Table 3. List of descritors for maize

Descriptor number	Descriptor	Descriptor state	Recording stage	Remarks
1	Accession number			
2	Total no. of leaves	Record the total number of leaves per plant	At flowering	
3	Leaf length (cm)	From ligule to apex. Measure the leaf which subtends the uppermost ear	At flowering	
4	Leaf width (cm)	Mid-way along its length. Measure the leaf which subtends the uppermost ear	At flowering	
5	Leaf venation index	Divide the number of veins mid-way along the ear leaf by the leaf width	At flowering	
6	Leaf orientation	1 Erect	After flowering	
		2 Pendant		
7	Presence of leaf ligule	+ Present	After flowering	
		0 Absent		
8	Days to ear leaf senescence	Number of days from sowing to when 50% of the plants have a dry ear leaf	At maturity	
9	Days to silking (female flowering)	Number of days from sowing to when silks have emerged on 50% of the plants	At flowering	
10	Days to tasseling	Number of days from sowing to when 50% of the plants have shed pollen	At flowering	
11	Tassel type	1 Primary branches	At milk stage	
		2 Primary-secondary branches		
		3 Primary-secondary-tertiary branches		
12	Tassel length (cm)		After milk stage	
13	Tassel peduncle length (cm)		After milk stage	
14	Tassel branching space (cm)	Distance between the first and last primary branches	After milk stage	
15	Number of primary branches on tassel		After milk stage	
16	Number of secondary branches on tassel		After milk stage	
17	Number of tertiary branches on tassel		After milk stage	
18	Tassel size	3 Small	After milk stage	
		5 Medium		
		7 Large		
19	Plant height (cm)	From ground level to the base of tassel	After milk stage	
20	Ear height (cm)	From ground level to the node bearing the uppermost ear	After milk stage	
21	Foliage	Rating of total leaf surface	After milk stage	
		3 Small		
		5 Intermediate		

		7 Large		
22	Growing Degree Units to female flowering	Emergence in 50% of the plants	At flowering	
23	Growing Degree Units to male flowering	when 50% of the plants have flowered	At flowering	
24	Stay green	3 Low	At maturity	
		5 Medium		
		7 High		
25	Number of leaves above the uppermost ear including ear		At milk stage	
26	Tillering index	Number of tillers per plant	At flowering	
27	Stem colour	Indicate up to three stem colours in the order of frequency, noted between the	At flowering	
		1 Green		
		2 Sun red		
		3 Red		
		4 Purple		
		5 Brown		
28	Root lodging	Percentage of plants root-	At maturity	
29	Stalk lodging	Percentage of plants root-	At maturity	
30	Sheath pubescence	3 Sparse	At flowering	
		5 Intermediate		
		7 Dense		
31	Prolificacy index	Divide the total ear number by the total (ca 20) plants	At maturity	
32	Ear length (cm)		At harvest	
33	Peduncle length (cm)		At harvest	
34	Ear diameter (cm)	Noted at central part of the uppermost ear	At harvest	
35	Cob diameter (cm)	Noted at central part of the uppermost ear	At harvest	
36	Rachis diameter (cm)	Noted at central part of the uppermost ear	At harvest	
37	Number of bracts		At harvest	
38	Husk cover	3 Poor	At harvest	
		5 Intermediate		
		7 Good		
39	Ear damage	Amount of ear damage caused by ear rot and/or insect, etc	At harvest	
		0 None		
		3 Little		
		7 Severe		
40	Number of kernels per row		At harvest	
41	Kernel row arrangement	Use the uppermost ear	At harvest	
		1 Regular		
		2 Irregular		
		3 Straight		
		4 Spiral		
42	Cob colour	1 White	At harvest	
		2 Red		
		3 Brown		

		4 Purple		
		5 Variegated		
		6 Other (specify)		
43	Shape of uppermost ear	1 Cylindrical	At harvest	
		2 Cylindrical-conical		
		3 Conical		
		4 Round		
44	Grain shedding (%)		At harvest	
45	Number of kernel rows	Count number of kernel rows in central part of the uppermost	At harvest	
46	Kernel type	Indicate up to three kernel types in the order of frequency	At harvest	
		1 Floury		
		2 Semi-floury (morocho), with an external layer of hard		
		3 Dent		
		4 Semi-dent, intermediate between dent and flint but close		
		5 Semi-flint, flint with a soft		
		6 Flint		
		7 Pop		
		8 Sweet		
		9 Opaque 2/QPM		
		10 Tunicate		
		11 Waxy		
47	Kernel colour	Indicate up to three kernel types in the order of frequency	In laboratory	
		1 White		
		2 Yellow		
		3 Purple		
		4 Variegated		
		5 Brown		
		6 Orange		
		7 Mottled		
		8 White cap		
		9 Red		
48	1000-kernal weight (g)	Adjusted to 10% kernel moisture content	In laboratory	
49	Kernel length (mm)	Average of 10 consecutive kernels from one row in the middle of the uppermost ear, measured with a calliper	In laboratory	
50	Kernel width (mm)	Average of 10 consecutive kernels from one row in the middle of the uppermost ear, measured with a calliper	In laboratory	
51	Kernel thickness (mm)	Average of 10 consecutive kernels from one row in the middle of the uppermost ear, measured with a calliper	In laboratory	
52	Shape of upper surface of kernel	1 Shrunken	In laboratory	
		2 Indented		

		3 Level		
		4 Rounded		
		5 Pointed		
		6 Strongly pointed		
53	Pericarp colour	1 Colourless	In laboratory	
		2 Greyish white		
		3 Red		
		4 Brown		
		5 Other (specify)		
54	Aleurone colour	1 Colourless	In laboratory	
		2 Bronze		
		3 Red		
		4 Purple		
		5 Other (specify)		
55	Endosperm colour	1 White	In laboratory	
		2 Cream		
		3 Pale yellow		
		4 Yellow		
		5 Orange		
		6 White cap		
56	Diseases- Ear or stalk rot (*Diplodia maydis* , *Gibberella zeae* , *Fusarium moniliforme*)	Susceptibility score on 1-9 scale, where		
		1 Very low		
		3 Low		
		5 Intermediate		
		7 High		
		9 Very high		
57	Rust (*Puccinia sorghi* , *Puccinia polysora*)	Susceptibility score as for disease 'Ear or stalk rot'		
58	Downey mildew (*Peronosclerospora* sp., *Sclerophthora* sp.)	Susceptibility score as for disease 'Ear or stalk rot'		
59	Leaf blight (*Helminthosporium maydis* , *Helminthosporium*	Susceptibility score as for disease 'Ear or stalk rot'		
60	Smut (*Ustilago maydis*)	Susceptibility score as for disease 'Ear or stalk rot'		
61	Corn stunt (*Corn stunt spiroplasma* , CSS)	Susceptibility score as for disease 'Ear or stalk rot'		
62	Maize bushy stunt (*Maize bushy stunt mycoplasma* , MBSD)	Susceptibility score as for disease 'Ear or stalk rot'		
63	Insects - Borer (*Busseola* sp., *Chilo* sp., *Diatrea* sp., *Ostrinia* sp., *Sesamia* sp.)	Susceptibility score as for disease 'Ear or stalk rot'		
64	Ear worm (*Heliothis zea, Heliothis armigera*)	Susceptibility score as for disease 'Ear or stalk rot'		
65	Root worm (*Diabrotica* sp.)	Susceptibility score as for disease 'Ear or stalk rot'		
66	Abiotic stresses- Low temperature	Susceptibility score as for disease 'Ear or stalk rot'		

67	Frost	Susceptibility score as for disease 'Ear or stalk rot'		
68	Aluminium toxicity	Susceptibility score as for disease 'Ear or stalk rot'		
69	Low nitrogen	Susceptibility score as for disease 'Ear or stalk rot'		
70	Drought	Susceptibility score as for disease 'Ear or stalk rot'		
71	Fertility	number of plants pollinated		**New trait added**
72		number of plants harvested		**New trait added**
73	Field germination	number of plants germinated		**New trait added**
74	Adaptation	well adapted or not adpated		**New trait added**
75	Grain yield	plot yield in tonns per hectare, based on 13.5% grain moisture		**New trait added**
76	Seed moisture	seed moisture at harvest		**New trait added**
77	Agronomic scale	Rating scale of 1-5: 1 is good and 5 is poor		**New trait added**
78	Race class	1 Primary		**New trait**
		2 Secondary		
		(Maize race name, local name)		
79	Leaf angle	1 Small	At flowering	**New trait added**
		2 Wide		
80	Attitude of leaf blade	1 Straight	At flowering	**New trait added**
		2 Droopy		
81	Anthocyanin colouration of leaf sheath	0 Absent	At flowering	**New trait added**
		1 Present		
82	Anthocyanin colouration at base of glume	0 Absent	Anthesis halfway	**New trait added**
		1 Present		
83	Anthocyanin colouration of glumes excluding base	0 Absent	Anthesis halfway	**New trait added**
		1 Present		
84	Anthocyanin colouration of anthers	0 Absent	Anthesis halfway	**New trait added**
		1 Present		
85	Density of spikelets	0 Sparse	Anthesis halfway	**New trait added**
		1 Dense		
86	Angle between main axis and lateral branches	1 Narrow	Anthesis halfway	**New trait added**
		2 Wide		
87	Attitude of lateral branches	1 Straight	Anthesis halfway	**New trait added**
		2 Curved		
		3 Strongly curved		

88	Silk pigmentation	0 Absent	At flowering	**New trait added**
		1 present		
89	Time of silk emergence	1 Very early		**New trait added**
		2 Early		
		3 Medium		
		4 Late		
90	Anthocyanin colouration of glumes of cob	0 Absent	At maturity	**New trait added**
		2 Present		
91	Cob placement	1 Low (<50% of plant height)	At floweing	**New trait added**
		2 Medium (50% of plant		
		3 High (>50% of plant height)		

Note: Descriptor number 71-91 are new and 71-78 are important for regeneration.