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Indian Potato Varieties and Their Salient Features

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Contents

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Foreword

I am pleased that Central Potato Research Institute, Shimla is publishing a technical bulletin *Indian Potato Varieties*.

Potato has been rightly identified as the future food crop by Food and Agricultural Organization, Rome. It is widely consumed as vegetable and processed into a variety of products *viz.* chips, French fries, flakes etc. Global production of potato reached to a record 365 million tons in 2012. In India, research on potato has progressed with the development of region-specific, high yielding varieties and production, protection as well processing technologies. India, now, is the second highest potato producing country in the world with a total production of 45 million tons during 2012-13.

Varietal development to harness the natural resources as well as the applied inputs efficiently is the prime focus of any commodity research institute. Since the establishment of the Central Potato Research Institute (CPRI) in 1949, concerted efforts of potato breeders have led to the development and release of 52 improved indigenous potato varieties suitable for varied agro-ecologies of India. In addition, one improved TPS population and 19 elite genetic stocks have been developed and registered. It is necessary that the information on potato agro-ecological zones and their varietal requirement, potato varieties developed, suitability of these varieties for different agro-ecologies, genetic stock developed and registered is compiled and documented to serve as a reference for future research.

I appreciate the efforts made by the authors for bringing out this technical bulletin. I am sure, this bulletin will serve as true guide for scientists, potato growers, teachers, students and other stakeholders who are associated with potato research and development.

(N. K. Krishna Kumar)

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Preface

The Central Potato Research Institute, Shimla (CPRI) is a national institute devoted to R&D activities of potato. One of the mandates of the institute is to develop improved potato varieties for different agro-climatic conditions of the country. Nearly 80% of potato in India is grown in Indo-gangetic plains. Remaining area is in hills and plateau. The varietal requirements of these regions vary due to their varying agro-ecological conditions. Details in this regard have been tabulated and presented in this catalogue.

The genetic improvement of a crop is a continuous task as growers and consumers requirements go on changing, and new diseases, pests and abiotic stresses continue to evolve. Till now, the CPRI has developed 51 varieties and a TPS population for different agro-climatic regions of the country. These have successfully taken care of the needs of potato cultivation in India. Besides, table varieties, processing varieties have also been developed. These varieties have contributed substantially to the observed increase in production and productivity in the country. The varieties/hybrids from Indian program has benefited not only this country but also several other countries like Afghanistan, Bangladesh, Bhutan, Bolivia, Madagascar, Nepal, Philippines and Sri Lanka, where the Indian varieties/ hybrids have been adopted for commercial cultivation. Indian potato varieties/numbers grown in these countries are listed in the end.

The present catalogue is an update of the previous bulletins on Indian potato varieties and their salient features published by the CPRI. It provides information on major morphological as well as agronomic features of all potato varieties (except Kufri Kisan and Kufri Neelamani, which are no more available) developed by CPRI till date. Morphological features presented in the present catalogue were recorded as per DUS Descriptors

finalized by the CPRI in consultation with PPV&FR authority New Delhi.

Besides including a table on the year of release and the parentage of all the varieties, in the end the catalogue also lists the varieties now recommended for cultivation in the different regions of the country. The CPRI is also developing genetic stocks for use in the breeding programmes. The genetic stocks developed and registered are listed in the end.

Vinod Kumar
SK Luthra
Vinay Bhardwaj
BP Singh

Potato Agro-ecological zones and their varietal requirements

Zone	Region	Soil and climatic features	Crop season and whether irrigated or rainfed	Varietal requirements
Hills	Himalayan very high hills (3, 000- 3, 500 m asl)	Acidic soils of coarse to loamy texture, frost in early stages, moisture stress during early growth period, snowfall near harvest	Summer: June to September (irrigated)	Long day adapted and resistance to late blight
	Himalayan high hills (1, 800- 3, 000 m asl)	Acidic soils of varying texture, frost and hails in early stages, moisture stress during early growth, excess moisture during and after tuberization	Summer: March/ April to August/ September (rainfed)	Long day adapted and high resistance to late blight
	Himalayan mid hills (1, 000- 1, 800 m asl)	Acidic soils of varying texture, frost and hails after planting of spring crop, frost before lifting of autumn crop	Spring: January/ February to May/ June (irrigated) Autumn: August/ September to November / December (irrigated)	Resistance to early blight, late blight, bacterial wilt and viruses
	Low hills (600-1000 m asl)	Sandy and fine texture black soils, short and mild winter, warm rainy season with indifferent soil moisture conditions	Winter: November to February/March (irrigated) Kharif: July/August to September/ October (rainfed)	Resistance to early blight, late blight, bacterial wilt, viruses and tuber rots
	Southern hills (1,000 –2, 000 m asl)	Acidic soils of varying texture, moisture stress in early stages in summer crop	Spring: January/ February to May/ June (irrigated) Summer: March / April to August/ September (rainfed) Autumn: September to December (irrigated)	Resistance to late blight and cyst nematodes

	Sikkim and North-Bengal hills (1,000 –2, 000 m asl)	Acidic soils of varying texture, excess moisture during and after tuberization in spring crop	Spring: January/ February to June /July (rainfed) Autumn: September/October to November/ December (irrigated)	Resistance to late blight and wart, red tubers preferred
Plains	North-western plains (< 300 m asl)	Neutral to slightly alkaline deep alluvial soils, warm at planting of early autumn crop and frost in later stages, warm at tuberization in spring crop	Early autumn: September– November/ December (irrigated) Main autumn: October to January/ February (irrigated) Spring: December/ January to April/ May (irrigated)	Short day adapted, early maturity, resistance to early blight, late blight, black scurf, scab and viruses and tolerance to frost
	North-central plains (< 300 m asl)	Neutral to slightly alkaline deep alluvial soils, warm at planting of early autumn crop and frost in later stages of main autumn crop, warm during later stages of late autumn crop	Early autumn: September to November/ December (irrigated) Main autumn: October to January/ February (irrigated) Late autumn: November/ December to March (irrigated)	Short day adapted, early to medium maturity, resistance to early blight, late blight and viruses and tolerance to frost
	North-eastern plains (< 300 m asl)	Slightly acidic to slightly alkaline deep alluvial soils, short and mild winter	Winter: November to March (irrigated)	Short day adapted, resistance to early blight, late blight, charcoal rot and viruses, red tubers preferred
	Central plains (< 300 m asl)	Slightly alkaline sandy to heavy soils, short and mild winter	Winter: November to March (irrigated)	Short day adapted, resistance to early blight, late blight, charcoal rot and viruses

Plateau	Parts of central and west-central India (500-1000 m asl)	Red sandy and fine texture black soils	Winter: November to February/March (irrigated) Kharif: June –August to September/October (rainfed)	Resistance to early blight, late blight, bacterial wilt, viruses and tuber rots and heat tolerant

List of potato varieties and TPS population developed by CPRI, their year of release and parentage

Sr. No.	Variety	Selection number	Year of release	Parentage
1	Kufri Kisan	PS 454	1958	Up-to-date x Sd. 16
2	Kufri Kuber	ON 2236	1958	*(S. curtilobum x S. tuberosum) x S. andigenum*
3	Kufri Kumar	S 1758	1958	Lumbri x Katahdin
4	Kufri Kundan	Hybrid-9	1958	Ekishirazu x Katahdin
5	Kufri Red	-	1958	Clonal selection from Darjeeling Red Round
6	Kufri Safed	-	1958	Clonal selection from Phulwa
7	Kufri Neela	A 1528	1963	Katahdin x Shamrock
8	Kufri Sindhuri	C 140	1967	Kufri Red x Kufri Kundan
9	Kufri Alankar	A 3649	1968	Kennebec x ON 2090
10	Kufri Chamatkar	ON 1202	1968	Ekishirazu x Phulwa
11	Kufri Chandramukhi	A 2708	1968	Seedling 4485 x Kufri Kuber
12	Kufri Jeevan	SLB/E 427	1968	M 109-3 x Seedling 698-D
13	Kufri Jyoti	SLB/Z-389(b)	1968	3069d(4) x 2814a(1)
14	Kufri Khasigaro	SLB/A-67	1968	Taborky x Seedling 698-D
15	Kufri Naveen	SLB/E-402	1968	3070d (4) x Seedling 692-D
16	Kufri Neelamani	A 7871	1968	Kufri Kundan x 134-D
17	Kufri Sheetman	C 3745	1968	Craigs Defiance x Phulwa
18	Kufri Muthu	SLB/Z-785	1971	3046 (1) x M109-3
19	Kufri Lauvkar	A 7416	1972	Serkov x Adina
20	Kufri Dewa	C 3804	1973	Craigs Defiance x Phulwa
21	Kufri Badshah	JF 4870	1979	Kufri Jyoti x Kufri Alankar
22	Kufri Bahar	E 3797	1980	Kufri Red x Gineke
23	Kufri Lalima	BS/C-1753	1982	Kufri Red x AG 14 (Wis. X 37)
24	Kufri Sherpa	F 5242	1983	Ultimus x Adina

25	Kufri Swarna	PCN/76-110	1985	Kufri Jyoti x (VTn)2 62.33.3
26	Kufri Megha	SS/C-562	1989	SLB/K-37x SLB/Z-73
27	Kufri Jawahar	JH 222	1996	Kufri Neelamani x Kufri Jyoti
28	Kufri Sutlej	JI 5857	1996	Kufri Bahar x Kufri Alankar
29	Kufri Ashoka	PJ 376	1996	EM/C-1020 x Allerfrüheste Gelbe
30	Kufri Pukhraj	JEX/C-166	1998	Craigs Defiance x JEX/B-687
31	Kufri Chipsona-1	MP/90-83	1998	MEX.750826 x MS/78-79
32	Kufri Chipsona-2	MP/91-G	1998	F-6 x QB/B 92-4
33	Kufri Giriraj	SM/85-45	1998	SLB/J-132 x EX/A 680-16
34	Kufri Anand	MS/82-717	1999	Kufri Ashoka x PH/F-1430
35	Kufri Kanchan	SE/I-1307	1999	SLB/Z-405(a) x Pimpernel
36	Kufri Arun	MS/92-2105	2005	Kufri Lalima x MS/82-797
37	Kufri Pushkar	JW 160	2005	QB/A 9-120 x Spatz
38	Kufri Shailja	SM/87-185	2005	Kufri Jyoti x EX/A 680-16
39	Kufri Surya	HT/92-621	2006	Kufri Lauvkar x LT-1
40	Kufri Chipsona-3	MP/97-583	2006	MP/91-86 x Kufri Chipsona-2
41	Kufri Himalini	SM/91-1515	2006	I-1062 x Tollocan
42	Kufri Himsona	MP/97-644	2008	MP/92-35 x Kufri Chipsona-2
43	Kufri Sadabahar	MS/93-1344	2008	MS/81-145 x PH/F-1545
44	Kufri Girdhari	SM/93-237	2008	Kufri Megha x Bulk pollen of 10 genotypes
45	Kufri Khyati	J/93-86	2008	MS/82-638 x Kufri Pukhraj
46	Kufri Frysona	MP/98-71	2009	MP/92-30 x MP/90-94
47	Kufri Neelima	OS/93-D-204	2010	E/79-15 x E/79-42
48	Kufri Chipsona-4	MP/01-916	2010	Atlantic x MP/92-35
49	Kufri Garima	MS/99-1871	2012	PH/F 1045 x MS/82-638
50	Kufri Gaurav	JX576	2012	JE 812 x Kufri Jyoti
51	Kufri Lalit	2001-P-55	2014	85-P-670 x CP 3192
52	TPS Population	92-PT-27	2007	83-P-47 x D-150

Kufri Alankar

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with medium eyes and cream flesh

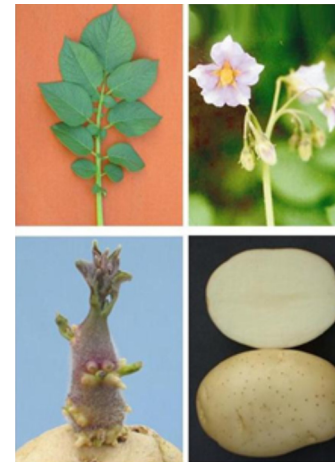
Sprout : Pink

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration
Special attribute	:	Early bulker

Kufri Anand

Morphological features



Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate

Flower : Red-violet

Tuber : White-cream, oblong with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	350-400 q/ha
Storability	:	Average to good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration
Special attributes	:	Tolerant to hopper burn and frost, good for growing in spring season

Kufri Arun

Morphological features

Canopy : Semi-compact

Stem : Red purple with green pigment highly scattered throughout

Leaflet : Lanceolate

Flower : Red-violet

Tuber : Red, ovoid with medium eyes and cream flesh

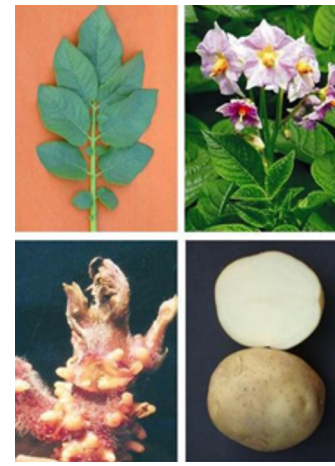
Sprout : Red-purple

Agronomic features

Adaptability	:	North India plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture mealy, flavour mild, free from after-cooking discoloration

Kufri Ashoka

Morphological features



Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, ovoid with medium-deep eyes and white cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Early
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Badshah

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains and plateau
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – resistant
	:	Late blight – resistant
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – resistant to PVX
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration, colouration on exposure to light

Kufri Bahar

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with medium deep eyes and white flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration
Special attributes	:	Early bulker. Tolerant to gemini virus and slow rate of degeneration

Kufri Chamatkar

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment only at base

Leaflet : Lanceolate

Flower : White

Tuber : Yellow, round with medium-deep eyes and yellow flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – resistant
	:	Late blight – susceptible
	:	Charcoal rot – resistant
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Mainly medium size tubers

Kufri Chandramukhi

Morphological features

Canopy : Semi-compact

Stem : Green with red-brown pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains and plateau
Maturity	:	Early
Average yield potential	:	200-250 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration, suitable for processing also
Special attributes	:	Attractive tubers, excellent taste

Kufri Chipsona-1

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white-cream flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – resistant
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for making chips and French fries
Special attributes	:	Attractive tubers, excellent taste

Kufri Chipsona-2

Morphological features

Canopy : Open

Stem : Green

Leaflet : Lanceolate

Flower : White

Tuber : White-cream, round with medium deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for making chips
Special attributes	:	Good for growing in spring season, frost tolerant

Kufri Chipsona-3

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment only at base

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – resistant
	:	Charcoal rot – not tested
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for making chips and French fries

Kufri Chipsona-4

Morphological features

Canopy : Compact

Stem : Green with red brown pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, round with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	Karnataka, West-Bengal and Madhya Pradesh
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – field resistant
	:	Charcoal rot – not tested
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture mealy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for making chips.

Kufri Dewa

Morphological features

Canopy : Semi-compact

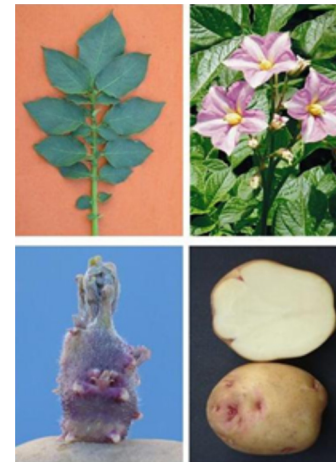
Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, ovoid with pink and deep eyes and cream flesh

Sprout : Red-purple



Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Very good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Frost tolerant and good keeper

Kufri Frysona

Morphological features




Canopy : Open

Stem : Green with purple pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, Long-oblong with shallow eyes and white flesh

Sprout : Red-purple

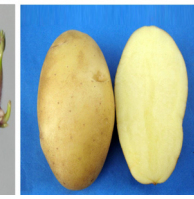
Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – field resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for making French fries

Kufri Garima

Morphological features



Canopy : Compact

Stem : Grey green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : Light yellow, ovoid with shallow eyes and light yellow flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	Uttar Pradesh, Bihar and West-Bengal
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – field resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture mealy, flavour mild, free from after-cooking discoloration.

Kufri Gaurav

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with medium -deep eyes and white-cream flesh

Sprout : White-green

Agronomic features

Adaptability	:	Punjab, Haryana, Uttaranchal plains and Western Uttar Pradesh
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – susceptible
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Nutrient use efficient even at sub-optimal doses

Kufri Girdhari

Morphological features

Canopy : Open

Stem : Green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Pink

Agronomic features

Adaptability	:	Indian hills
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – highly resistant
	:	Charcoal rot – not tested
	:	Wart – susceptible
	:	Viruses – not tested
	:	Cyst nematodes –not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Long dormancy of tubers

Kufri Giriraj

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate

Flower : Red-violet

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-Indian hills
Maturity	:	Medium
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Himalini

Morphological features

Canopy : Semi-compact

Stem : Green with red pigment only at base

Leaflet : Ovate

Flower : Red-violet

Tuber : White-cream, ovoid with medium -deep eyes and yellow flesh

Sprout : Pink

Agronomic features

Adaptability	:	North Indian hills
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – susceptible
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Day-neutral

Kufri Himsona

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment only at lower nodes

Leaflet : Ovate-lanceolate

Flowe : Red-violet

Tuber : White-cream, round with shallow eyes and cream flesh

Sprout : Pink

Agronomic features

Adaptability	:	Indian hills
Maturity	:	Late
Average yield potential	:	150-200 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – immune Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. High dry matter, low reducing sugars and low phenols. Suitable for chip making

Kufri Jawahar

Morphological features

Canopy : Compact

Stem : Green

Leaflet : Ovate

Flower : White

Tuber : White-cream, round with medium -deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-Indian plains and plateau
Maturity	:	Early
Average yield potential	:	250-300 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration.
Special attributes	:	Slow rate of degeneration and suitable for inter-cropping

Kufri Jeevan

Morphological features

Canopy : Open

Stem : Green with purple pigment randomly distributed

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white-cream flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian hills
Maturity	:	Late
Average yield potential	:	150-200 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – moderately resistant (also tuber)
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Jyoti

Morphological features

Canopy : Compact

Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	Hills, plains and plateau
Maturity	:	Medium
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, good for processing, free from after-cooking discoloration
Special attributes	:	Wide adaptability, early bulker and slow rate of degeneration

Kufri Kanchan

Morphological features

Canopy : Semi-compact

Stem : Red-purple with green pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Blue-violet

Tuber : Pink, ovoid with medium-deep eyes and cream flesh

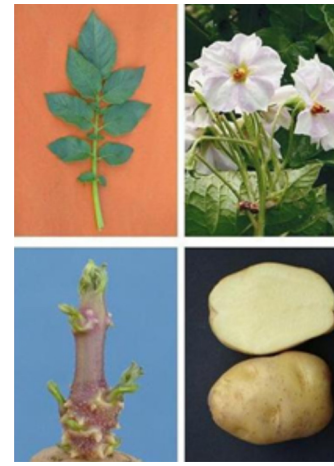
Sprout : Pink

Agronomic features

Adaptability	:	North-Bengal hills and Sikkim
Maturity	:	Medium
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration.
Special attributes	:	Slow rate of degeneration

Kufri Khasigaro

Morphological features



Canopy : Semi-compact

Stem : Green with purple pigment highly scattered throughout

Leaflet : Lanceolate

Flower : Red-violet

Tuber : Yellow, round with medium-deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-eastern hills
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Khyati

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with medium -deep eyes and white-cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Early
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – field resistant
	:	Late blight – field resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes –not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Early bulker, suitable for high cropping intensity

Kufri Kuber

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment only at base

Leaflet : Ovate

Flower : Red-violet

Tuber : White-cream, ovoid with medium -deep eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains and plateau
Maturity	:	Early
Average yield potential	:	150-200 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – resistant to PLRV
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Cooks on prolonged boiling, texture floury, flavour mild, free from after-cooking discoloration

Kufri Kumar

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : Yellow, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian hills
Maturity	:	Late
Average yield potential	:	150-200 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – resistant
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Kundan

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, ovoid with medium -deep eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian hills
Maturity	:	Medium
Average yield potential	:	150-200 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – resistant
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Cooks on prolonged boiling, texture floury, flavour mild, free from after-cooking discoloration

Kufri Lalima

Morphological features

Canopy : Semi-compact

Stem : Red purple with green pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : Red, round with medium-deep eyes and white flesh

Sprout : Red-purple

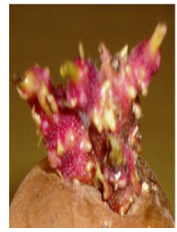
Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – resistant to PVY
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Cooks on prolonged boiling, texture floury, flavour mild, free from after-cooking discoloration

Kufri Lalit

Morphological features






Canopy : Compact

Stem : Green with some purple pigment only at base

Leaflet : Ovate

Flower : Red-violet

Tuber : Light red, round with medium-deep eyes and yellow flesh

Sprout : Pink

Agronomic features

Adaptability	:	Eastern plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – field resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Lauvkar

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate

Flower : White

Tuber : White-cream, round with medium -deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	Plateau
Maturity	:	Early
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, good for processing, free from after-cooking discoloration
Special attribute	:	Heat tolerant

Kufri Megha

Morphological features




Canopy : Semi-compact

Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with medium -deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-eastern hills
Maturity	:	Medium
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Muthu

Morphological features

Canopy : Semi-compact

Stem : Green with red brown pigment lightly scattered throughout

Leaflet : Ovate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and cream flesh

Sprout : Red-purple

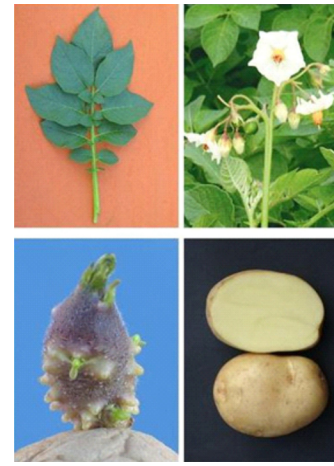



Agronomic features

Adaptability	:	South Indian hills
Maturity	:	Medium
Average yield potential	:	250-300 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration
Special attribute	:	Tolerant to hopper burn

Kufri Naveen

Morphological features



Canopy : Semi-compact

Stem : Green with red brown pigment only at base

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, round with medium -deep eyes and yellow flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-eastern hills
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant (also tuber)
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Neela

Morphological features

Canopy : Semi-compact

Stem : Red purple with green pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, reddish purple splashed, ovoid with shallow eyes and cream flesh

Sprout : Blue




Agronomic features

Adaptability	:	South Indian hills
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – susceptible
	:	Cyst nematodes – resistant
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Neelima

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White, ovoid with shallow eyes and white flesh

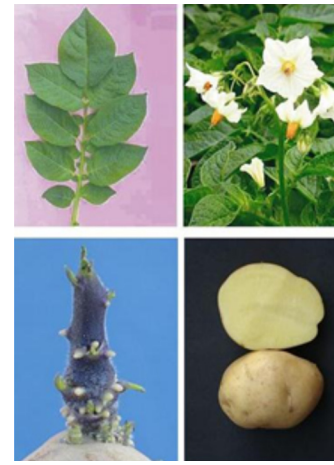
Sprout : Purple

Agronomic features

Adaptability	:	Nilgiri hills
Maturity	:	Medium
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – highly resistant
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration.

Kufri Pukhraj

Morphological features



Canopy : Semi-compact

Stem : Green with purple pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : Yellow, ovoid with shallow-medium eyes and yellow flesh

Sprout : Purple

Agronomic features

Adaptability	:	North Indian plains and plateau
Maturity	:	Early to medium
Average yield potential	:	350-400 q/ha
Storability	:	Medium
Reaction to diseases/pests	:	Early blight – resistant
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration. Coloration on exposure to light
Special attributes	:	Early bulker, suitable for low input eco-system

Kufri Pushkar

Morphological features

Canopy : Semi-compact

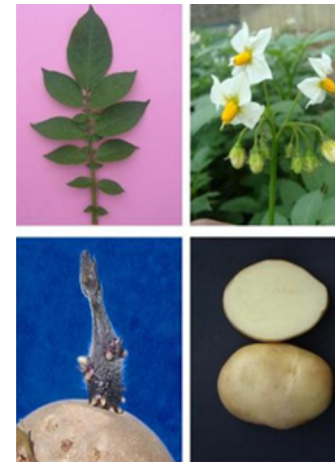
Stem : Green with red brown pigment only at base

Leaflet : Ovate-lanceolate

Flower : White

Tuber : Yellow, ovoid with medium-deep eyes and cream flesh

Sprout : Purple



Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Very Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Red

Morphological features

Canopy : Open

Stem : Green with red brown pigment lightly scattered throughout

Leaflet : Lanceolate

Flower : Red-violet

Tuber : Red, round with medium-deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North–eastern plains
Maturity	:	Medium
Average yield potential	:	200-250 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Cooks on prolonged boiling, texture waxy, flavour strong, free from after-cooking discoloration

Kufri Sadabahar

Morphological features

Canopy : Compact

Stem : Green with purple pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White cream, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	Uttar Pradesh and adjoining areas
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture mealy, flavour mild, free from after-cooking discoloration
Special attributes		Early bulker

Kufri Safed

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, round with purple and medium-deep eyes and cream flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Late
Average yield potential	:	200-250 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Cooks on prolonged boiling, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Shailja

Morphological features




Canopy : Semi-compact

Stem : Green with purple pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian hills
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – not tested
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Sheetman

Morphological features

Canopy : Open

Stem : Green with red brown pigment highly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, round with medium -deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-western plains
Maturity	:	Medium
Average yield potential	:	200-250 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – susceptible
	:	Late blight – moderately resistant
	:	Charcoal rot – moderately resistant
	:	Wart – immune
	:	Viruses – susceptible
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Frost tolerant

Kufri Sherpa

Morphological features

Canopy : Semi-compact

Stem : Green

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : Yellow, round with medium-deep eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North-Bengal hills and Sikkim
Maturity	:	Medium
Average yield potential	:	150-200 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – moderately resistant
	:	Late blight – resistant (also tuber)
	:	Charcoal rot – susceptible
	:	Wart – immune
	:	Virus diseases – moderately resistant to PVY
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture floury, flavour mild, free from after-cooking discoloration

Kufri Sindhuri

Morphological features




Canopy : Open

Stem : Green with purple pigment highly scattered throughout

Leaflet : Lanceolate

Flower : Red-violet

Tuber : Red, round with deep eyes and cream flesh

Sprout : Purple

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Late
Average yield potential	:	300-350 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight– moderately resistant
	:	Late blight – susceptible
	:	Charcoal rot – susceptible
	:	Wart – susceptible
	:	Viruses – susceptible to mosaic but tolerant to leaf roll
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration
Special attributes	:	Suitable for low input eco-system

Kufri Surya

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : Red-violet

Tuber : White-cream, Oblong with shallow eyes and cream flesh

Sprout : Red-purple

Agronomic features

Adaptability	:	North Indian plains and plateau
Maturity	:	Early
Average yield potential	:	250-300 q/ha
Storability	:	Good
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – susceptible
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – not tested
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration, good for making French fries
Special attributes	:	Heat tolerant, suitable for early planting in plains, tolerant to hopper and mite burn

Kufri Sutlej

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : White-green

Agronomic features

Adaptability	:	North Indian plains
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Average
Reaction to diseases/pests	:	Early blight – not tested
	:	Late blight – moderately resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – susceptible
Consumer and processing quality	:	Easy to cook, texture waxy, flavour mild, free from after-cooking discoloration

Kufri Swarna

Morphological features

Canopy : Semi-compact

Stem : Green with purple pigment lightly scattered throughout

Leaflet : Ovate-lanceolate

Flower : White

Tuber : White-cream, ovoid with shallow eyes and white flesh

Sprout : Purple

Agronomic features

Adaptability	:	South Indian hills
Maturity	:	Medium
Average yield potential	:	300-350 q/ha
Storability	:	Poor
Reaction to diseases/pests	:	Early blight – resistant
	:	Late blight – resistant
	:	Charcoal rot – not tested
	:	Wart – immune
	:	Viruses – not tested
	:	Cyst nematodes – highly resistant
Consumer and processing quality	:	Easy to cook, texture floury, free from after-cooking discoloration

TPS Population 92-PT-27

It is a true potato seed (TPS) segregating population produced by crossing potato clone 83-P-47 as female with male clone TPS/D-150. The crop raised from this population is heterogeneous, but the produce has acceptable uniformity for tuber characters. Tubers are white to cream yellow, round to oval-long with shallow to medium deep eyes. It is suitable for cultivation in eastern region as a seedling crop in field as well as for production of tuberlets in nursery beds. Tuberlets are used as seed for growing a normal potato crop. Seedling crop matures in 110-120 days after transplanting, whereas the crop grown from tuberlets can be harvested after 90-100 days. It is resistant to late blight. Both of its parents flower under short days in plains and thus its TPS can be produced in the plains.

Seedling in nursery bed

Seedling transplant crop

Seedling in nursery bed

Parents	Female (83-P-47)	Male (TPS/D-150)
Morphological features		
Canopy	: Semi-compact	: Semi-compact
Stem	: Red-brown with green pigment highly scattered throughout	: Green with purple pigment highly scattered throughout
Leaflet	: Ovate-lanceolate	: Ovate-lanceolate
Flower	: White	: Purple
Tuber	: Yellow, ovoid with medium–deep eyes and yellow flesh	: White, round with medium–deep eyes and yellow flesh
Sprout	: Purple	: Purple

Agronomic features		
Adaptability	: Eastern Indo-Gangetic plains	: Eastern Indo-Gangetic plains
Maturity	: Medium	: Medium
Average yield potential	: 250-300 q/ha	: 200-250 q/ha
Storability	: Good	: Poor
Reaction to diseases/pest	: Early blight – moderately resistant	: Early blight – resistant
	: Late blight – moderately resistant	: Late blight– resistant
	: Charcoal rot – not tested	: Charcoal rot – not tested
	: Wart – not tested	: Wart – not tested
	: Viruses – not tested	: Viruses – not tested
	: Cyst nematodes – not tested	: Cyst nematodes– not tested
Special features	: Flowers are functionally sterile. Thus no emasculation required for use as female	: Profuse flowering under short days and has high pollen fertility. Thus suitable as male parent

Female (83-P-47)

Male (TPS/D-150)

Potato varieties presently recommended for cultivation in different agro-ecological zones of India

Agro-ecological zones	Duration*	Recommended varieties
North-western plains	Early	Kufri Ashoka, Kufri Chandramukhi, Kufri Jawahar, Kufri Khyati, Kufri Pukhraj, Kufri Surya
	Medium	Kufri Anand, Kufri Arun, Kufri Badshah, Kufri Bahar, Kufri Chipsona-1, Kufri Chipsona-3, Kufri Garima, Kufri Gaurav Kufri Jyoti, Kufri Pukhraj, Kufri Pushkar, Kufri Sadabahar, Kufri Sutlej
West-central plains	Early	Kufri Chandramukhi, Kufri Jawahar, Kufri Khyati, Kufri Pukhraj, Kufri Lauvkar, Kufri Surya
	Medium	Kufri Anand, Kufri Arun, Kufri Badshah, Kufri Bahar, Kufri Chipsona-1, Kufri Chipsona-3, Kufri Frysona, Kufri Garima, Kufri Gaurav, Kufri Jyoti, Kufri Pukhraj, Kufri Pushkar, Kufri Sadabahar, Kufri Sutlej
	Late	Kufri Sindhuri
North-eastern plains	Early	Kufri Ashoka, Kufri Chandramukhi, Kufri Khyati, Kufri Pukhraj, Kufri Surya
	Medium	Kufri Arun, Kufri Bahar, Kufri Chipsona-1, Kufri Chipsona-3, Kufri Frysona, Kufri Garima, Kufri Gaurav, (In Table Row No. 7) Kufri Jyoti, Kufri Kanchan, Kufri Lalima, Kufri Lalit, Kufri Pukhraj, Kufri Pushkar, Kufri Sutlej
	Late	Kufri Sindhuri

Plateau region	Early	Kufri Chandramukhi, Kufri Jawahar, Kufri Khyati, Kufri Lauvkar, Kufri Pukhraj, Kufri Surya
	Medium	Kufri Badshah, Kufri Garima, Kufri Jyoti, Kufri Lauvkar, Kufri Pukhraj
North-western hills	Medium	Kufri Girdhari, Kufri Giriraj, Kufri Himalini, Kufri Himsona, Kufri Jyoti, Kufri Shailja
North-eastern hills	Medium	Kufri Girdhari, Kufri Giriraj, Kufri Himalini, Kufri Jyoti, Kufri Megha, Kufri Shailja
North-Bengal and sikkim hills	Medium	Kufri Girdhari, Kufri Jyoti, Kufri Kanchan
Southern hills	Medium	Kufri Girdhari, Kufri Giriraj, Kufri Himalini, Kufri Jyoti, Kufri Neelima, Kufri Shailja, Kufri Swarna

* Plains: Early (70-90 days), Medium (90-110 days) and Late (>110 days)

Hills: Early (100-110 days), Medium (110-120 days) and Late (> 120days)

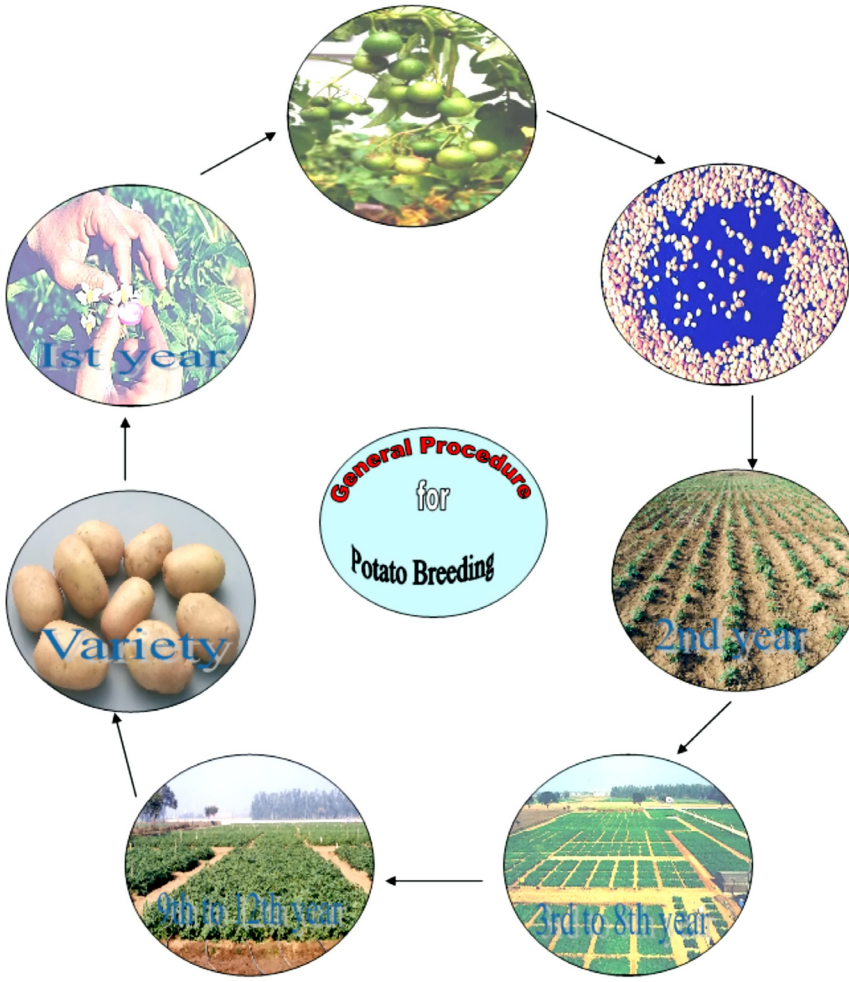
Breeding lines registered by CPRI as elite genetic stock

Germplasm	Registration Number	Salient features
EX/A-680-16	INGR 01011	Resistant to late blight and exceptionally good combiner for agronomic characters
QB/A-9-120	INGR 04057	Highly resistant to late blight and good general combiner for agronomic traits.
QB/B-92-4	INGR 04058	High tuber dry matter and low reducing sugars. Good general combiner for dry matter.
PS/F-220	INGR 04059	Resistant to potato stem necrosis (PSND)
MP/99-322	INGR 04109	High starch/dry matter, low amylase (27.3% of total starach) and high amylopectin (72.7%). Resistant to late blight.
E/79-42	INGR 05022	Combined resistance to cyst nematode and late blight.
JW96	INGR 05023	Earliness
JX 123	INGR 06021	Earliness and resistant to early blight.
JN 189	INGR 07040	Resistant to stem necrosis and leaf hopper
JX 90	INGR 09069	Combined resistance to late blight and early blight.
D4	INGR 09067	Male fertile androgenic dihaploid of JTH/C107 with mutate white flowers.
C-13	INGR 09068	Male fertile, dwarf androgenic dihaploid of Kufri Chipsona-2 with high resistance to late blight.
SS 2040	INGR 09120	Frost tolerant clone of *Solanum tuberosum* ssp. *andigena*.
SS 1725-22	INGR 09121	Frost tolerant diploid clone of *Solanum spegazzinii*.

YY 6/3 C-11 Triplex clone	INGR10143	Possesses Potato virus Y extreme resistance gene (Ryadg) in Triplex (YYYy) condition. Produces 96% progeny resistant to PVY.
E 1-3	INGR 11050	Interspecific somatic hybrid of dihaploid Solanum *tuberosum* L. (C-13) and S. *etuberosum*. It is tetraploid, male fertile and possesses resistance to potato virus Y.
P 7	INGR 11051	Interspecific somatic hybrid of dihaploid *Solanum tuberosum* L. (C-13) and *S. pinnatisectum*. It is tetraploid, male fertile and possesses resistance to potato late blight.
MP/97-921	INGR13049	Possesses acceptable processing traits, high resistance to late blight and extreme resistance (ER) to potato virus Y (PVY).
SS 1735-02	INGR13048	High late blight resistant and low cold induced sweetening clone of *Solanum demissum*.

Indian potato varieties/ hybrids commercially grown in other countries

Country	Varieties/Hybrids
Afghanistan	Kufri Chandramukhi
Nepal	Kufri Jyoti, Kufri Sindhuri
Bhutan	Kufri Jyoti
Bangladesh	Kufri Sindhuri
Mexico	I-654 as CCM-69.1
Sri Lanka	I-822 as cv. Khrushi, I-1085 as cv. Sita
Philippines	I-1035 as cv. Montanosa, I-1085 as cv. BSUP-04
Madagascar	I-1035 as Malaika
Bolivia	I-1039 as cv. India
Vietnam	I-1039 as cv. Red skin


General Procedure
for
Potato Breeding
Ist year
2nd year
3rd to 8th year
9th to 12th year
Variety