

Dutch Board for Plant Varieties**Simplified standard protocol for Brassica oleracea L. var. costata DC.****Tronchuda/Portuguese cabbage Protocol NL.KTR d.d. 24-05-2016**

Botanical taxon:	Brassica oleracea L. var. costata DC.
Common Name:	Tronchuda/Portuguese cabbage
Date of preparation:	24-05-2016
TP data prepared by:	G. van Hameren
Sample to be examined:	Seed
Number of growing cycles:	2
Closing date for applications:	1-5
Submitting sample before:	15-5
Number of seeds:	5.000
Test station address:	Naktuinbouw, Sotaweg 22, 2371 GD Roelofarendsveen
Name/Email/Contact person:	Gerard van Hameren, g.v.hameren@naktuinbouw.nl
List of grouping characteristics:	Yes,(annex 1)
Minimum number of plants in trial:	60 plants divided between two or more replicates.

Minimum number of plants observed by measuring or counting:

20 plants or parts of 20 plants

Give description of when/where observations on the leaf should take place:

At fully grown plants/beginning of heading

Give description of when/where the other observations should take place:**Test will take place:**

Outdoors

Standards for decisions**a) Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) Uniformity

For the assessment of uniformity of:

(i) Cross pollinated and hybrid varieties (excluding single cross hybrids), relative uniformity standards should be applied

(ii) Vegetatively propagated varieties, single cross hybrids and inbred-lines, a population standard of 1% and an acceptance probability of at least 95% should be applied.

Table of maximum number of off-types allowed for uniformity standards for vegetatively propagated varieties, single cross hybrids and inbred lines

Number of Off-types allowed

On 36 to 82 plants 2 Off-types are allowed

c) Stability

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

Table of characteristics: PRESENT (see annex II)

General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of new Varieties of Plants

<http://www.upov.int/tgp/en/>

Annex I Grouping characteristics (NL/KTR)			
nr.	Kenmerk/characterics	Expressie/ state of expression	cijfer/note
12	Omlad: aanwezigheid nerven <i>Outer leaf: prominence of veins</i>	3. zwak/5. midden/7 sterk <i>3. weak/5 medium/7 strong</i>	
16	Omlad: kleur (met was) <i>Outer leaf: color (with wax)</i>	1. geelgroen/ 2 groen/3 grijsgroen/ 4 blauwgroen/ 5 violet <i>1. yellow green/ 2. green/ 3. grey green/ 4 blue green/ 5 violet</i>	
21	Kool: aanwezigheid <i>Head: presence</i>	1. ontbrekend of zeer klein/9 aanwezig <i>1. absent or very small/9 present</i>	
39	Mannelijke steriliteit <i>Male sterility</i>	1. ontbrekend/ 9. aanwezig <i>1. absent/ 9. present</i>	

Annex II Table of characteristics (NL/KTR)			
nr.	Kenmerk/characterics	Expressie/ state of expression	cijfer/note
1	Plant: hoogte <i>Plant: height</i>	3 laag/5 midden/ 7 hoog <i>3. short/5 medium /7 tall</i>	
2	Plant: maximum diameter (inclusief omlad) <i>Plant: maximum diameter (including outer leaves)</i>	3. klein /5 midden/ groot <i>3. small/5 medium/7 large</i>	
3	Plant: lengte uitwendige stronk <i>Plant: length of outer stem</i>	3. kort/5 midden/ 7 lang <i>3. short/5 medium /7 long</i>	
4	Plant: houding omlad <i>Plant: attitude of outer leaves</i>	3. opgericht/5 semi-opgericht/7 afhangend <i>3. erect/5 semi-erect/7 prostrate</i>	
5	Omlad: grootte (exclusief kleine lobben) <i>Outer leaf: size (excluding small lobes)</i>	3. klein /5 midden/7 groot <i>3. small/5 medium/7 large</i>	
6	Omlad: lengte steel <i>Outer leaf: length of petiole</i>	3 kort /5 midden/ 7 lang <i>3. short/5 medium /7 long</i>	
7	Omlad: profiel steel (bij aanhechting met uitwendige stronk) <i>Outer leaf: profile of petiole (at attachment with outer stem)</i>	1. rond/2 half rond/3 vlak <i>1. round/ semi-round/3 flattened</i>	
8	Omlad: vorm schijf <i>Outer leaf: shape of blade</i>	1. elliptisch/2 breed eivormig/3 rond/ 4 omgekeerd breed elliptisch/5. omgekeerd eivormig <i>1. elliptic/2 broad ovate/ 3 round/ 4 transverse broad elliptic/5 obovate</i>	
9	Omlad: profiel dwarsdoorsnede <i>Outer leaf: profile in cross section</i>	1. concaaf/2 vlak/3 convex <i>1. concave/2. plane/3 convex</i>	
10	Omlad: mate van bobbeling <i>Outer leaf: degree of blistering</i>	1. afwezig tot zwak/ 2. midden/ 3. sterk <i>1. absent to weak / 2. medium/ 3. strong</i>	

11	Omblad: bobbelgrootte <i>Outer leaf: size of blisters</i>	3. klein /5 midden/7 groot 3. <i>small/5 medium/7 large</i>	
12	Omblad: aanwezigheid nerven <i>Outer leaf: prominence of veins</i>	3. zwak/5. midden/7 sterk 3. <i>weak/5 medium/7 strong</i>	
13	Omblad: breedte hoofdnerf (in midden van schijf) <i>Outer leaf: width of main vein (at the middle of blade)</i>	3 smal/5 midden/7 breed 3. <i>small/5 medium/7 broad</i>	
14	Omblad: invoeging secundaire nerven <i>Outer leaf: insertion of secondary veins</i>	1. waaivormig 2. niet-waaivormig 1. <i>fan-shaped/2 not fan-shaped</i>	
15	Omblad: plooiing <i>Outer leaf: crimping</i>	3. zwak/5. midden/7 sterk 3. <i>weak/5 medium/7 strong</i>	
16	Omblad: kleur (met was) <i>Outer leaf: color (with wax)</i>	1. geelgroen/ 2 groen/3 grijsgroen/ 4 blauwgroen/ 5 violet 1. <i>yellow green/ 2. green/ 3. grey green/ 4 blue green/ 5 violet</i>	
17	Omblad: kleurintensiteit <i>Outer leaf: intensity of colour</i>	1. licht/2 midden/3 donker 1. <i>light/ 2 medium/ 3 dark</i>	
18	Omblad: waslaag <i>Outer leaf: waxiness</i>	3. zwak/5. midden/7 sterk 3. <i>weak/5 medium/7 strong</i>	
19	Omblad: golving rand <i>Outer leaf: undulation of margin</i>	3. zwak/5. midden/7 sterk 3. <i>weak/5 medium/7 strong</i>	
20	Omblad: ombuiging rand <i>Outer leaf: reflexion of margin</i>	1. ontbrekend/ 9. aanwezig 1. <i>absent/ 9. present</i>	
21	Kool: aanwezigheid <i>Head: presence</i>	1. ontbrekend of zeer klein/9 aanwezig 1. <i>absent or very small/9 present</i>	
22	Kool: vorm lengtedoorsnede <i>Head: shape in longitudinal section</i>	1 transversaal smal elliptisch/2 transversaal elliptisch/3 rond/ 4 breed elliptisch/5 breed omgekeerd eivormig/6 breed eivormig/7 spits eivormig 1. <i>transvers smalle elliptic/2 transverse elliptic/3 round/4 broad elliptic/5 broad obovate/6 broad ovate/7 angular ovate</i>	
23	Kool: vorm basis lengtedoorsnede <i>Head: shape of base in longitudinal section</i>	1 v-vormig/2 recht/3 gelobd 1. <i>rounded/2 flat/ 3 arched</i>	
24	Kool: lengte <i>Head: length</i>	3 kort/5 midden/ 7 lang 3. <i>short/5 medium /7 long</i>	
25	Kool: diameter <i>Head: diameter</i>	3. klein /5 midden/ groot 3. <i>small/5 medium/7 large</i>	
26	Kool: plaats grootste diameter <i>Head: position of maximum diameter</i>	1. naar de top/2 in het midden/3 naar de basis 1 <i>towards top/2 at middle/3 towards base</i>	
27	Kool: sluiting <i>Head: cover</i>	1 niet gedekt/2 gedeeltelijk gedekt/3 gedekt 1. <i>not covered/2 partially covered/3 covered</i>	
28	Kool: bobbeling dekblad <i>Head: blistering of cover leaf</i>	3. zwak/5. midden/7 sterk 3. <i>weak/5 medium/7 strong</i>	
29	Kool: ombuiging rand dekblad <i>Head: reflexion of margin of cover leaf</i>	1. ontbrekend/ 9. aanwezig 1. <i>absent/ 9. present</i>	
30	Kool: kleur dekblad <i>Head: colour of cover leaf</i>	1. geelgroen/ 2 groen/3 grijsgroen/ 4 blauwgroen/ 5 violet 1. <i>yellow green/ 2. green/ 3. grey green/ 4 blue green/ 5 violet</i>	
31	Kool: intensiteit kleur dekblad <i>Head: intensity of colour of cover leaf</i>	1. licht/2 midden/3 donker 1. <i>light/ 2 medium/ 3 dark</i>	
32	Kool: anthocyaankleuring van het dekblad	3. zwak/5. midden/7 sterk	

	<i>Head: anthocyanin coloration of cover leaf</i>	<i>3. weak/5 medium/7 strong</i>	
33	Kool: inwendige kleur	1. wit/2 geelachtig	
	<i>Head: internal colour</i>	<i>1. white/2 yellowish</i>	
34	Kool: vastheid	3 los/5 midden/7 vast	
	<i>Head: density</i>	<i>3. loose/5 medium/7 dense</i>	
35	Kool: inwendige structuur	3 fijn/5 midden/7 grof	
	<i>Head: internal structure</i>	<i>3 fine/5 medium/7 coarse</i>	
36	Kool: lengte van de inwendige stronk in relatie tot de lengte van de kool	3 kort /5 midden/ 7 lang	
	<i>Head: relative length of interior stem compared to length of head</i>	<i>3. short/5 medium /7 long</i>	
37	Oogstrijpheid	3 vroeg/5 midden/laat	
	<i>Time of harvest maturity</i>	<i>3. early/5 medium/7 late</i>	
38	Tijdstip van barsten van de kool na oogstrijpheid	3 vroeg/5 midden/laat	
	<i>Time of bursting of head after maturity</i>	<i>3. early/5 medium/7 late</i>	
39	Mannelijke steriliteit	1. ontbrekend/ 9. aanwezig	
	<i>Male sterility</i>	<i>1. absent/ 9. present</i>	
40	Resistentie tegen fysis 1 van <i>Fusarium oxysporum</i> f. sp. <i>conglutinans</i>	1. ontbrekend/ 9. aanwezig	
	<i>Resistance to race 1 of Fusarium oxysporum f. sp. conglutinans</i>	<i>1. absent/ 9. present</i>	