0%, 1, 8 cineol 45.0%, a-terpenyl acetate 38.0%.	Hill zones of Karnataka
3.	PV 1 1991	A selection from Walayar collection, a Malabar type	Cardamom Research Station, KAU, Pampadumpara, Idukki- Kerala Pin-685 553,	260 (Pot. yield 500)	An early maturing type, short panicle, elongated slightly ribbed light green capsules, essential oil 6.8%, 1, 8 cineol 33.0%, a-terpenyl acetate 46.0%; dry recovery 19.9%.	All cardamom growing tracts in Kerala
4	PV 2 2001	A selection from OP seedlings of PV-1, a Malabar type.	-do-	982 (Pot. yield 1250)	Early maturing, unbranched lengthy panicle, long bold capsules, high dry recovery percentage (23.8%), essential oil 10.45% field tolerant to stem borer and thrips. Suitable for elevation range of 1000 to 1200 meters above MSL.	Idukki area of Kerala
5	ICRI 1 1992	Selection from Chakkupallam collection, a Malabar type	ICRI (Spices Board), Myladumpara, Kailas anadu Idukki (Dist), Kerala Pin-685 535	325 (656 kg under irrigated condition)	An early maturing variety, medium sized panicle with globose, round and extra bold dark green capsules contains oil 8.7%, 1,8 cineol 29.0%, a-terpenyl acetate 38.0% and dry recovery 22.9%.	South Idukki zone of Kerala
6	ICRI 2 1992	Clonal selection from germplasm collection, Mysore type	-do-	375 (766 kg under irrigated condition)	Performs well under high altitude and irrigated condition, medium long panicles, oblong bold and parrot green capsules, tolerant to <i>azukkal</i> disease. Dry recovery 22.5%.	Vandanmedu & Nelliya pathy zone (Kerala), Annamalai & Meghamalai hills (Tamil Nadu)
7	ICRI 3 1993	Selection from Malabar type	ICRI (Spices Board) Sakleshpur, Donigalpost 573 134, Karnataka	440 (790 kg under irrigated condition)	Early maturing, non-pubescent leaves, tolerant to rhizome rot disease, oblong, bold parrot green capsules, suitable for hill zone of Karnataka, oil 6.6%, 1, 8 cineol 54.0%, a terpenyl acetate 24.0%, dry recovery 22.0%.	All cardamom growing tracts of Karnataka



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8	TDK 4 1997	Clonal selection from Vadaraparai area of lower pullenys, a Malabar type	ICRI (Spices Board), Thadiyan kudisai-624 212 Tamil Nadu	455 (960 kg under irrigated condition)	Early maturity, medium sized panicle, globose bold capsules, oil 6.4%. Suitable for low rainfall areas, relatively tolerant to rhizome rot and capsule borer	Lower pulney hills of Tamil Nadu & Wynad of Kerala
9	IISR Suvasini (CCS-1) 1997	Selection from OP progeny of CL 37. from PRS Mudigere Malabar type	Indian Institute of Spices Research, Cardamom Research Centre (ICAR), Madikeri- 571 201, Appan gala, Karnataka	745(1322 kg under irrigated condition)	Early maturing, suitable for high density planting, long panicle, high % of bold parrot green capsule (89), tolerant to rhizome rot, thrips, shoot/ panicle/ capsule borer, essential oil 8.7%, 1, 8 cineol 42.0%, a terpenyl acetate 37.0%, dry recovery 22.0% .	Karnataka, Wynad of Kerala and Lower Putney areas of Tamil Nadu
10	IISR Vijetha (NKE-12) 2001	Clonal selection from field resistant plant for katte, a Malabar type	-do-	643(Pot. yield 979)	Virus resistant selection with high percentage of bold capsules. (77.0%) oil 7.9%, 1, 8 cineol 45.0%, a-terpenyl acetate 23.4%, dry recovery 22.0%. Recommended to moderate rainfall areas with moderate high shaded and mosaic infected areas, field tolerant to thrips and mosaic as well as mosaic	Karnataka and Wynad in Kerala
11	IISR Avinash (R R-1) 2001	A selection from OP seedlings of CCS-1. a Malabar type	-do-	847(Pot. yield 1483)	Has extended flowering period, dark green capsules and retains its colour even after processing. Tolerant to rhizome rot, shoot/ panicle/capsule borer, oil 6.7%, 1, 8 cineol 30.4%, a-terpenyl acetate 35.5%, dry recovery 20.8%. Highly suitable for planting in valleys and rhizome rot prone areas and intensive cultivation	Kodagu, Hassan and Chik Mangalore in Karnataka and Wynad in Kerala
12	Njallani Green Gold	A clonal selection from Vazhukka type.	Farmers selection from Idukki district of Kerala	1600 (Pot. yield 2475)	A higher yielding clonal selection by a cardamom grower in Idukki district. Capsules bold, over 70% of the cured cardamom above 7mm. Reported to be high quality. Currently the highest yielding cultivar. Yield upto 5000kg/ha has been recorded.	Kerala

Mudigere-1 and Mudigere-2, the plant population density is 3000 clumps/ha and in others is 1000 clumps/h

3.Ginger

Sl. No	Variety/ Year of release	Pedigree/ Parentage & Plant type	Institution/ University	*Av. yield kg/ha (dry)	Sallent features	Recommended State/Region
1	Suprabha 1988	Clonal selection from Kunduli local	High Altitude Research Station, OUA & T, Pottangi-764 039, Koraput (Dist), Orissa	16.6(Pot. yield 22.80)	Plumpy rhizome, less fibre, wide adaptability, suitable for both early and late sowing, duration 229 days. 8.9% oleoresin, 4.4% crude fibre, 1.9% essential oil and 20.5% dry recovery.	Orissa and adjoining states
2	Suruchi 1990	Clonal selection from Kunduli local	-do-	11.6(Pot yield 23.50)	Profuse tillering, bold rhizome, suitable for rainfed/irrigated conditions duration 218 days. 10.9% oleoresin, 2.0% essential oil, 3.8% crude fibre, 23.5% dry recovery	Orissa, Central and South India.
3	Surabhi 1991	Induced mutant of Rudrapur local	-do-	17.5(Pot. yield 23.00)	Plumpy rhizome, dark skinned yellow fleshed, suitable for both irrigated/rainfed, duration 225 days. 10.2% Oleoresin, 2.1% essential oil, 4.0% crude fibre, 23.6% dry recovery.	Orissa



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4	V ₃ S ₁ -8(Proposed)	Sodium azide mutant	do-	29.0	A mutant line moderately tolerant to diseases and pests. Having an oleoresin content of 10.8%, essential oil 1.8%, crude fibre 3.2%, dry recovery 22.2%, suitable for fresh and dry ginger wide ecological adaptability, suitable for both hills and plains.	Orissa, Andhra Pradesh, West Bengal, Madhya Pradesh, Uthar Pradesh, Bihar.
5	V ₄ E ₈ -2 (Proposed)	An EMS mutant	-do-	32.9	A high yielding mutant with moderate tolerance to disease and pests. Contains 10.8% oleoresin, 1.8% essential oil, 3.5% crude fibre, 21.4% dry recovery Suitable for late planting under rainfed condition in hills and plains.	Orissa, Andhra Pradesh, West Bengal, Madhya Pradesh, Uthar Pradesh, Bihar.
6	Himgiri 1996	Clonal selection from Himachal collection	Department of Vegetable Crops, YSPUH & F, Nauni, Solan-173 230, Himachal Pradesh	13.5(Pot. yield 20.6 t)	Best for green ginger, less susceptible to rhizome rot disease, suitable for rainfed condition. 4.29% oleoresin, 1.6% essential oil, 6.05% crude fibre, 20.2% dryrecovery, 230 days duration.	Himachal Pradesh
7	IISR Varada 1996	Selection from germplasm	Indian Institute of Spices Research, ICAR, Calicut-673 012, Kerala	22.6	High yielder, high quality bold low fibre content (3.29% to 4.50%), essential oil 1.7%, 6.7% oleoresin and 19.5% dry recovery, tolerant to diseases, maturity 200 days.	All over India
8	IISR Rejatha 2004 (Identified)	Selection from germplasm	-do-	22.4	High yielder, plumpy and bold rhizome, 2.36% essential oil, 6.3% oleoresin, 4.0% crude fibre, 20.8% dry recovery, maturity 200 days.	Kerala and Karnataka
9	IISR Mahima 2004 (Identified)	Selection from germplasm	-do-	23.2	High yielder, plumpy bold rhizomes, 1.72% essential oil, 4.5% oleoresin, 3.26% crude fibre, dry recovery 23.0%, maturity 200 days. The variety is resistant to nematodes. (<i>M. incognita</i> and <i>M. javanica</i>)	Kerala and adjoining states

4. Turmeric

Sl. No	Variety/ Year of release	Pedigree/ Parentage & Plant type	Institution/ University	*Av. yield kg/ha (dry)	Salient features	Recommended State/Region
1	CO.11983	Vegetative mutant by x-ray irradiation of Erode local	Dept. of Spices and Plantation Crops, HC & RI, TNAU, Coimbatore-641 003, Tamil Nadu	30.5 (Pot. yield 35.0)	Bold and bright orange yellow rhizomes, curcumin 3.2%, oleoresin 6.7%, essential oil 3.7%, dry recovery 19.5%, suitable for drought prone, hilly areas saline and alkaline areas. Crop duration 270 days. Plants are robust, vigorous and taller (40-60cm) with more leaves (25-32 Nos) and tiller production 3.7 to 5.0	Tamil Nadu
2	BSR. 11986	Clonal selection from Erode local irradiated with x rays	-do-	30.7(Pot. yield 39.6)	Bright yellow rhizome, curcumin 4.2%, oleoresin 4.0%, essential oil 3.7%, dry recovery 20.5%, crop duration 285 days, suitable for drought prone areas of Tamil Nadu.	Tamil Nadu
3	BSR. 21994	Induced mutant from Erode local	-do-	32.7	A high yielding short duration variety (245 days) with bigger rhizomes, resistant to scale insects	Tamil Nadu
4	Krishna 1983	Clonal selection from Tekurpeta collection	Maharashtra Agri. University, Kasba, Digraj, Maharashtra-416 305	9.2(Pot. yield 11.8)	Plumpy rhizomes, curcumin 2.8%, oleoresin 3.8%, essential oil 2.0%, dry recovery 16.4%, duration 240 days. Moderately resistant to pests and diseases.	Maharashtra



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5	Sugandham 1984	Clonal selection from germ plasm	Spices Research Station GAU, Jagudan-382701 Meh sana, Gujarat	15.0(Pot. yield 20.0)	Thick, round rhizomes with short internodes. Curcumin 3.1%, oleoresin 11.0%, essential oil 2.7%, dry recovery 23.3%, duration 210 days. Moderately tolerant to pest & diseases.	Gujarat
6	Roma 1988	Clonal selection from T.Sunder	High Altitude Research Station, OUA&T, Pottangi-764 039, Korapurt (Dist), Orissa	20.7(Pot. yield 40)	Suitable for both rainfed and irrigated condition. suitable for hilly areas and late season planting. Curcumin 6.1%, oleoresin 13.2%, essential oil 4.2% and dry recovery 31.0%, duration 250 days.	Orissa, TN, HP, AP and Kerala
7	Suroma 1989	Clonal selection from T. Sunder by x-ray irradiation	-do-	20.0(Pot. yield 44.9)	Round and plumpy rhizome, field tolerance to leaf blotch, leaf spot and rhizome scale, curcumin 6.1%, oleoresin 13.1%, essential oil 4.4% and dry recovery 26.0%, duration 253 days.	Orissa, TN, HP, AP and Kerala
8	Ranga 1992	Clonal selection from Rajpuri local	-do-	29.0(Pot. yield 37.1)	Bold and spindle shaped mother rhizome, suitable for late planting and low lying areas. Moderately resistant to leaf blotch and scales, curcumin 6.3%, oleoresin 13.5%, essential oil 4.4% and dry recovery 24.8%, duration 250 days.	Orissa, Tamil Nadu, HP, AP and Kerala
9	Rasmi 1992	Clonal selection from Rajpuri local	-do-	31.3(Pot. yield 37.5)	Bold rhizomes, suitable for both rainfed and irrigated condition, early and late sown season, curcumin 6.4%, oleoresin 13.4%, essential oil 4.4% and dry recovery 23.0%, duration 240 days.	Orissa, TN, HP, AP and Kerala
10	Rajendra Sonia 1989	Selection from local germplasm	Dept. of Hort., Tirhut College of Agriculture, RAU, Dholi-843121, Bihar	(Pot. yield 42.0) 23.0	Bold and plumpy rhizome, grows widely under all north Indian conditions. Curcumin 8.4%, essential oil 5.0% and dry recovery 18.0%, duration 225 days.	Bihar
11	Meghathurmericil 1996	Selection form Lakadong type	ICAR R.C. NEH Region, Shillong, Meghalaya	20.0(Pot. yield 27.5)	Suitable for the North East hill and North West Bengal. Bold rhizomes, high curcumin content 6.8% and dry recovery 16.37%, duration 300-315 days.	Meghalaya
12	Pant Peethabh 2001	Clonal selection from local types	Department of Vegetable Science GB Pant University of Agriculture and Technology, Pantnagar-263 145, Dist. Udam Singh Nagar, Uttaranchal	(Pot. yield 29.0)	Long attractive fingers, curcumin 7.5%, essential oil 1.0%, dry recovery 18.5%, resistant to rhizome rots.	Uttar Pradesh and Uttaranchal
13	Suranjana (TCP-2) 2000	Clonal selection from local types of West Bengal	Uttar Bengal Krishi Viswa Vidyalaya, North Bengal Pundibari (PO)-736 165, Dist. Cooch Behar, West Bengal		Suitable for open and shaded conditions, sole or intercrop, suitable for rainfed as well as high rain fall areas. Curcumin 5.7%, oleoresin 10.9%, essential oil 4.1%, dry recovery 21.2%, duration 235 days, tolerant to leaf blotch and rhizome rot. Resistant to rhizome scales and moderately resistant to shoot borer.	West Bengal
14	Suguna 1991	Selection from germplasm collected from Assam	Indian Institute of Spices Research, ICAR, Calicut-673 012, Kerala	29.3 (Pot. yield 60.3 t)	Short duration type (190 days), curcumin 4.9%, oleoresin 13.5%, essential oil 6.0% and dry recovery 20.4%, field tolerance to rhizome rot.	Kerala and Andhra Pradesh

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15	Suvarna 1991	Selection from germplasm collected from Assam	-do-	17.4 (Pot. yield 43.5)	Bright orange coloured rhizome with slender fingers. Maturity 200 days, field tolerant to pest and diseases Curcumin 4.3%, oleoresin 13.5%, essential oil 7.0% and dry recovery 20.0%.	Kerala, Karnataka and Andhra Pradesh
16	Sudharsana 1991	Selection from germplasm collect from Singhat, Manipur	-do-	28.8 (Pot. yield 54.9)	High yielding variety, short duration type (190 days). Field tolerant to rhizome rot. Curcumin 5.3%, oleoresin 15.0%, essential oil 7.0% and dry recovery 20.6%.	Kerala and Andhra Pradesh
17	IISR Prabh 1996	Open pollinated progeny selection	-do-	37.47	High yielding variety, curcumin content 6.5%, oleoresin 15.0%, essential oil 6.5% and dry recovery 19.5%, crop duration 205 days.	Kerala and Tamil Nadu
18	IISR Prathiba 1996	Open pollinated progeny selection	-do-	39.12	High quality line, 6.2% curcumin content with high yield, 16.2% oleoresin, 6.2% essential oil, 18.5% dry recovery, crop duration 225 days.	Kerala, Tamil Nadu and other states
19	IISR Alleppy Supreme 2004 (identified)	A clonal selection from Alleppy turmeric	-do-	35.45.58 (dry)	Shows tolerance to leaf blotch disease. Rhizomes contain 5.55% curcumin, 16.0% oleoresin, 19.0% dry recovery, crop duration 210 days	Kerala (rainfed) Maharashtra, Karnataka and N. Bengal (irrigated)
20	IISR Kedaram 2004 (identified)	Clonal selection from germplasm	-do-	34.5 5.28 (dry)	Tolerant to leaf blotch disease, Rhizomes contain 5.5% curcumin, 13.6% oleoresin, maturity 210 days and 18.9% dry recovery.	Kerala (rainfed) Maharashtra, Karnataka and N. Bengal (irrigated)
21	Kanthi 1996	Clonal selection from Mydukur variety of Andhra Pradesh	Dept. of Plantation Crops and Spices, College of Hort., KAU, Vellanikkara - 680 656, Trichur, Kerala	37.65	Erect leaf with broad lamina, big mother rhizomes with medium bold fingers and closer internodes. Medium duration. Curcumin content (7.18%), oleoresin 8.25%, essential oil 5.15%, dry recovery 20.15%, duration 240-270 days.	Kerala
22	Sobha 1996	Clonal selection from local type germplasm	-do-	35.88	Mother rhizome big with medium bold and closer internodes. Inner core of rhizomes is dark orange like Alleppey. More territory rhizomes. Dryage 19.38%, curcumin content (7.39%), oleoresin (9.65%), essential oil (4.24%), medium duration 240-270 days.	Kerala
23	Sona 2002	Clonal selection from local germplasm	-do-	4.02 (dry)	Orange yellow rhizome, medium bold with no territory fingers. Best suited for central zone of Kerala. Rhizome medium bold, field tolerant to leaf blotch. Curcumin 7.12%, essential oil 4.4%, oleoresin 10.25%. 18.88% dry recovery, medium duration. 240-270 days.	Kerala
24	Varna 2002	Clonal selection from local germplasm	-do-	4.16 (dry)(Pot yield 6.37)	Bright orange yellow rhizome, medium bold with closer inter nodes, territory fingers present. Suited to central zone of Kerala. Field tolerant to leaf blotch, curcumin 7.87%, essential oil 4.56%, oleoresin 10.8%. 19.05% dry recovery, medium duration 240-270 days.	Kerala

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