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Current status of Allium collection in Croatia

SafeAlliDiv meeting, Tallinn, 10-13 June

Croatia – basic facts

Area: 56.538 km² land + 33.200 km² sea

Population: 4.4 million

Capital: Zagreb (685.000)

Larger cities: Split (175.000)

Rijeka (145.000)

Osijek (91.000)

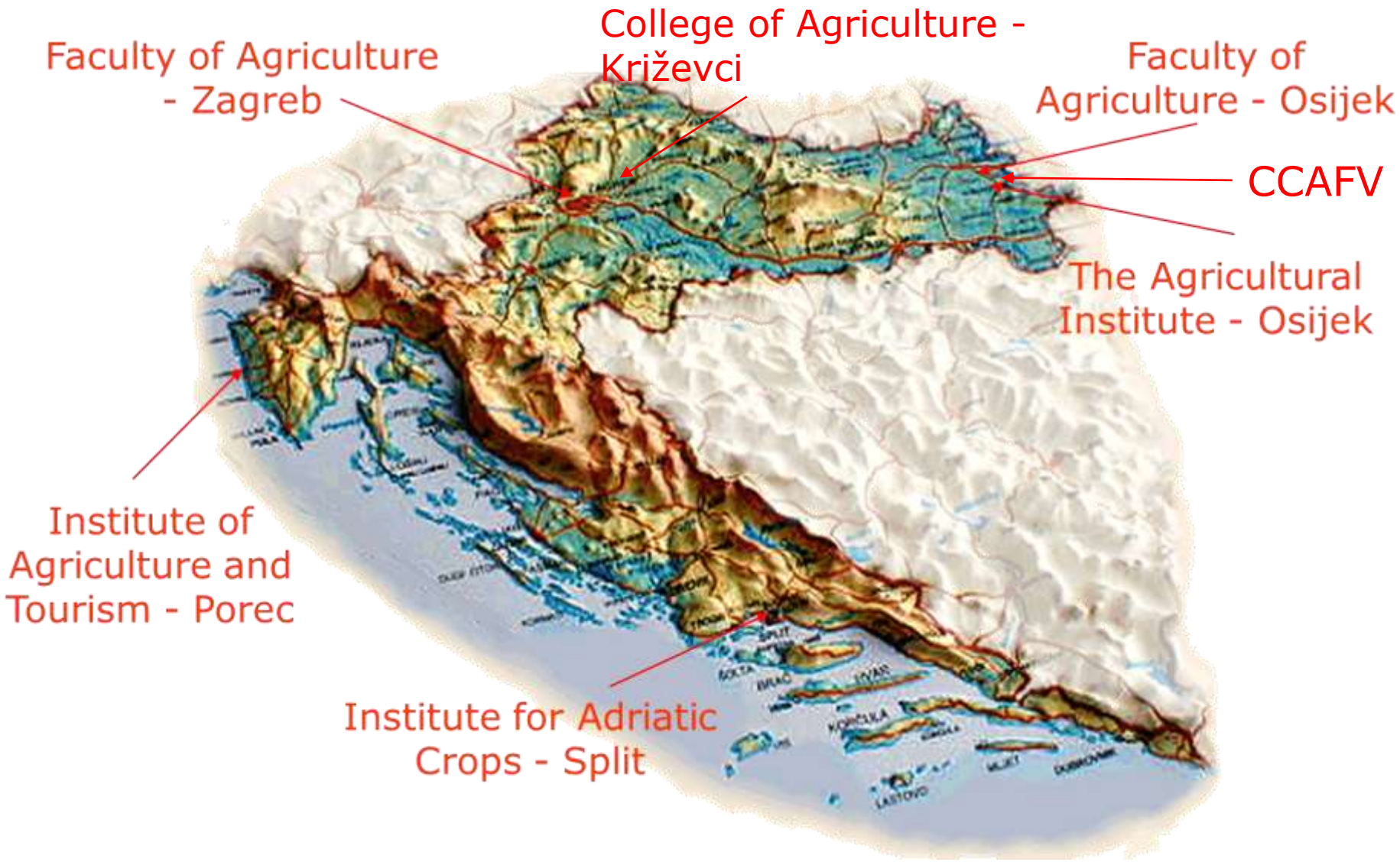
Plant Genetic Resources

- Program started in 2004 – Swedish Agency SIDA
- It was stopped in 2010 and continued in 2014
- New program was adopted: 2017 – 2020

Working groups:

Vegetable
Aromatic and medicinal plants
Grape
Cereals and corn
Friut (Mediterranean and Continental)
Industrial crops
Legumes

Vegetable Working Group



Alliums in Croatia – official list

Species	garlic (*Allium sativum* L.).	potato onion (*Allium cepa* L. Aggregatum group)	onion (*A. cepa* L.)	leek (*A.ampeloprasum* L.)	chives (*A. schoenoprasum*	bunching onion (*A.*	others species in collectiones
Genetic reseources							
number of accessions (acc.)	3		4	-			
type of collection	field collection		seed	-			
type of conservation	ex situ		ex situ	-			
source of new acc.	collection missions		collection missions	-			
in vitro (acc.)	-		-	-			
cryo (acc.)	-		-	-			
description (acc.)	3		4	-			
Chemical analyses (acc.)				-			
DNA anylyses (acc.)			-	-			
safe duplication				-			
cooperation with others GB				-			
Current projects	Centre of Excellence for Biodiversity and Molecular Plant Breeding - under evaluation		-	-			
others activity with GR	preparing open days, presentation of GR in the media			-			
Commercial production							
number of national varieties	3		1	-			
harvest area (ha)	161		1.086	307			
production (t)	1.381		30.942	3.443			
import (t)	1.347		15.890	464			
home-garden scale	yes, not statistically monitored		yes, not statistically monitored	yes, not statistically monitored			

Current situation

***A. cepa* Aggregatum group**

(syn. *A. ascalonicum, A. cepa* var. *ascalonicum*)

- diploid classified within the common onion *Allium cepa*.
- produce seeds

A. × cornutum Clementi ex Vis.

- triploid commonly cultivated in South-coastal Croatia.
- sterile
- stamen morphology simple

A. × proliferum (Moench) Schrad

(also known al Egiptian onion or tree onion)

- diploid viviparous onion
- sterile.

Current situation

Inflorescence morphology

***A. cepa* Aggregatum group**

Spheric inflorescence with >30 flowers, no bulbils. Produces seeds.

A. × cornutum

Spheric inflorescence with >30 flowers, purple bulbils sitting on scape. Sterile.

A.× proliferum

Campanulate and prizmic inflorescence. Sterile. Grows from bulbils on top of the scape.

Flower morphology

A. cepa Aggregatum group

Stamen morphology typical of *A. cepa*

Outer and inner stamens simple.

Stamens green.

Pistils lower then the stamens.

A. × cornutum

Stamen morphology typical of *A. cepa*

Outer simple, interior with an base and a small tooth on each side.

Stamens yellow.

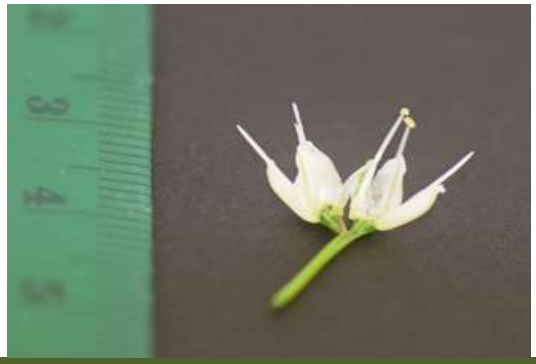
Pistils taller then the stamens.

A. × proliferum

Stamen morphology simple no diference from outer and inner.

Stamens green.

Pistils taller then the stamens.



A. cepa Agregatum group - bulbs

Shape of mature bulb is rhomboid, broad elliptic, spindle or high top (7.1.11)

Mature bulb diameter 30.9 – 36.3 mm

Average number of bulbs in a cluster is 15 (7.1.25)

Bulb cluster average weight (7.1.26) 287.9 – 483.6 g

A. × cornutum - bulbs

Shape of mature bulb is broad oval, broad eliptic or even ovate (7.1.11)

Mature bulb diameter 27.8 – 34.5 mm

Average number of bulbs in a cluster is 19 - 30 (7.1.25)

Bulb cluster average weight (7.1.26) 252 - 356 g

A. × proliferum

Shape of mature bulb is ovate (7.1.11)

Mature bulb diameter 36.4 mm

Average number of bulbs in a cluster is 8 (7.1.25)

Bulb cluster average weight (7.1.26) 566 g

Future plans

Collection and Identification:

- Morphological
- Molecular
- Biochemical

Thank you!