

The Finnish potato onions in the DNA study of SafeAlliDiv project in 2017-2018

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The Finnish collection of potato onions

- Most of the material originates from the research conducted at the University of Helsinki in 1980's by Kirsti Osara
 - More than 100 accessions were collected at that time and tested in field tests
 - Part of the material was decided to be maintained at the Agricultural Research Centre of Finland (and also in genebank in Olomouc) -> basis of Luke's collection
- Some accessions were obtained later to the Luke's experimental station in Rovaniemi
- A public call was made in 2012 to obtain information of old accessions from home gardeners
 - The first DNA analysis was made in Luke (by Kristiina Antonius)
- Still after that we have received information on some old accessions
- A second set of DNA analyses was made in Luke (by Pirjo Tanhuanpää)

Samples sent to DNA analysis in December 2017

All samples sent to analysis should be genetically different according to our studies

1. Material from Kirsti Osara's research (9 accessions)

Code	Origin
PTU 42	Lappeenranta
PTU 23	Ylämaa
PTU 53	Helsinki
PTU 46	Lappeenranta
PTU 17	Pielavesi
PTU 14	Jogeva, Estonia*
PTU 41	Anttola
PTU 26	Ruokolahti
PTU 52	Helsinki

* Probably seedlings of an Estonian cultivar



2. Material obtained in 1990's and 2000's

Code	Origin
Ranua	Ranua
Kuusamo	Kuusamo
Ärmätti 2	Suolijärvi
Kangasniemi	Kangasniemi
Nokia	Nokia
Eno	Eno
Vihtalahti	Laukaa



3. Material from home gardens in 2012 and later

Code	Origin
27-12	Kärkölä
20-12	Perniö
5-12	Tervo
9-12	Kaivanto
12-12	Vantaa

LUKE-2649 .

Kupittaa 24 Turku

Nuutila .



Red ones not yet in
Luke's collection



4. Shallots or crossings between shallots and potato onions
(material from the Netherlands, possibly potato onions used in
crossings)

GS3

Sante 2

Creation

Typical for our "shallots": erect leaves with yellow tips. Photo 14.7.2014



Characteristics of some accessions (analysed in 2015)

OMINAISUUS	Kuusamo (01)	Ärmätti 2	Lappeenranta (46)	Pielavesi (17)	Kangasniemi	Viro (14)
Foliage colour	Bluish green in all					
Leaf length(cm)	40	44	53	50	45	39
Leaf width (mm)	16	14	12	19	14	16
Foliage attitude	intermediate	erect	erect	intermediate	erect	intermediate
Shape of bulb*	Flat globe	Broad oval / globe	Broad ovale	Flat globe	Broad oval / globe	Rhomboid / broad ovale
Uniformity of bulb shape	variable	variable	uniform	variable	variable	uniform
Bulb skin colour	Yellow and light brown	Brown/dark brown	Yellow and light brown/light brown	Light brown	Light brown / brown	Yellow and light brown
Bulb skin thickness	Thin	Thick	Medium	Thin	Medium	thin
Bulb flesh colour	Cream	White	Green/white	Cream	White	Cream/green/white
Bulb mean weight(g)	33	35	33	45	27	33
Number of bulb hearts	1	2-3	2-3	2-3	2-3	2-3
Flowering	a lot	A lot	-	A lot	-	A lot

*varies a lot in relation to bulb size

Thank you!



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