



TG/184/3

INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES OF
PLANTS

UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES

INTERNATIONALER
VERBANDZUMSCHUTZ
VON PFLANZEN -
ZÜCHTUNGEN

UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

GLOBE ARTICHOKE

(Cynara scolymus L.)
(Cynara cardunculus var. scolymus L.)

GENEVA
2001

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These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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I. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Cynara scolymus* L. (*Cynara cardunculus* var. *scolymus* L.).

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed or the young plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. The minimum quantity of seed or plant material to be supplied by the applicant in one or several samples should be:

- (a) seed propagated varieties: 50 g of seed,
- (b) vegetatively propagated varieties: 60 plants.

The plant materials supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease and virus free. The seed should at least meet the minimum requirements for germination capacity, moisture content and purity for marketing seed in the country in which the application is made. The germination capacity should be as high as possible.

2. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. The minimum duration of tests should normally be two independent growing cycles.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. Each test should include a total of 40 plants which should be divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise indicated, all observations determined by measurement, weighing or counting should be made on 10 plants or part taken from each of 10 plants.
2. For the assessment of uniformity, a population standard of 5% with an acceptance probability of at least 95% should be applied.

For seed propagated varieties: in the case of a sample size of 40 plants, the maximum number of off-types allowed would be 4 (the number includes plants resulting from the selfing of a parent line).

For vegetatively propagated varieties: in the case of a sample size of 40 plants, the maximum number of off-types allowed would be 2.

3. Unless otherwise indicated, all observations on the leaves should be made on fully developed leaves, on the 3rd or 4th leaf from the base (i.e. when the flower head is about 3 cm in diameter).
4. Unless otherwise indicated all observations on the outer bract of the flower head should be made on the 5th whorl of bracts from the base of the central flower head.
5. Unless otherwise indicated, all observations on inner bracts of the flower head must be made on the central flower head.

V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety. Their various states of expression should be fairly evenly distributed throughout the collection.
2. It is recommended that the competent authorities use the following characteristics for grouping varieties:

- (a) Leaf: incisions (10 to 12 leaf stage) (characteristic 9)
- (b) Central flower head: shape in longitudinal section (characteristic 26)
- (c) Central flower head: time of appearance (characteristic 28)
- (d) Outer bract: color (external side) (characteristic 41)

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.
2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of the different characteristics.

3. Legend:

- (*) Characteristics that should be used on all varieties in every growing period over which the examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.
- (+) See Explanations on the Table of Characteristics in Chapter VIII.

VII. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tablades caracteres

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. Plant:height (* (including central (+) flowerhead)	Plante:hauteur (capitule central inclus)	Pflanze:Höhe (einschließlich Hauptblütenkopf)	Planta:altura (incluyendo el capítulo central)		
short	courte	niedrig	corta	Violet de Provence, Tudela	3
medium	moyenne	mittel	media	Blanc Hyerois, Camus de Bretagne, Vertu	5
tall	haute	hoch	alta	Caribou, Popvert, Salambo	7
2. Plant:number of lateral shootson mainstem	Plante:nombre de ramificationssurla tige principale	Pflanze:Anzahl Seitentriebe am Haupttrieb	Planta:número de ramificaciones en el tallo principal		
few	faible	gering	bajo	Blanc Hyerois, Calico, Popvert	3
medium	moyen	mittel	medio	Salambo	5
many	élevé	groß	alto	Chrysanthème, Vertu	7
3. Mainstem:height (* (excluding central (+) flowerhead)	Tige principale: hauteur (à l'exclusion du capitule central)	Haupttrieb: Höhe (ohne Hauptblütenkopf)	Planta:altura (excluyendo el capítulo central)		
short	basse	niedrig	baja	Capitan	3
medium	moyenne	mittel	media	Castel, Salambo	5
tall	haute	hoch	alta	Caribou	7
4. Mainstem:distance between central (+) flowerhead and youngest well developed leaf	Tige principale: distance entre le capitule central et la feuille bien développée la plus jeune	Haupttrieb: Abstand zwischen Hauptblütenkopf und jüngstem gut entwickeltem Blatt	Tallo principal: distancia entre el capítulo central y la hoja bien desarrollada más joven		
short	courte	gering	corta	Caribou, Violet de Provence	3
medium	moyenne	mittel	media	Blanc Hyerois, Tudela	5
long	longue	groß	larga	Castel	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
5. Mainstem: diameter(atabout 10 cmbelowcentral flowerhead)	Tigeprincipale: diamètre(à10 cm environsouslabase ducapitulecentral)	Haupttrieb: Durchmesser (ungefähr10 cm unterdem Hauptblütenkopf)	Talloprincipal: diámetro (aproximadamente a 10 cmpordebajo delcapitulocentral)		
small	petit	klein	pequeño	VioletdeProvence	3
medium	moyen	mittel	medio	Castel,Vertu	5
large	grand	groß	grande	Carène	7
6. Leaf:attitude (*)(10to12leafstage)	Feuille:port(stade 10à12feuilles)	Blatt:Stellung (10-bis12 - Blattstadium)	Hoja:porte(estado de10a12hojas)		
erect	dressé	aufrecht	erecto	Capitan,Pètre,Vertde Provence	1
semi-erect	demi-dressé	halbaufrecht	semierecto	Calico,Camusde Bretagne	3
horizontal	horizontal	waagrecht	horizontal	BlancHyerois,Popvert	5
7. Leaf:longspines (*)	Feuille:longues épinés	Blatt:lange Stacheln	Hoja:espinas largas		
absent	absentes	fehlend	ausentes	CamusdeBretagne, Tudela	1
present	présentes	vorhanden	presentes	Spinososardo	9
8. Leaf:length	Feuille:longueur	Blatt:Länge	Hoja:longitud		
short	courte	kurz	corta	Tudela,Violetde Provence	3
medium	moyenne	mittel	media	BlancHyerois, Chrysanthème,Popvert	5
long	longue	lang	larga	CamusdeBretagne, Caribou	7
9. Leaf: incisions (*)(10to12leafstage)	Feuille:incisions (stade10à 12 feuilles)	Blatt: Randeinschnitte (10-bis12 - Blattstadium)	Hoja:incisiones (estadode10a 12 hojas)		
absent	absentes	fehlend	ausentes	Tudela,Violetde Provence	1
present	présentes	vorhanden	presentes	CamusdeBretagne, Vertu	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. Leaf: number of lobes	Feuille: nombre de lobes	Blatt: Anzahl Lappen	Hoja: número de lóbulos		
few	faible	gering	bajo	Violet de Provence, Tudela	3
medium	moyen	mittel	medio	Blanc Hyerois, Chrysanthème	5
many	élevé	groß	alto	Salanquet	7
11. Leaf: length of longest lobe	Feuille: longueur du lobe le plus long	Blatt: Längedes längsten Lappens	Hoja: longitud del lóbulo más largo		
short	court	kurz	corto	Vertu	3
medium	moyen	mittel	medio	Orlando, Popvert, Sybaris	5
long	long	lang	largo		7
12. Leaf: width of longest lobe	Feuille: largeur du lobe le plus long	Blatt: Breitedes längsten Lappens	Hoja: anchura del lóbulo más largo		
narrow	étroit	schmal	estrecho	Vertu	3
medium	moyen	mittel	medio	Orlando, Popvert, Sybaris	5
broad	large	breit	ancho		7
13. Lobe: shape of tip (excluding terminal lobe) (+)	Lobe: forme de l'extrémité (à l'exclusion du lobe terminal)	Lappen: Form der Spitze (ohne Endlappen)	Lóbulo: forma de la punta (excluyendo el lóbulo terminal)		
acute	aiguë	spitz	aguda	Camus de Bretagne, Vertu	1
nearly right angle	approximativement à angle droit	fast rechtwinklig	casien ángulo recto	Calico, Caribou, Salambo	2
obtuse	obtuse	stumpf	obtusa		3
14. Lobe: number of secondary lobes (+)	Lobe: nombre de divisions	Lappen: Anzahl Sekundärlappen	Lóbulo: número de lóbulos secundarios		
none or very few	nul ou très faible	fehlend oder sehr gering	ninguno o muy bajo	Violet de Provence	1
few	faible	gering	bajo	Camus de Bretagne	3
medium	moyen	mittel	medio	Blanc Hyerois, Popvert	5
many	élevé	groß	alto	Orlando, Sybaris	7
very many	très élevé	sehr groß	muy alto		9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
15. Lobe:shapeoftip ofsecondarylobes (+)	Lobe:formede l'extrémitédes divisions	Lappen:Formder Spitzedes Sekundärlappens	Lóbulo:formadela puntadeloslóbulos secundarios		
acuminate	trèspointue	zugespitzt	acuminada	VertdeProvence	1
acute	pointue	spitz	aguda	BlancHyerois,Tudela	2
rounded	arrondie	abgerundet	redondeada	Cric,Popvert	3
16. Leafblade:shapein crosssection	Limbe:formeen sectiontransversale	Blattspreite:Form imQuerschnitt	Limbo:formadela seccióntransversal		
flat	plate	flach	plana	Salambo,Vertu	1
Vshaped	enV	V-förmig	enformadeV	Capitan,Castel	2
17. Leafblade: intensityofgreen color(upper side)	Limbe:intensitéde lacouleurverte (facesupérieure)	Blattspreite: Intensitätder Grünfärbung (Oberseite)	Limbo:intensidad delcolorverde(del haz)		
light	claire	hell	claro	BlancHyerois,Pètre	3
medium	moyenne	mittel	medio	VioletdeProvence, Tudela,Vertu	5
dark	foncée	dunkel	oscuro	CamusdeBretagne, Cric	7
18. Leafblade:hueof greencolor (*)	Limbe:teintedela couleurverte	Blattspreite:Ton derGrünfärbung	Limbo:tonalidad delcolorverde		
absen	absente	fehlend	ausente	Salambo	1
yellowish	jaunâtre	gelblich	amarillento	BlancHyerois	2
greyish	grisâtre	gräulich	grisáceo	CamusdeBretagne	3
19. Leafblade: intensityofgrey hue	Limbe:intensitéde lateintegrise	Blattspreite: Intensität des Grautons	Limbo:intensidad delatonalidadgris		
weak	faible	gering	débil		3
medium	moyenne	mittel	media		5
strong	forte	stark	fuerte		7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
20. Leaf:hairiness on (*) upper side	Limbe:pilosité de la face supérieure	Blattspreite: Behaarung der Oberseite	Limbo:vellosidad del haz		
absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Camus de Bretagne, Castel, Vert Globe	1
weak	faible	gering	débil	Vertu	3
medium	moyenne	mittel	media	Carène, Popvert	5
strong	forte	stark	fuerte	Violet de Provence	7
very strong	très forte	sehr stark	muy fuerte		9
21. Leaf blade: (*) blistering	Limbe:cloûre	Blattspreite: Blasigkeit	Limbo:abullonado		
absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil		1
weak	faible	gering	débil	Blanc Hyerois, Popvert	3
medium	moyenne	mittel	medio	Calico, Caribou	5
strong	forte	stark	fuerte	Chrysanthème	7
very strong	très forte	sehr stark	muy fuerte	Cric	9
22. Petiole: anthocyanin coloration at base	Pétiole: pigmentation anthocyanique de la base	Blattstiel: Anthocyanfärbung an der Basis	Pecíolo: pigmentación antociánica de la base		
absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Capitan, Carène	1
weak	faible	gering	débil	Castel	3
medium	moyenne	mittel	media	Pètre	5
strong	forte	stark	fuerte	Violet de Provence	7
very strong	très forte	sehr stark	muy fuerte		9
23. Central flower head: length	Capitule central: longueur	Hauptblütenkopf: Länge	Capítulo central: longitud		
short	court	kurz	corto	Pètre	3
medium	moyen	mittel	medio		5
long	long	lang	largo	Vert de Provence	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
24. Centralflower head:diameter	Capitulecentral: diamètre	Hauptblütenkopf: Durchmesser	Capítulocentral: diámetro		
small	petit	klein	pequeño	VertdeProvence	3
medium	moyen	mittel	medio		5
large	grand	groß	grande	CamusdeBretagne, Salambo	7
25. Centralflower head:size (*)	Capitulecentral: taille	Hauptblütenkopf: Größe	Capítulocentral: tamaño		
small	petite	klein	pequeño	VertdeProvence, VioletdeProvence	3
medium	moyenne	mittel	mediano	BlancHyerois, Chrysanthème	5
large	grande	groß	grande	Castel,Salambo	7
26. Centralflower head:shapein (+) longitudinalsection	Capitulecentral: formeensection longitudinale	Hauptblütenkopf: Formim Längsschnitt	Capítulocentral: formadelasección longitudinal		
circular	circulaire	kreisförmig	redonda	Castel,GreenGlobe	1
broadelliptic	elliptiquelarge	rechteckig	elípticaancha	Chrysanthème,VertdeProvence	2
ovate	ovale	eiförmig	oval	Cric,Salambo	3
triangular	triangulaire	dreieckig	triangular	Tudela,VioletdeProvence	4
transversebroad elliptic	elliptique transversalelarge	querbreitelliptisch	elípticatransversal ancha	Carène,Pètre	5
27. Centralflower head:shapeoftip (*)	Capitulecentral: formeausommet	Mittlerer Blütenkopf:Form derSpitze	Capítulocentral: formadelapunta		
acute	pointue	spitz	aguda	VioletdeProvence	1
rounded	arrondie	abgerundet	redondeada	CamusdeBretagne	2
flat	aplatie	flach	plana	Chrysanthème	3
depressed	creuse	eingesunken	hundida	Carène,Pètre	4
28. Centralflower head:timeof appearance (*)	Capitulecentral: époque d'apparition	Mittlerer Blütenkopf: Zeitpunkt des Erscheinens	Capítulocentral: época deaparición		
early	précoce	früh	precoz	Chrysanthème,Tudela	3
medium	moyenne	mittel	media	BlancHyerois	5
late	tardive	spät	tardía	CamusdeBretagne	7

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
29. Centralflower head:timeof beginningof opening	Capitulecentral: périodedudébutde l'ouverture	Mittlerer Blütenkopf: Zeitpunktdes BeginnsdesÖffnens	Capítulocentral: épocadeapertura		
early	précoce	früh	precoz	Chrysanthème, Vertde Provence	3
medium	moyenne	mittel	media	CamusdeBretagne	5
late	tardive	spät	tardía	Popvert, Tudela	7
30. Firstflowerheadon lateralshoot:length	Premiercapitule latéral:longueur	Ersterseitlicher Blütenkopf:Länge	Primercapítulo lateral:longitud		
short	court	kurz	corto	Pètre, Popvert	3
medium	moyen	mittel	medio		5
long	long	lang	largo	VertdeProvence	7
31. Firstflowerheadon lateralshoot: diameter	Premiercapitule latéral:diamètre	Ersterseitlicher Blütenkopf: Durchmesser	Primercapítulo lateral:diámetro		
small	petit	klein	pequeño	VertdeProvence	3
medium	moyen	mittel	medio	BlancHyerois	5
large	grand	groß	grande	Salambo	7
32. Firstflowerheadon lateralshoot:size	Premiercapitule latéral:taille	Ersterseitlicher Blütenkopf:Größe	Primercapítulo lateral:tamaño		
small	petite	klein	pequeño	VioletdeProvence	3
medium	moyenne	mittel	medio	Chrysanthème	5
large	grande	groß	grande	BlancHyerois, Castel	7
33. Firstflowerheadon lateralshoot:shape (+) inlongitudinal section	Premiercapitule latéral:formeen section longitudinale	Ersterseitlicher Blütenkopf:Form imLängsschnitt	Primercapítulo lateral:formadela secciónlongitudinal		
circular	circulaire	kreisförmig	circular	Castel, Salambo	1
broadelliptic	elliptiquelarge	rechteckig	elípticaancha	Cric, BlancHyerois	2
ovate	ovale	eiförmig	oval	Velours	3
triangular	triangulaire	dreieckig	triangular	VioletdeProvence	4
transversebroad elliptic	elliptique transversalelarge	querbreitelliptisch	elípticatransversal ancha	Pètre, Popvert	5

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
34. Firstflowerheadon lateralshoot: degreeofopening	Premiercapitule latéral:degréde l'ouverture	Ersterseitlicher Blütenkopf:Stärke derÖffnung	Primercapítulo lateral:gradode apertura		
weak	faible	gering	débil	Salambo	3
medium	moyen	mittel	media	BlancHyerois	5
strong	fort	stark	fuerte	Chrysanthème	7
35. Outerbract:length ofbase (+)	Bractéeexterne: longueurdelabase	ÄußeresDeckblatt: LängederBasis	Brácteaexterior: longitudenlabase		
short	courte	kurz	corta		3
medium	moyenne	mittel	media		5
long	longue	lang	larga		7
36. Outerbract:width ofbase (+)	Bractéeexterne: largeurdelabase	ÄußeresDeckblatt: BreitederBasis	Brácteaexterior: anchuraenlabase		
narrow	étroite	schmal	estrecha	Orlando	3
medium	moyenne	mittel	media	BlancHyerois, Popvert,Vertu	5
broad	large	breit	ancha	Pètre	7
37. Outerbract: thicknessatbase (+)	Bractéeexterne: épaisseurdelabase	ÄußeresDeckblatt: DickeanderBasis	Brácteaexterior: espesorenlabase		
thin	fine	dünn	delgada		3
medium	moyenne	mittel	media	BlancHyerois, Popvert,Vertu	5
thick	épaisse	dick	gruesa	Pètre	7
38. Outerbract: mainshape (*)	Bractéeexterne: formeprincipale	ÄußeresDeckblatt: Hauptform	Brácteaexterior: formaprincipal		
broaderthanlong	pluslargequelongue	breiterslang	másanchaque la rga	Calico,CricPètre	1
asbroadaslong	aussilargeque longue	ebensobreitwielang	tananchacomolarga	CamusdeBretagne, Pètre	2
longerthanbroad	pluslonguequelarge	längeralsbreit	máslargaqueancha	VertdeProvence, Vertu	3

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
39. Outerbract:shape ofapex (*)	Bractéeexterne: formedel'apex	ÄußeresDeckblatt: FormderSpitze	Brácteaexterior: formadelápice		
acute	pointu	spitz	agudo	SpinosoSardo	1
flat	plat	flach	plano	Talpiot	2
emarginate	échancré	eingekerbt	emarginado	Chrysanthème	3
40. Outerbract:depth ofemargination (*)	Bractéeexterne: profondeurde l'échancrure	ÄußeresDeckblatt: Tiefedes Randeinschnittes	Brácteaexterior: profundidaddel emarginado		
shallow	faible	flach	pocoprofunda	Castel,Violetde Provence	3
medium	moyenne	mittel	media	BlancHyerois	5
deep	profonde	tief	profunda	Chrysanthème	7
41. Outerbract:color (*) (externalside)	Bractéeexterne: couleur(face externe)	ÄußeresDeckblatt: Farbeder Außenseite	Brácteaexterior: color(caraexterna)		
green	verte	grün	verde	BlancHyerois,Tudela, VertdeProvence	1
greenstripedwith violet	vertestriéede violet	grüngestreiftmit violett	verderayadocon violeta	VioletdeProvence	2
violetstripedwith green	violettestriéedevert	violettgestr eiftmit grün	violetarayadocon verde	Chrysanthème	3
mainlyviolet	principalement violette	überwiegendviolett	principalmente violeta	Cric,Salambo	4
entirelyviolet	entièrementviolette	vollständigviolett	completamente violeta	Velours	5
42. Outerbract:hueof secondarycolor (as 41) (*)	Bractéeexterne: teintesecondaire (comme 41)	ÄußeresDeckblatt: Tonder Sekundärfarbeder Außenseite (wieunter41)	Brácteaexterior: tonalidaddelcolor secundario (comopara41)		
absent	absente	fehlend	ausente	Calico	1
bronze	bronze	bronzefarben	bronce	BlancHyerois,Sakiz	2
grey	grise	grau	gris	CamusdeBretagne, Popvert	3
43. Outerbract: reflexingoftip (+)	Bractéeexterne: courbureau sommet	ÄußeresDeckblatt: BiegungderSpitze	Brácteaexterior: curvaturadela punta		
absent	absente	fehlend	ausente	Castel,Salambo	1
present	présente	vorhanden	presente	Calice,Chrysanthème	9

English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
44. Outerbract: size of spine (*)	Bractée externe: taille de l'épine	Äußeres Deckblatt: Größe des Stachels	Bráctea exterior: tamaño de las espinas		
absent or very small	absente à très petite	fehlend oder sehr klein	ausente o muy pequeñas	Calico	1
small	petite	klein	pequeñas	Chrysanthème, Vertu	3
medium	moyenne	mittel	medias	Violet de Provence	5
large	grande	groß	grandes		7
very large	très grande	sehr groß	muy grandes	Spinoso Sardo	9
45. Outerbract: mucron (+)	Bractée externe: mucron	Äußeres Deckblatt: aufgesetzte Spitze	Bráctea exterior: mucrón		
absent	absent	fehlend	ausente	Chrysanthème, Pètre	1
present	présent	vorhanden	presente	Camus de Bretagne	9
46. Central flower head: anthocyanin coloration of inner bracts	Capitule central: coloration anthocyanique des bractées internes	Hauptblütenkopf: Anthocyanfärbung der inneren Deckblätter	Capítulo central: pigmentación antocianica de las brácteas internas		
absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	Popvert	1
weak	faible	gering	débil	Catsel	3
medium	moyenne	mittel	media	Blanc Hyerois	5
strong	forte	stark	fuerte	Chrysanthème	7
very strong	très forte	sehr stark	muy fuerte	Salambo	9
47. Central flower head: density of inner bracts (+)	Capitule central: densité des bractées internes	Hauptblütenkopf: Dichte der inneren Deckblätter	Capítulo central: densidad de las brácteas internas		
sparse	lâche	locker	laxa	Camard, Calice	3
medium	moyenne	mittel	media	Camus de Bretagne	5
dense	dense	dicht	densa	Cacique, Compact	7
48. Receptacle: diameter (+)	Réceptacle: diamètre	Blütenboden: Durchmesser	Receptáculo: diámetro		
small	petit	klein	pequeño	Violet de Provence	3
medium	moyen	mittel	medio	Camus de Bretagne	5
large	grand	groß	grande	Capitan, Salambo	7

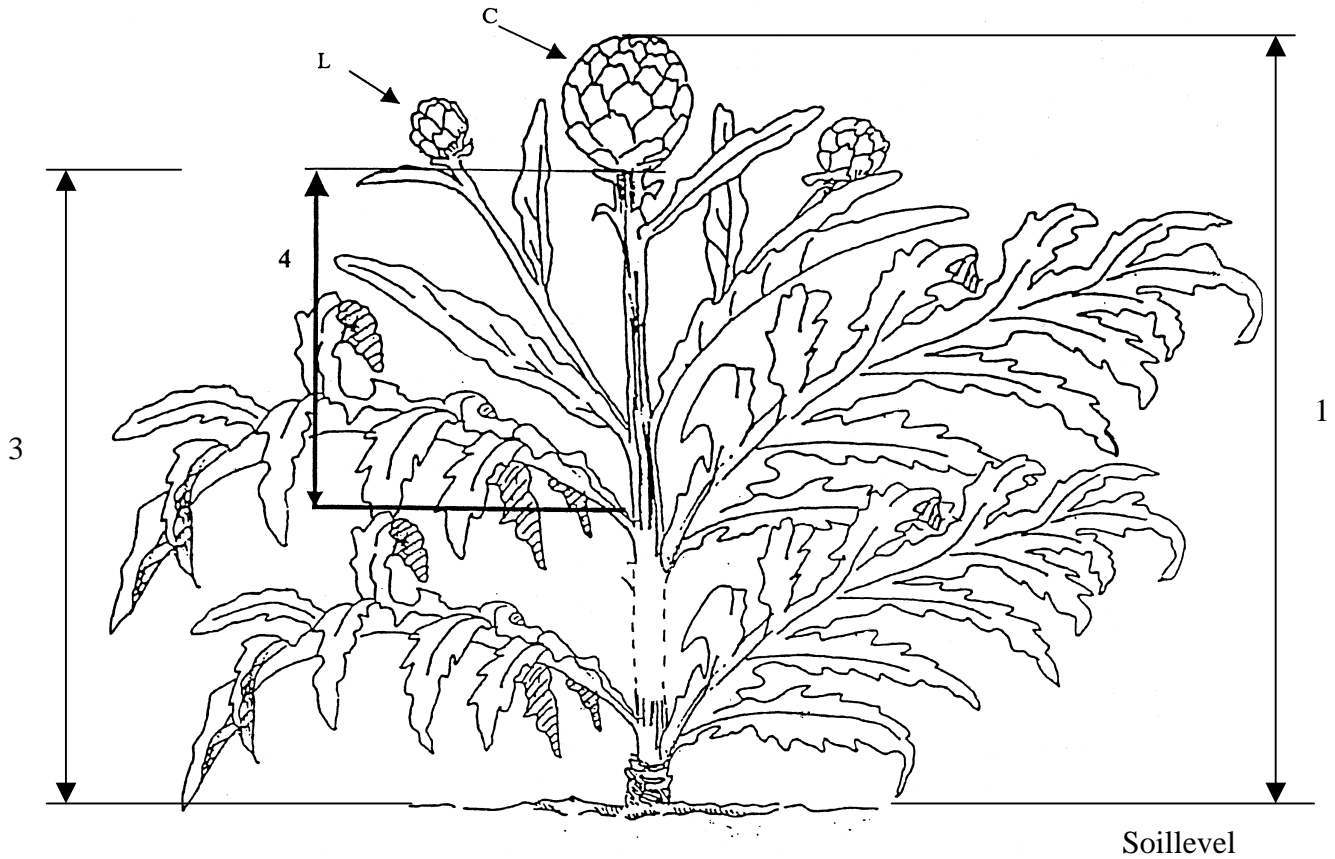
English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
49. Receptacle: thickness (+)	Réceptacle: épaisseur	Blütenboden: Dicke	Receptáculo: espesor		
thin	fin	dünn	delgado	BlancHyerois,Tudela	3
medium	moyen	mittel	medio	Pètre	5
thick	épais	dick	grueso	CamusdeBretagne, Castel	7
50. Receptacle:shape inlongitudinal section (+)	Réceptacle:forme ensection longitudinale	Blütenboden:Form imLän gsschnitt	Receptáculo:forma delasección longitudinal		
flat	plate	flach	plana	Carène	1
slightlydepressed	légèrementreuse	leichteingesenkt	ligeramente deprimida	CamusdeBretagne, Salambo	2
stronglydepressed	fortementcreuse	starkeingesenkt	muydeprimida	BlancHyerois, Chrysanthème	3
51. Tendencyto producelateral shootsatbase	Tendanceà produiredestiges latéralesàlabase	Neigungzur BildungvonSeiten - triebenanderBasis	Tendenciaa producirramas lateralesenlabase		
weak	faible	gering	débil	BlancHyerois,Castel, Vertu	3
medium	moyenne	mittel	media	VioletdeProvence, Chrysanthème,Popvert	5
strong	forte	stark	fuerte	Cacique,Calico	7

VIII. Explanation on the Table of Characteristics

Ad.1.3.4: Plant: height (including central flowerhead) (1);

Mainstem: height (excluding central flowerhead) (3);

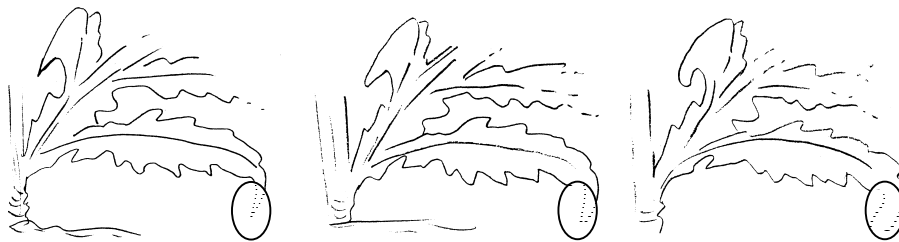
Mainstem: distance between flowerhead and last developed leaf (4)



C: Central flowerhead

L: First flowerhead on lateral

Ad.13: Lobe: shape of tip (excluding terminal lobe)

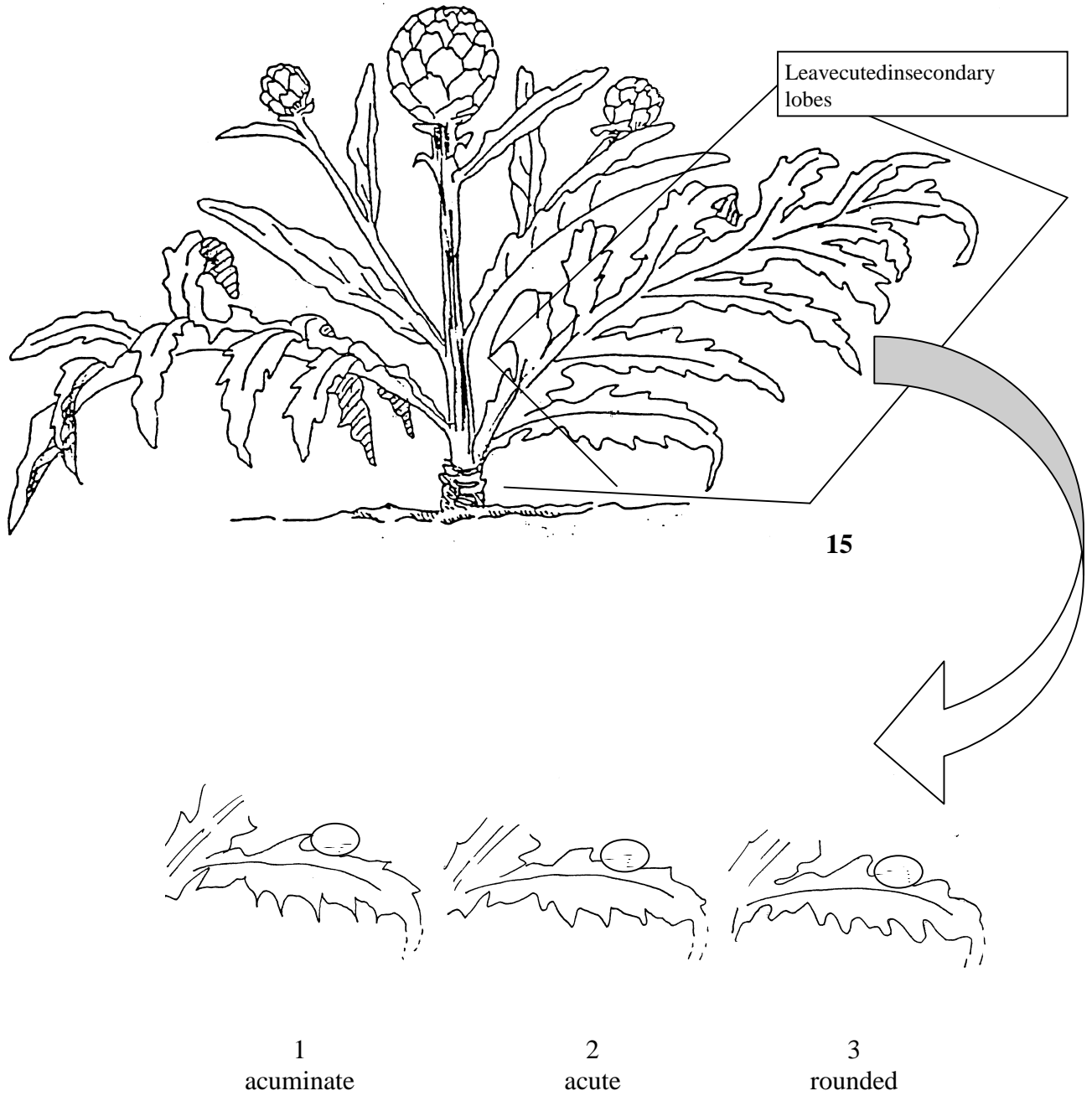


1
acute

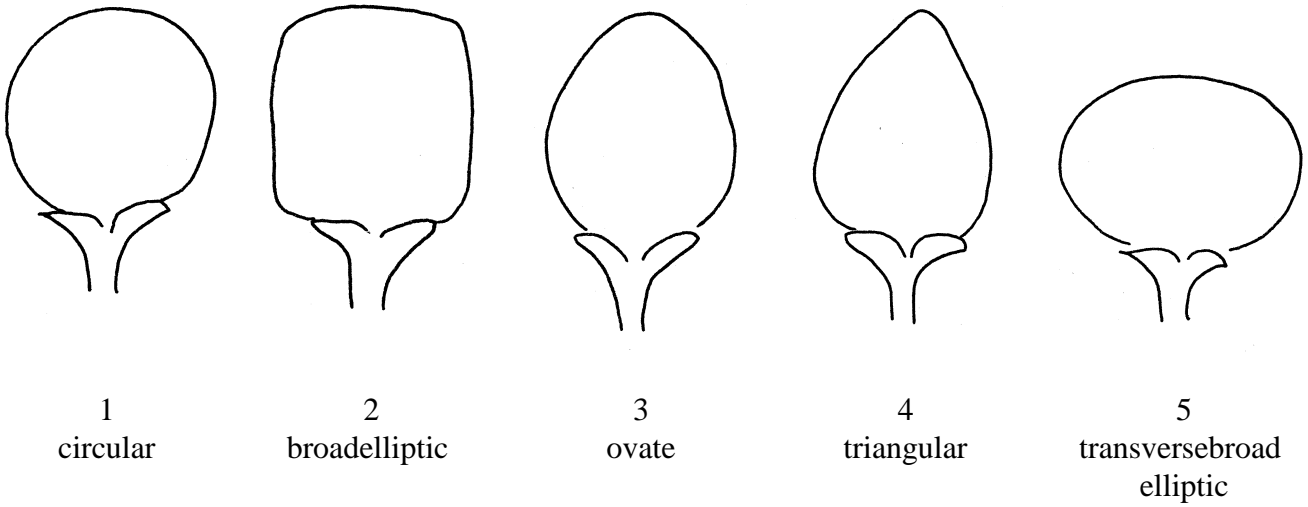
2
nearly right angle

3
obtuse

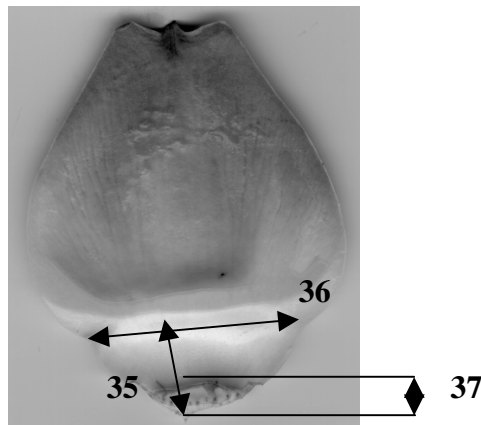
Ad.14,15: Lobe: number (14) and shape of tip (15) of secondary lobes (on the 3rd -4th whorlof leaves)



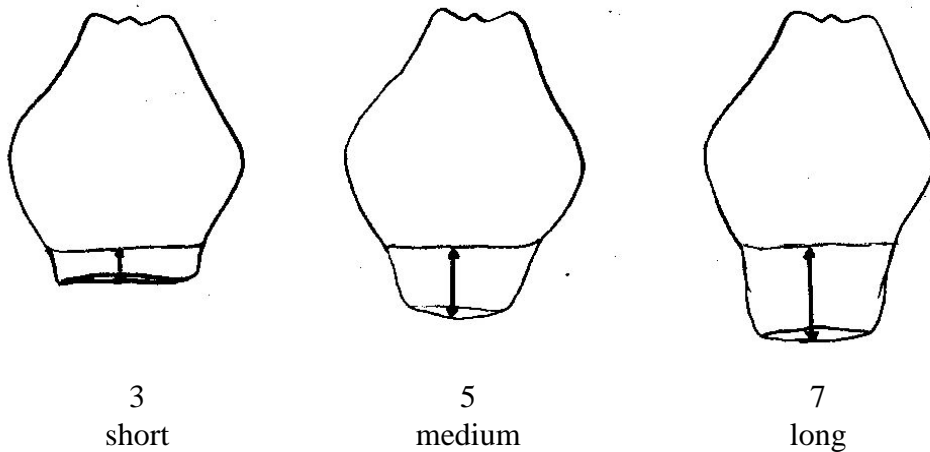
Ad.26,33: Central flower head (26) and First flower head on lateral shoot (33): shape in longitudinal section



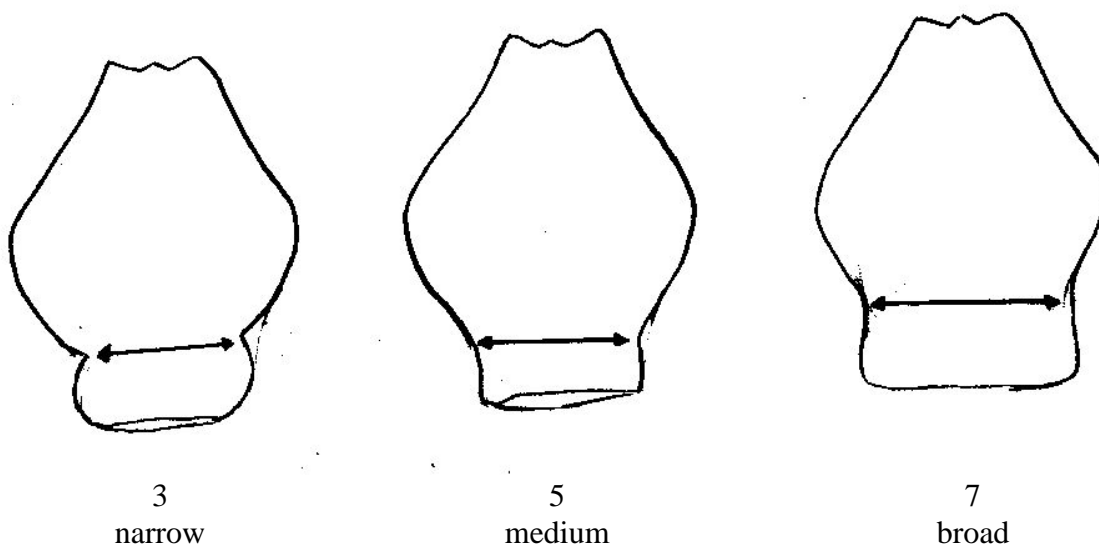
Ad.35,36,37: Outerbracts: length of base (35), width of base (36), thickness at base (37)



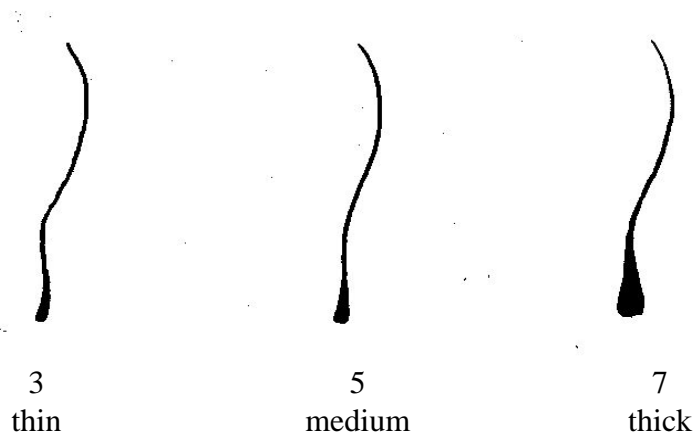
Ad.35: Outerbract: length of base



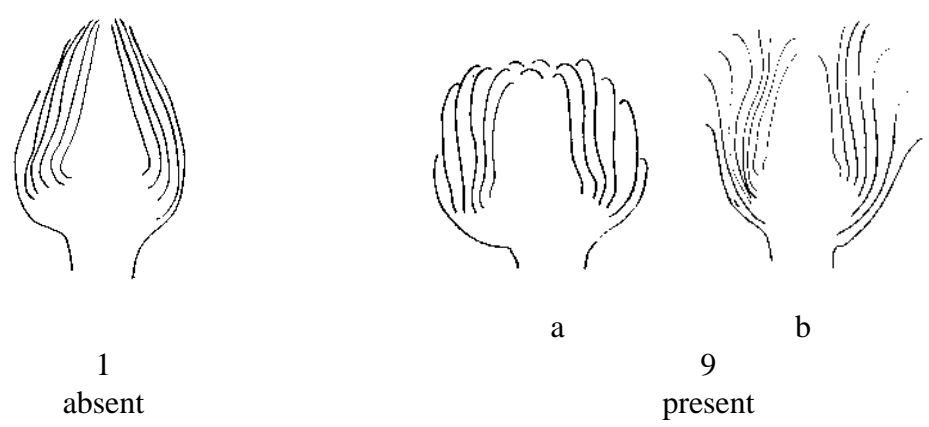
Ad.36:Outerbract:widthofbase



Ad.37:Outerbract:thicknessatbase(*bractinprofil e*)

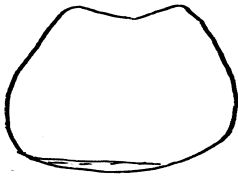


Ad.43:Outerbract:reflexingat tip

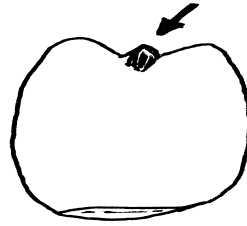


a:reflexingat tip(onChrysanthème)
b:reflexingat tip(onCalice)

Ad.45:Outerbract:mucron

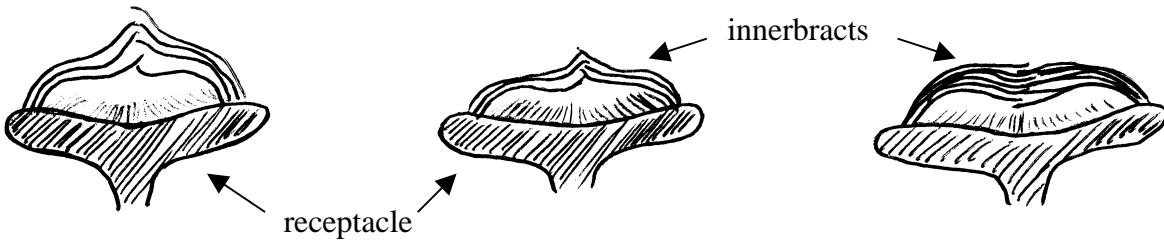


1
absent



9
present

Ad.47:Central flowerhead:density of inner bracts



3
sparse

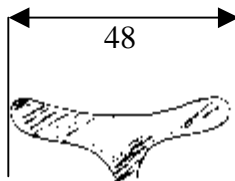
5
medium

7
dense

Ad.48,49,50:Receptacle:diameter(48),thickness(49),shape in longitudinal section(50)



50
1
flat



2
slightly depressed



3
strongly depressed

IX. Literature

- Basnizky J. and Zohary D. 1994: Breeding of seed-planted artichoke, *Plant Breeding Reviews* 12:253 -267.
- Foury C. 1967: Étude de la biologie florale de l'artichaut (*Cynarascolymus* L.); Application à la sélection. 1^{ère} partie: données sur la biologie florale, *Ann. Amélior. Plantes* 17 (4): 357-373.
- Foury C. 1969: Étude de la biologie florale de l'artichaut (*Cynarascolymus* L.); Application à la sélection. 2^{ème} partie: étude des descendances obtenues en fécondation contrôlée, *Ann. Amélior. Plantes* 19(1):23 -52.
- Foury C. et Aubert S. 1977: Observations préliminaires sur la présence et la répartition de pigments anthocyaniques dans un mutant d'artichaut (*Cynarascolymus* L.) à fleurs blanches, *Ann. Amélior. Plantes* 27(5):603 -612.
- Foury C. 1978: Quelques aspects de l'histoire des variétés d'artichaut (*Cynarascolymus* L.), *Journal d'agric. traditionnelle et de botanique appliquée*, XXV(1) janvier -mars 1978.
- Foury C. 1979: Quelques aspects pratiques de la sélection généalogique de l'artichaut, 1-Présentation, création de lignées, *Ann. Amélior. Plantes* 29(4):383 -418.
- Foury C. 1989: Ressources génétiques et diversification de l'artichaut (*Cynarascolymus* L.), *Acta Horticulturae* 242:155 -166.
- Pécaut P. and Martin F. 1993: Variation occurring after natural and in vitro multiplication of early Mediterranean cultivars of globe artichoke (*Cynara scolymus* L.). *Agronomie* 13: 909-919.
- Zohary D. and Basnizky J. 1975: The cultivated artichoke – *Cynarascolymus* L. Its probable wild ancestors. *Economic Botany* 29:233 -235.

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights	
1.	Species <i>Cynara scolymus</i> L./ <i>Cynara cardunculus</i> var. <i>scolymus</i> L. GLOBE ARTICHOKE
2.	Applicant (Name and address)
3.	Proposed denomination or breeder's reference
4.	Information on origin, maintenance and reproduction of the variety
4.1	Method of maintenance and reproduction
(a)	Vegetative propagation <input type="checkbox"/>
(b)	Seed propagation <input type="checkbox"/>
- Hybrid.....	<input type="checkbox"/>
- Open pollinated.....	<input type="checkbox"/>
(c)	Other (specify)..... <input type="checkbox"/>
4.2	Other information

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

Characteristics	Example Varieties	Note
5.1 Leaf:incisions(10to12leafstage) (9)		
absent	Tudela,VioletdeProvence	1[]
present	CamusdeBretagne,Vertu	9[]
5.2 Centralflowerhead:shapeinlongitudinalsection (26)		
circular	Castel,GreenGlobe	1[]
broadelliptic	Chrysanthème,VertdeProvence	2[]
ovate	Cric,Salambo	3[]
triangular	Tudela,VioletdeProvence	4[]
transversebroadelliptic	Carène,Pètre	5[]
5.3 Centralflowerhead:shapeoftip (27)		
acute	VioletdeProvence	1[]
rounded	CamusdeBretagne	2[]
flat	Chrysanthème	3[]
depressed	Carène,Pètre	4[]
5.4 Centralflowerhead:timeofappearance (28)		
early	Chrysanthème,Tudela	3[]
medium	BlancHyérois	5[]
late	CamusdeBretagne	7[]
5.5 Outerbract:color(externalside) (41)		
green	BlancHyerois,Tudela,Vert de Provence	1[]
greenstripedwithviolet	VioletdeProvence	2[]
violetst ripedwithgreen	Chrysanthème	3[]
mainlyviolet	Cric,Salambo	4[]
entirelyviolet	Velours	5[]

6. Similar varieties and differences between these varieties

Denomination of similar variety	Characteristic in which the similar variety is different ^{o)}	State of expression of similar variety	State of expression of candidate variety
---------------------------------	--	--	--

^{o)} In the case of identical states of expression of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Main use

(a) Fresh market

- large flowerhead

- small flowerhead

(b) Canning

- receptacle

- bottom

- pickling artichoke

(c) Industrial use

- leaf extraction

- biomass

(d) Other (please specify)

.....

7.2 Resistance to pests and diseases

7.3 Special conditions for the examination of the variety

7.4 Other information

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes No

(b) Has such authorization been obtained?

Yes No

If the answer to that question is yes, please attach a copy of such an authorization.

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