

Twinning Program BA/12/IB/AG01

Control Plot Test in Maize

Sarajevo 25-29 July 2016

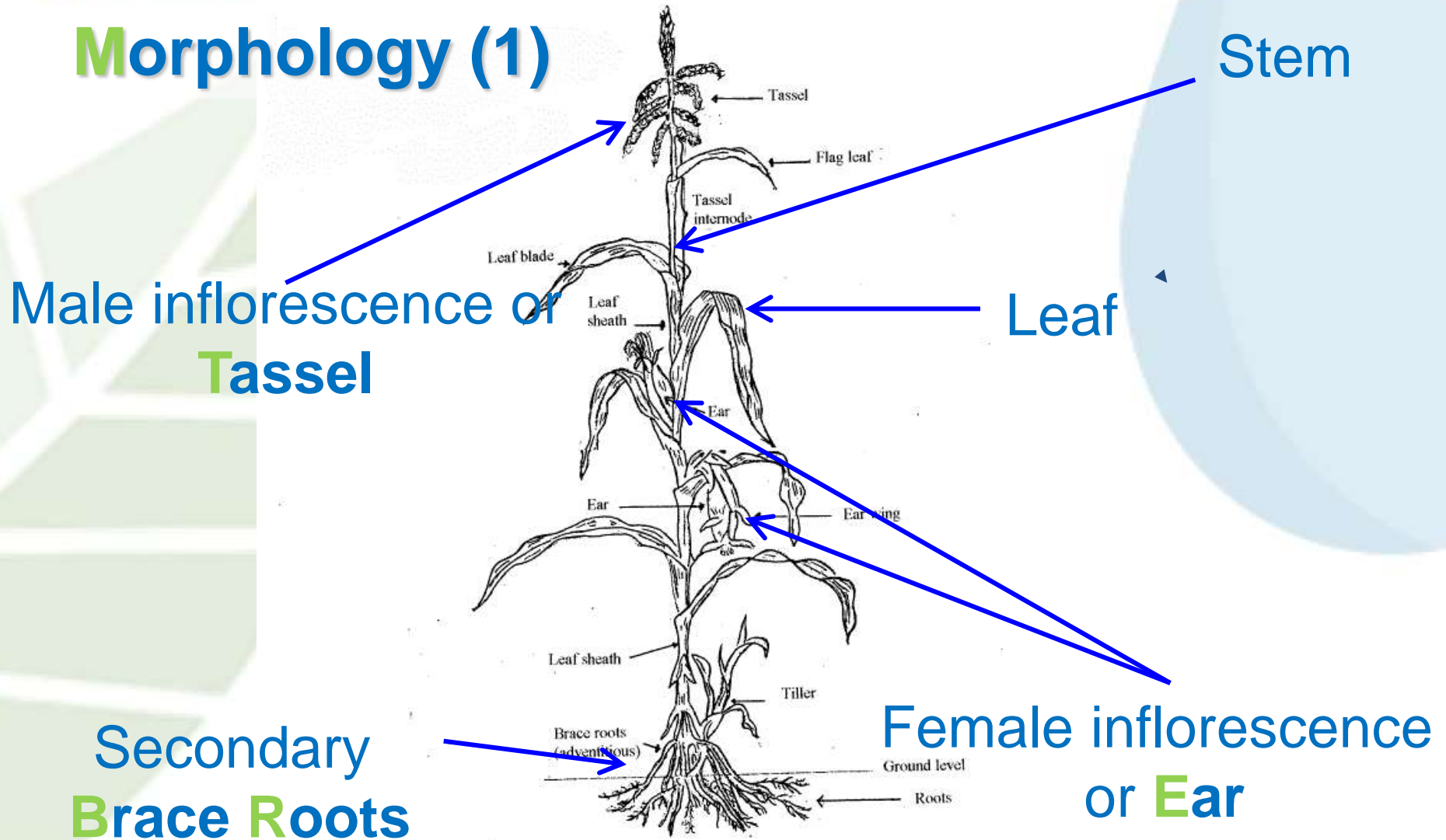
Giovanni Corsi
Alessandra Sommovigo

Summary:

- **Maize Morphology**
- **Sheet descriptions**
- **Characteristics**

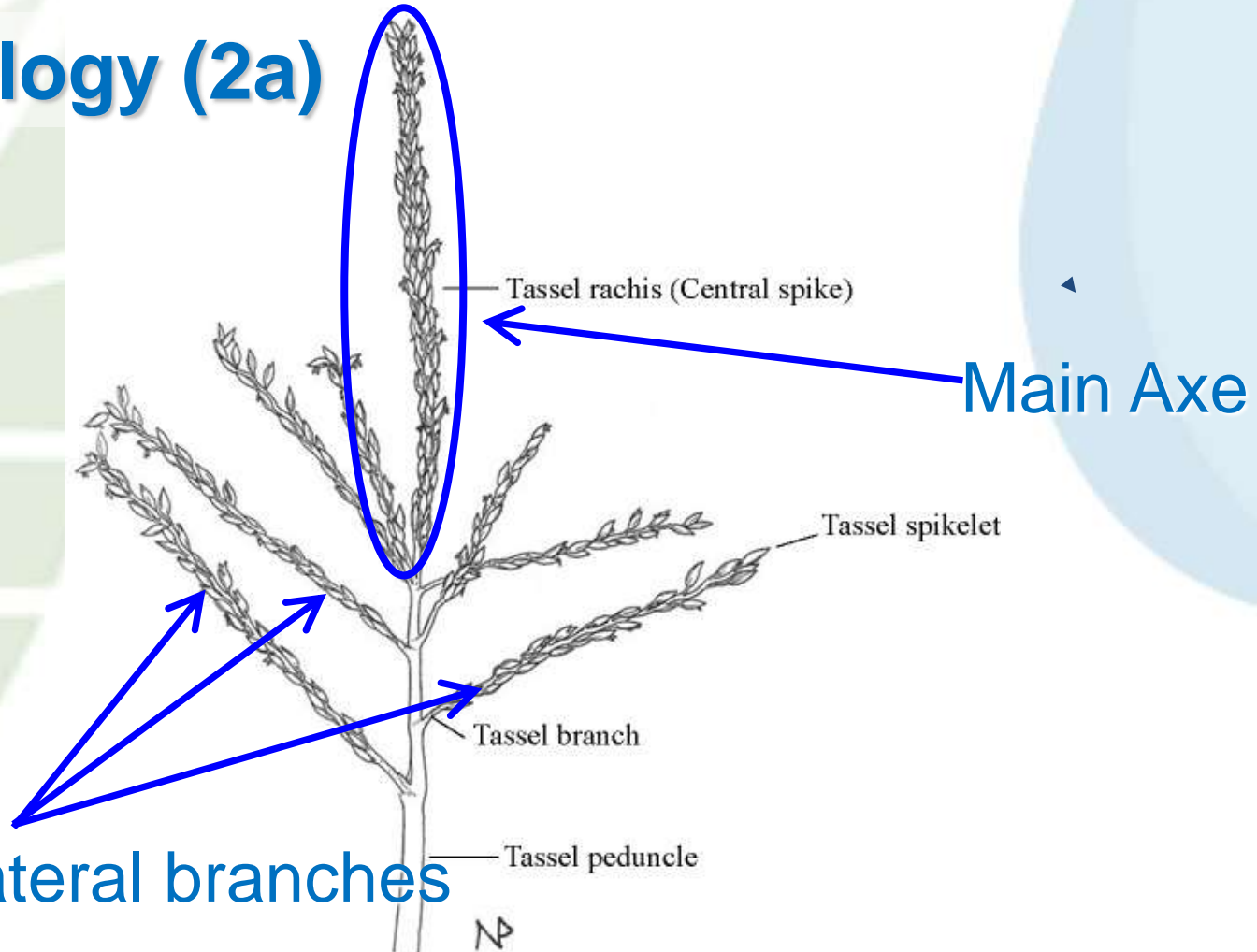


Morphology (1)

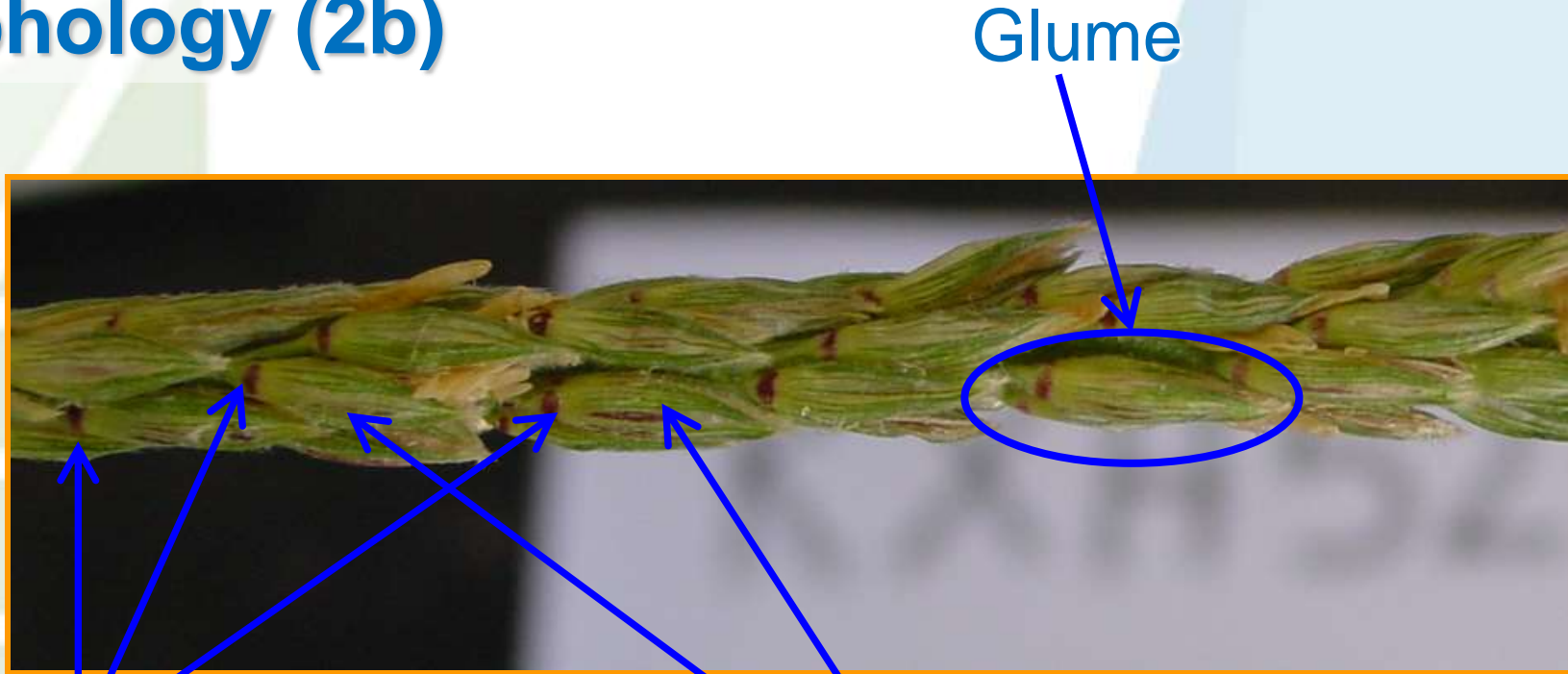


Zea mays Tassel (Male Inflorescence)

Morphology (2a)



Morphology (2b)



Glume

Ring at the base
of glume

Coloration of the
glumes excluding base

Morphology (3)



Silk

Bracts

Description Sheet (1)

DESCRIZIONE DELLE LIBRE E BRDI DI MAIS (CPVO-TP/2/3: 11032810 - UPOV TG/6: 84161094 + 24111999)						
Nome ibrido:			Codice RILV:	11701	Codice SJAAR:	11891
Data:			Anno: 2011 Tavazzano (L.O.)	Classe FAO:	700	
CARATTERE		DESCRIZIONE			CLASSE	ESPRESSIONE
CPVO	UPOV					
1	1	Prima foglia	pigmentazione antocianica guaina		5	media
2	2	Prima foglia	forma apice		3	ristonda
3	3	Foglia	intensità del colore verde		5	media
4	5	Foglia	angolo di apertura tra le foglie e il culmo		3	piccolo
5	6	Foglia	portamento delle foglie		3	poco ricurve
6	6	Pannocchie	epoca di fioritura (giorni differenziali rispetto ai testimoni)		02-kg	
7	9	Pannocchie	colorazione antocianica alla base della guaina		1	accente o molto leggera
8	10	Pannocchie	colorazione antocianica delle glume (esclusa la base)		1	accente o molto leggera
9	11	Pannocchie	colorazione antocianica delle antere/fredde		3	leggera
10	12	Pannocchie	angolo tra l'asse centrale e le ramificazioni primarie		5	medio o 50°
11	13	Pannocchie	portamento delle ramificazioni primarie		5	ricurve
12	14	Pannocchie	numero delle ramificazioni primarie		3	poche
13	15	Spiga	epoca di comparsa delle setole (giorni differenziali rispetto ai testimoni)		04-kg	
14	16	Spiga	colorazione antocianica delle setole		3	leggera
15	17	Culmo	pigmentazione antocianica delle radici avventizie		3	leggera
16	18	Pannocchie	densità delle spighe (solo per le varietà di mais duro)		5	media
17	19	Foglia	pigmentazione antocianica delle glume		1	nulla o molto leggera
18	20	Culmo	pigmentazione antocianica degli internodi		1	accente o molto leggera
19	21	Pannocchie	lunghezza asse centrale ramificazioni basale-apice		5	medio
20	22	Pannocchie	lunghezza asse centrale ramificazioni superiori-apice		7	lunghe
21	23	Pannocchie	lunghezza delle ramificazioni		7	lunghe
22.1	24.1	Pianta	altezza solo linee (pannocchie incluse)			INID
22.2	24.2	Pianta	altezza solo bridi (ad eccezione delle varietà di mais dolce e di pop corn) (con differenziali rispetto ai testimoni pannocchie incluse)		395	risolto alla
23	25	Pianta	altezza inserzione spiga		3	bassa
24	26	Foglia	larghezza del lembo (foglia spiga superiore)		7	larga
25	27	Spiga	lunghezza peduncolo		3	corto
26	28	Spiga	lunghezza		7	lunga
27	29	Spiga	diametro (terzo mediano della spiga)		9	molto grosso
28	30	Spiga	forma della spiga		2	cilindrico conico
29	31	Spiga	numero dei ranghi		5	medi
30	32	Spiga	numero di colorazioni della granella (solo per le varietà di mais dolce e waxy)			INID
31	33	Seme	intensità del colore giallo (solo per le varietà di mais dolce)			INID
32	34	Seme	lunghezza (solo per le varietà di mais dolce)			INID
33	35	Seme	larghezza (solo per le varietà di mais dolce)			INID
34	36	Spiga	tipo di granella (terzo mediano della spiga)		4	densa-impaccata-arrangiata
35	37	Spiga	raggrinzimento della corona della cariosside (solo per le varietà di mais dolce)			INID
36	38	Spiga	colore della corona della cariosside		3	giallo
37	39	Spiga	colore del dorso della cariosside (solo per le varietà di mais dolce)		4	giallo-arancio
38	40	Seme	aspetto del granella accoppiato (solo per le varietà di mais da pop corn)			INID
39	41	Spiga	colorazione antocianica delle glume del fufolo		7	forte

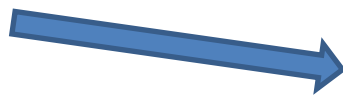
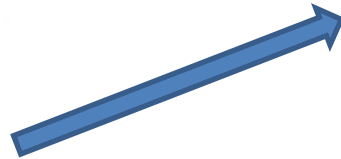
The Characteristics of the variety are in the official description sheet. This sheet is filled during the DUS trial. In Italy it is used the protocol TP/2/3

Description Sheet (2)

In the OECD scheme the List of Characteristics is an extract from the UPOV list. In the OECD list the characteristics are divided in

➤ Primary

➤ Secondary



Stage of examination	UPOV Character Number ¹	Character description	
MAIZE (<i>Zea mays</i> L.)			
PRIMARY			
Anthesis	7	Tassel: time of anthesis	
	8	Tassel: anthocyanin colouration at base of glume	
	9	Tassel: anthocyanin colouration of glumes excluding base	
	10	Tassel: anthocyanin colouration of anthers	
	14	Tassel: number of primary lateral branches	
	15	Ear: time of silk emergence	
	16	Ear: anthocyanin colouration of silks	
Medium milk	17	Ear: intensity of anthocyanin colouration of silks	
	22.1	In-bred lines only: Plant: length	
Ripening	22.2	Hybrids and open pollinated varieties only: Plant: length	
	26	Ear: length	
	30	Ear: type of grain	
	31	Ear: colour of top of grain	
	32	Ear: colour of dorsal side of grain	
	33	Ear: anthocyanin colouration of glumes of cob	
	34	Ear: intensity of anthocyanin colouration of glumes of cob	
	SECONDARY		
	Anthesis	3	Leaf: angle between blade and stem
		4	Leaf: attitude of blade
6		Stem: anthocyanin colouration of brace roots	
11		Tassel: density of spikelets	
12		Tassel: angle between main axis and lateral branches	
13		Tassel: attitude of lateral branches	
18		Leaf: anthocyanin colouration of sheath	
Ripening	20	Tassel: length of main axis above upper side branch	
	28	Ear: shape	
	29	Ear: number of rows of grain	

Description Sheet (3)

By examination of morphological characteristics, the following will be determined:

- 1) to verify the correspondence of the hybrid or of the parental lines in the control plot test in comparison with the reference sample (Identity);
- 2) to identification of any "off-type" (Homogeneity).



Reject Numbers (1)

Cross-pollinated cereals (e.g. maize):

alfa \leq 0.05 Popolazione standard=3%

Number of plants per plot	Max. n° of off-type allowed
	Simple hybrid
28-46	3
47-66	4
67-88	5
89-110	6
111-134	7
135-158	8
159-182	9
183-207	10
208-232	11

alfa \leq 0.05 Popolazione standard=5%

Number of plants per plot	Max. n° of off-type allowed
	Three or double way hybrid
25-39	4
40-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13



Control Plot of hybrid or parental lines of Zea Mays

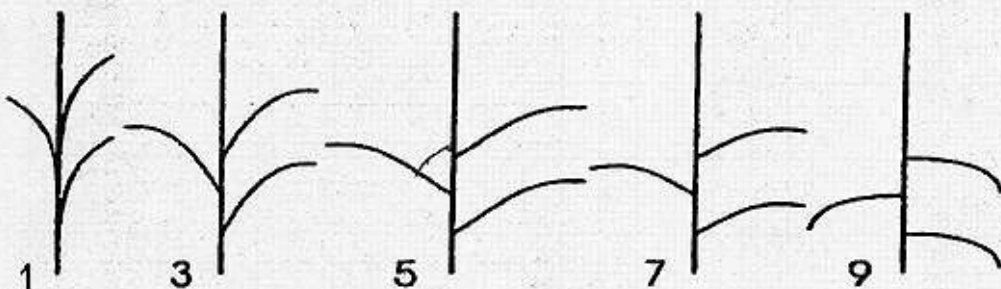


CHARACTERISTICS



Characteristic: cpvo 4 - upov 5

(Carattere 3+ 2)

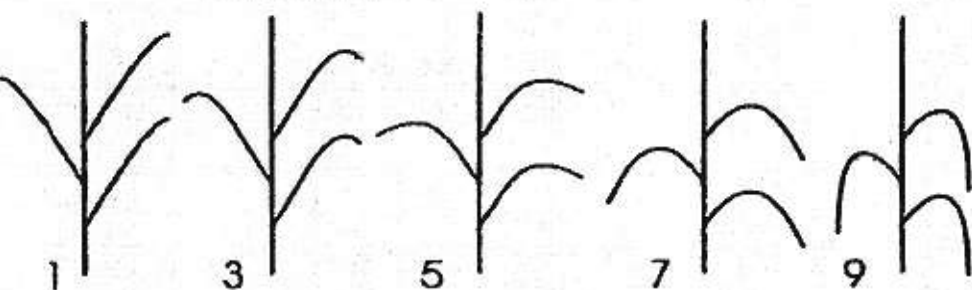


Leaf: angle between blade and stem ;

Stage of development: beginning of flowering;

position: leaf just above the upper ear

Characteristic : cpvo 5 - upov 6

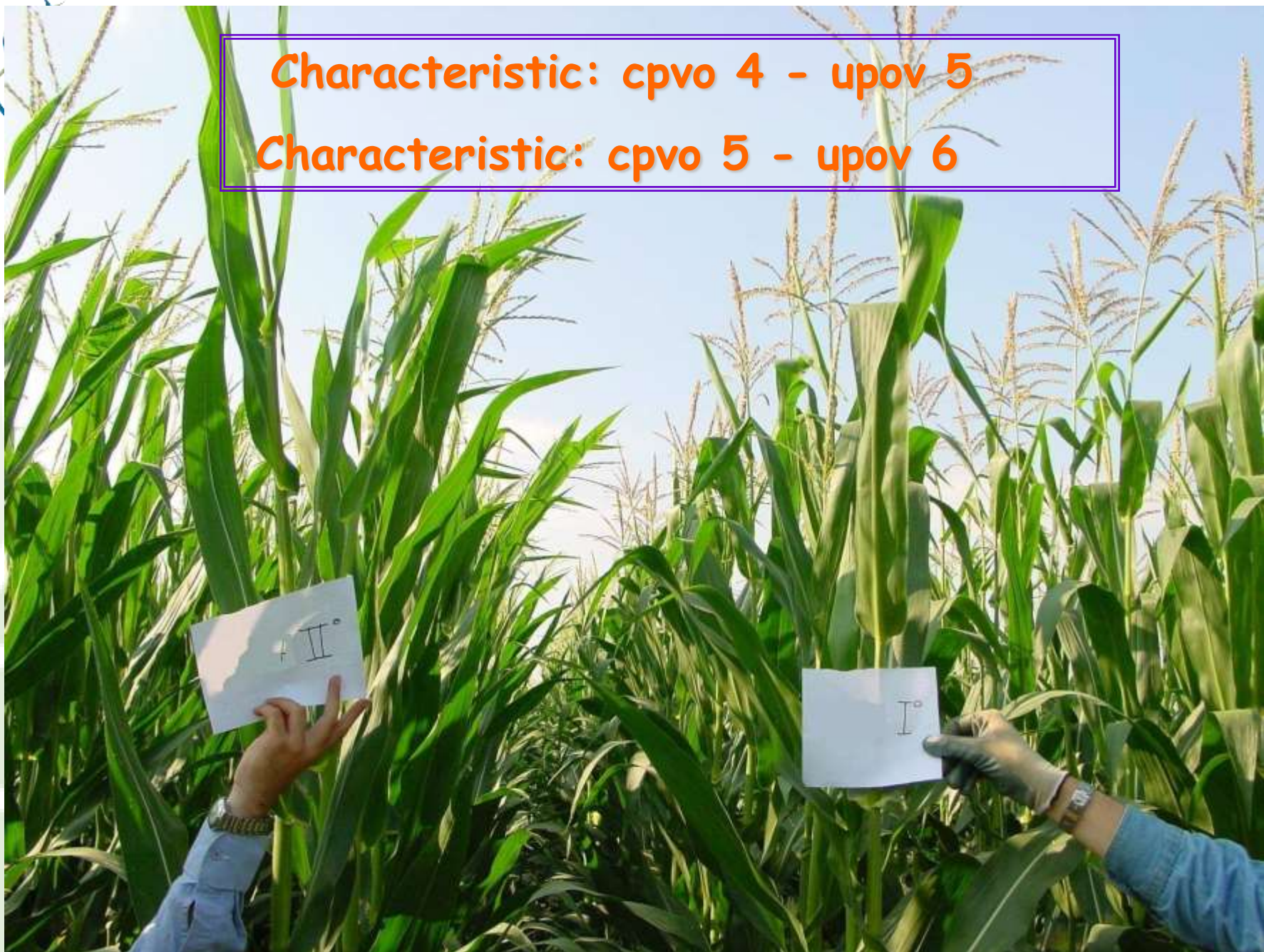


Leaf: curvature of blade ;

Stage of development: beginning of flowering;

position: leaf just above the upper ear

Characteristic: cpvo 4 - upov 5
Characteristic: cpvo 5 - upov 6





Tassel: time of anthesis

Stage of development: 50% of plants with visible anthers;

position: in the middle third of the main branch of the tassel.

Characteristic: cpvo 7 - upov 9

Tassel: anthocyanin coloration at base of glume;
Stage of development: 50% of plants with visible anthers;
position: in the middle third of the main branch of the tassel.



class 1 (absent or very weak).



class 5 (medium).

Characteristic: cpvo 8 - upov 10 C

Tassel: anthocyanin coloration of glumes excluding base
Stage of development: 50% of plants with visible anthers;
position: in the middle third of the main branch of the tassel.



class 1 (absent or very weak).



class 5 (medium).



class 1
(absent or very weak).



class 3
(weak).



class 5
(medium).



class 7
(strong).

Characteristic: cpvo 9 - upov 11

Tassel: anthocyanin coloration of anthers

Stage of development: 50% of plants with visible anthers;
position: in the middle third of the main branch of the tassel.



class 1

(absent or very weak).



class 3

(weak).



class 7

(strong).

Characteristic: cpvo 9 - upov 11



class 1
(absent or very weak).



class 3
(weak).



class 5
(medium).



class 7
(strong).



class 9
(very strong).

Tassel: male-sterility of parental line





Tassel: angle between main axis and lateral branches

Stage of development: 50% of plants with visible anthers;

Position: on the second branch from the bottom of the tassel.

Tassel: curvature of lateral branches

Stage of development: 50% of plants with visible anthers;

Position: on the second branch from the bottom of the tassel.



class 1

(absent or

very slightly recurved).



class 3

(slightly recurved).



class 5

(recurved).



class 7

(strongly recurved).

Characteristic: cpvo 12 - upov 14

Tassel: number of primary lateral branches

Stage of development: 50% of plants with visible anthers;

Position: on the second branch from the bottom of the tassel.



class 1 (absent or very few, 0-3).



class 9 (very many > 16).



Ear: time of silk emergence

Stage of development: when silks have emerged on 50% of plants



Ear: anthocyanin coloration of silks

Stage of development: emerged silks;

position: upper ear





class 1 (absent or very weak).



class 3 (weak).



class 5 (medium).



class 7 (strong).



class 9 (very strong).

Characteristic: cpvo 15 - upov 17

Stem: anthocyanin coloration of brace roots

Stage of development: when fresh brace roots are present on 50% of plants.



class 1 (absent or very weak).



class 3 (weak).



class 5 (medium).



class 7 (strong).



class 9 (very strong).

Characteristic: cpvo 16 - upov 18

Tassel: density of spikelets

Stage of development: 50% of plants with visible anthers

position: in the middle third of the main branch of the tassel.



Class 3 (lax).



Class 7 (dense).

28 Ear: shape 1 conical 2 conico-cylindrical 3 Cylindrical

29 Ear: number of rows of grain 1 very few 3 few 5 medium 7 many 9 very many

34 Ear: type of grain 1 flint, 2 flint like, 3 intermediate, 4 dent like, 5 dent, 6 sweet, 7 pop, 8 waxy, 9 flour

36 Ear: colour of top of grain 1 white, 2 yellowish white, 3 yellow, 4 yellow-orange, 5 orange, 6 red orange, 7 red, 8 purple, 9 brunish



Ear: cpvo 39 - upov 41

Ear: anthocyanin coloration of glumes of cob

Class 1: absent

**Class 3:
weak**

Class 5: medium

Class 1: very weak



A low-angle photograph of a cornfield. The image shows several corn plants with large, vibrant green leaves and tassels reaching towards a clear blue sky. The perspective is from below, looking up at the plants. A semi-transparent white rectangular box is centered over the middle of the image, containing the text "THANK YOU FOR YOUR ATTENTION" in blue, bold, sans-serif capital letters.

**THANK YOU FOR YOUR
ATTENTION**