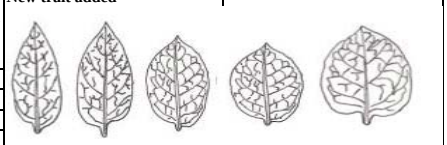
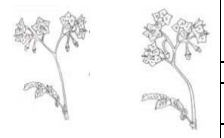
Table 4. List of descriptors for Potato

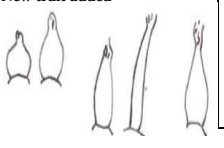
Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
1	Accession number		Acquisition		
Morphological descriptors					
2	Plant Growth Habit	1 Erect	Flowering time	**Modified previous descriptor state***	0 Erect
		2 Semi-erect			1 Semi-erect
		3 Decumbent			2 Decumbent
		4 Prostrated			3 Prostrated
		5 Semi-rosette			4 Semi-rosette
		6 Rosette			5 Rosette
3	Leaf dissection type	1 Entire	Flowering time	**Modified previous descriptor state***	0 Entire leaves
		2 Lobed			1 Lobed leaves
		3 Dissected			2 Dissected leaves
4	Lateral leaflet number	0 Absent	Flowering time		
		1 One pair			
		2 Two pairs			
		3 Three pairs			
		4 Four pairs			
		5 Five pairs			
		6 Six pairs			
		7 Seven or more pairs			
5	Interjected leaflet number in the rachis among lateral leaflets	0 Absent	Flowering time		
		1 One pair			
		2 Two pairs			
		3 Three pairs			
		4 Four or more pairs			
6	Interjected leaflets on the petiolules	0 Absent	Flowering time		
		1 One pair			
		2 Two pairs			
		3 Three pairs			
		4 Four or more pairs			
7	Stem pigmentation	1 Green stem	Flowering time		
		2 Green stem with few pigmented spots			
		3 Green stem with many pigmented spots			
		4 Pigmented stem with many green spots			
		5 Pigmented stem with few green spots			
		6 Red stem			
		7 Purple stem			
8	Stem wing shape	0 Absent	Flowering time	**Modified previous descriptor state***	1 Absent
		1 Straight			2 Straight wings
		2 Ondulated			3 Ondulated wings
		3 Dented			4 Dented wings
9	Flowering degree	0 Absent	Flowering time		
		1 Flower buds fall down			
		3 Scarce			
		5 Moderate			
		7 Profuse			
10	Corolla shape	1 Stellate	Flowering time		
		3 Semi-stellate			
		5 Pentagonal			
		7 Rotate			
		9 Very rotate			
11	Predominant flower colour	In parenthesis, light, intermediate or intense colour grades given - RHS codes	Flowering time		
		1 White (155D, 10C, 5A)			
		2 Red-pink (65D, 68D, 57C)			
		3 Red-purple (61C, 67A, 71B)			
		4 Light blue (108A, 109D, 110B)			
		5 Blue-purplish (107A, 105B, 102B)			
		6 Lilac (76C, 84B, 86D)			
		7 Purple (72A, 77A, 81A)			
		8 Violet (83B, 86A, 89A)			
12	Intensity of predominant flower colour	1 Light	Flowering time		
		2 Intermediate			
		3 Intense			
13	Secondary flower colour	0 Absent	Flowering time	**Modified previous descriptor state***	1 Absent
		1 White			2 White
		2 Red-pink			3 Red-pink
		3 Red-purple			4 Red-purple
		4 Light blue			5 Light blue
		5 Blue			6 Blue
		6 Lilac			7 Lilac
		7 Purple			8 Purple
		8 Violet			9 Violet

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
14	Distribution of secondary flower color	0 Absent	Flowering time	**Modified previous descriptor state***	1 Absent
		1 On the upper side of the acumen			2 On the upper side of the acumen
		2 On the lower side of the acumen			3 On the lower side of the acumen
		3 On both sides of the acumen			4 On both sides of the acumen
		4 On the upper side of the start			5 On the upper side of the start
		5 Bands on the upper side			6 Bands on the upper side
		6 Bands on the lower side			7 Bands on the lower side
		7 Bands on both sides			8 Bands on both sides
		8 Stipples			9 Stipples
		9 Spots (very few)			10 Spots (very few)
15	Anther pigmentation	0 Without anthocyanin	Flowering time	**Modified previous descriptor state***	1 Without anthocyanin
		1 Red stripes			2 Red stripes
		2 Red tips			3 Red tips
		3 Red tips and bands			4 Red tips and bands
		4 Almost red-brown anthers			5 Almost red-brown anthers
16	Pistil pigmentation	0 Without anthocyanin	Flowering time	**Modified previous descriptor state***	1 Without anthocyanin
		1 Pigmented stigma			2 Pigmented stigma
		2 Pigmented ovary			3 Pigmented ovary
		3 Pigmented ovary wall			4 Pigmented ovary wall
		4 Pigmented stigma and ovary			5 Pigmented stigma and ovary
		5 Pigmented stigma and ovary wall			6 Pigmented stigma and ovary wall
		6 Pigmented ovary and ovary wall			7 Pigmented ovary and ovary wall
		7 Pigmented stigma, ovary and ovary wall			8 Pigmented stigma, ovary and ovary wall
		8 Pigmented style			9 Pigmented style
17	Calyx pigmentation	1 Green	Flowering time	**Modified previous descriptor state***	0 Green
		2 Green with few pigmented spots			1 Green with few pigmented spots
		3 Green with many pigmented spots			2 Green with many pigmented spots
		4 Pigmented with many green spots			3 Pigmented with many green spots
		5 Pigmented with few green spots			4 Pigmented with few green spots
		6 Reddish			5 Reddish
		7 purple			6 purple
18	Pedicel pigmentation	1 Green	Flowering time		
		2 Green with pigmented articulation			
		3 Slightly pigmented and green articulation			
		4 Slightly pigmented with pigmented articulation			
		5 Pigmented only above the articulation			
		6 Pigmented only below the articulation			
		7 Mostly pigmented and green articulation			
		8 Totally pigmented			
19	Fruit colour	1 Green	Fructification time		
		2 Green with few white spots			
		3 Green with white stripes			
		4 Green with abundant white spots			
		5 Green with purple spots			
		6 Green with purple stripes			
		7 Predominantly purple			
20	Fruit shape	1 Globular	Fructification time		
		2 Globular mucronated			
		3 Ovoid			
		4 Ovoid mucronated			
		5 Conical			
		6 Long conical			
		7 Pyriform			
21	Predominant tuber skin colour	In parenthesis, light, intermediate or intense colour grades given - RHS codes	immediately after tuber harvest		
		1 white -cream (158D, 159C, 159A)			
		2 Yellow (4C, 9B, 14A)			
		3 Orange (16A, 21B, 23A)			
		4 Brownish (164D, 164C, 164B)			
		5 Pink (36D, 36B, 37D)			
		6 Red (42A, 45C, 53D)			
		7 Purplish-red (58A, 60B, 61A)			
		8 Purple (77A, N79B, 83A)			
		9 Blackish (202C, 202B, 202A)			
22	Intensity of predominant tuber skin colour 1 Light	1 Light	immediately after tuber harvest		
		2 Intermediate			
		3 Intense			

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
23	Secondary tuber skin colour	0 Absent	immediately after tuber harvest	**Modified previous descriptor state***	1 Absent
		1 White-cream			2 White-cream
		2 Yellow			3 Yellow
		3 Orange			4 Orange
		4 Brownish			5 Brownish
		5 Pink			6 Pink
		6 Red			7 Red
		7 Purplish-red			8 Purplish-red
		8 Purple			9 Purple
		9 Blackish			10 Blackish
24	Distribution of secondary skin tuber colour	0 Absent	immediately after tuber harvest	**Modified previous descriptor state***	1 Absent
		1 In the eyes			2 In the eyes
		2 In the eyebrows			3 In the eyebrows
		3 In area around the eyes (splashed)			4 In area around the eyes (splashed)
		4 In scattered areas			5 In scattered areas
		5 In area around the eyes (spectacled)			6 In area around the eyes (spectacled)
		6 Spots uniformly distributed (stippled)			7 Spots uniformly distributed (stippled)
		7 Few Spots (very few)			8 Spots (very few)
25	Tuber outline	1 Compressed tubers	immediately after tuber harvest		
		2 Rounded tubers			
		3 Ovoid tubers			
		4 Obovoid tubers			
		5 Elliptical tubers			
		6 Oblong tubers			
		7 Long-oblong tubers			
		8 Elongated tubers			
26	Odd tuber shapes	0 Absent	immediately after tuber harvest	**Modified previous descriptor state***	1 Absent
		1 Flattened			2 Flattened
		2 Clavated			3 Clavated
		3 Reniformed			4 Reniformed
		4 Fusiformed			5 Fusiformed
		5 Falcated			6 Falcated
		6 Coiled			7 Coiled
		7 Digitated			8 Digitated
		8 Concertina-shaped			9 Concertina-shaped
		9 Tuberosed			10 Tuberosed
27	Depth of eyes	1 Protruding eyes	immediately after tuber harvest		
		3 Shallow eyes			
		5 Slightly deep eye			
		7 Deep eyes			
		9 Very deep eyes			
28	Predominant tuber flesh colour (refer RHS Colour Codes)	1 White (155D)	immediately after tuber harvest		
		2 Cream (158D)			
		3 Pale yellow (4C)			
		4 Yellow (9B)			
		5 Intense yellow (14A)			
		6 Red (60B)			
		7 Purple (N79B)			
		8 Violet (83A)			
29	Secondary tuber flesh colour	0 Absent	immediately after tuber harvest	**Modified previous descriptor state***	1 Absent
		1 White			2 White
		2 Cream			3 Cream
		3 Pale yellow			4 Pale yellow
		4 Yellow			5 Yellow
		5 Intense yellow			6 Intense yellow
		6 Red			7 Red
		7 Purple			8 Purple
		8 Violet			9 Violet
30	Distribution of secondary flesh colour	0 Absent	immediately after tuber harvest	**Modified previous descriptor state***	1 Absent
		1 Scattered spots			2 Scattered spots
		2 Scattered areas			3 Scattered areas
		3 In a narrow vascular ring			4 In a narrow vascular ring
		4 In a broad vascular ring			5 In a broad vascular ring
		5 In the vascular ring and medulla			6 In the vascular ring and medulla
		6 In all flesh except medulla			7 In all flesh except medulla
		7 In spots uniformly distributed (stippled)			8 In spots uniformly distributed (stippled)
31	Predominant sprout colour (refer RHS Color Codes)	1 White (158D)	Sprouting time	**Modified previous descriptor state***	1 Sprouts white (158D)
		2 Pink (36B)			2 Sprouts pink (36B)
		3 Red (60B)			3 Sprouts red (58A)
		4 Purple (N79B)			4 Sprouts purple (N79B)
		5 Violet (83 A)			5 Sprouts violet (83 A)
		6 Blackish (202A)			6 Sprouts black (202A)
		7 Yellow (4C)			7 Sprouts yellow (4C)
32	Secondary sprout colour	0 Absent	Sprouting time	**Modified previous descriptor state***	1 Absent
		1 White			2 White

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
		2 Pink			3 Pink
		3 Red			4 Red
		4 Purple			5 Purple
		5 Violet			6 Violet
33	Distribution of secondary sprout colour	0 Absent	Sprouting time	**Modified previous descriptor state***	1 Absent
		1 At the base			2 At the base
		2 At the apex			3 At the apex
		3 Lightly scattered throughout			4 Lightly scattered throughout
		4 Heavily scattered throughout			5 Heavily scattered throughout
		5 In sprout yolk			6 In sprout yolk
34	Ploidy level	2 = 2X = (24 chromosomes)	Sprouting time	**New trait added**	
		3 = 3X = (36 chromosomes)			
		4 = 4X = (48 chromosomes)			
		5 = 5X = (60 chromosomes)			
Evaluation descriptors					
35	Foliar blights (*Alternaria solani, Phytophthora infestan, Phoma* sp., *Septoria* sp.)	on 1-9 scale, where	during plant growth and development	**Modified previous descriptor state***	on 1-9 scale, where
		1 Highly resistant			1 Extremely resistant
		3 Resistant			2 Highly resistant
		5 Moderately resistant			3 Very resistant
		7 Susceptible			4 Resistant
		9 Highly susceptible			5 Moderately resistant
					6 Slightly resistant
					7 Moderately susceptible
					8 Susceptible
					9 Extremely susceptible
36	Wilts (*Ralstonia solanacearum, Fusarium spp., Verticillium albo-atrum, Verticillium dahliae, Rhizoctonia* sp.)	1-9 scale as for 'Foliar blights'	during plant growth and development		
37	Tuber diseases (*Phytophthora* sp., *Synchytrium* sp., *Fusarium* sp., *Theophora* sp., *Streptomyces* sp., *Rhizoctonia* sp.)	1-9 scale as for 'Foliar blights'	immediately after tuber harvest		
38	Bacterial diseases (*Erwinia carotovora* subsp. *atroseptica*, *Pseudomonas* wilt)	1-9 scale as for 'Foliar blights'	during plant growth and development		
39	Virus- Potato Leaf Roll	1-9 scale as for 'Foliar blights'	juvenile plant		
40	Virus- Aster yellow	1-9 scale as for 'Foliar blights'	juvenile plant		
41	Potato virus X	1 Highly resistant	juvenile plant state	**Modified previous descriptor state***	H Hypersensitive
		3 Resistant			I Immune
		5 Moderately resistant			R Resistant
		7 Susceptible			S Susceptible
					T Tolerant
42	Potato virus Y	Scoring as for 'Potato virus X	juvenile plant		
43	Potato virus A	Scoring as for 'Potato virus X'	juvenile plant		
44	Nematodes (*Meloidogyne* sp., *Globodera* sp., *Nacobbus* sp.)	Score on 3, 5 & 7 scale, where			
		3 Resistant			
		5 Moderately resistant			
		7 Susceptible			
45	Reaction to frost	Score on 1-9 scale, where		**Modified previous descriptor state***	Score on 1-9 scale, where
		1 Highly tolerant			1 Highly resistant
		3 Tolerant			3 Resistant
		5 Moderately tolerant			5 Slightly resistant
		7 Susceptible			7 Susceptible
		9 Extremely susceptible			9 Extremely susceptible
46	Reaction to drought	Scoring as for Reaction to frost			
47	Reaction to heat	Scoring as for Reaction to frost			
48	Stem solidity	1 Solid	To be recorded in the upper half of the stem with fully expanded leaves. Even a narrow hole means hollow, otherwise solid.	**New trait added**	
		2 Hollow			
49	Leaf structure	1 Closed	To be recorded on fully grown leaf in upper part of the stem	**New trait added** 	
		2 Medium			

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
		3 Open (In fig.)			
50	Anthocyanin in blade of young leaflets at apical rosette	0 Absent	To be recorded as "present" if it is easily visible and present in majority of the	**New trait added**	
		1 Present			
51	Anthocyanin in rachis	0 Absent	To be recorded it as "present" it it is easily visible and present in majority of the fully expanded	**New trait added**	
		1 Present			
52	Leaflet shape	1 Narrow lanceolate	To be recorded on fully expanded leaflets in upper part of the stem.	**New trait added** 	
		2 Lanceolate			
		3 Ovate-lanceolate			
		4 Ovate			
		5 Oval (In fig.)			
				Any shape between 1 and 2 may be recorded as 1, that between 2 and 3, as 2, and so on.	
53	Midrib colour	1 Green only	To be recorded on fully expanded leaflets in the upper part of the stem.	**New trait added**	
		2 Anthocyanin present only at the base of midrib			
		3 Anthocyanin present throughout the midrib			
54	Inflorescence type	1 Simple	To be recorded at peak flowering time of the genotype	**New trait added** 	
		2 Compound (In fig.)			
55	Colour of floral stalk	1 Green only	Presence of any other colour with or without green, to be recorded as "pigmented".	**New trait added**	
		2 Pigmented			
56	Corolla colour	1 White	It is the predominant colour of the inner/upper side of petals in freshly and fully opened flowers	**New trait added**	
		2 Red-violet			
		3 Blue-violet			
57	Intensity of corolla colour	1 Weak	It is to be recorded only for the coloured (other than white) flowers.	**New trait added**	
		2 Medium			
		3 Strong			
58	Anthocyanin of outer side in white flowers	1 Absent	Presence of even very light colour anywhere on outer side of the petals to be recorded as "present".	**New trait added**	
		2 Present			
59	Anther cone formation	1 Normal	Cone with shrivelled anthers or twisted anthers not joining around style in a regular way to be treated as 'irregular'	**New trait added**	
		2 Irregular (In fig.)			

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
60	Stylar length	1 Shorter than stamen column	If stigma is below the anther cone tip it is to be recorded as 'shorter than stamen column' irrespective of the pistil morphology. 'Longer than stamen column' means slightly above the anther cone tip, and longer than this is to be recorded as 'much longer than stamen column'.	**New trait added**	
		2 Equal to stamen column			
		3 Longer than stamen column			
		4 Much longer than stamen column			
61	Stigma lobes	1 Single	This descriptor is replacement of 'stigma shape' of CPRI and CIP descriptors. The classes proposed are easily distinguishable than that was possible for those of CPRI and CIP descriptors for this character. Genotypes with tri-lobed stigma though are rare, it a very consistent character when present e.g. in varieties 'Kufri Chandramukhi' and 'Up-to-date'. If more than one class is simultaneously present in different flowers	**New trait added**	
		2 Bi-lobed			
		3 Tri-lobed			
62	Premature bud abscission	0 Absent	To be recorded as present even if some buds drop without opening.	**New trait added**	
		1 Present			
63	Colour of eye	1 Same as tuber	Classes 2 to 8 are relevant only if a colour other than the predominant tuber colour is also present.	**New trait added**	
		2 Pink/red			
		3 Purple			
		4 Pink/red but limited to eyebrow			
		5 Purple but limited to eyebrow			
		6 Pink/red but scattered randomly all over tuber			
		7 Purple but scattered randomly all over tuber			
		8 In coloured tubers, area around eye is white			
64	Intensity of anthocyanin at base of sprout	1 Light	To be recorded if base has different colour intensity than main part of the sprout	**New trait added**	
		2 Medium			
		3 Dark			
65	Intensity of anthocyanin at sprout tip	1 Light	To be recorded if tip has different colour intensity than main part of the sprout	**New trait added**	
		2 Medium			
		3 Dark			
66	Sprout shape	1 Bulbous		**New trait added**	
		2 Cylindrical			
		3 Conical (In fig.)			
67	Pubescence of sprouts	1 Slightly hairy	When hairs are restricted to only a part or are sparse and not easily visible, record "slightly hairy"	**New trait added** 	

Descriptor number	Descriptors	Descriptor state	Recording stage	Remarks	Previous descriptors state*
		2 Hairy			