

Establishment of the European PGRFA Evaluation Network

**Vegetables meeting
2-3 April 2019, Durres, Albania**

Vegetable genetic collection in Albania

Sokrat JANI

**Institute of Plant Genetic Resources (IPGR)
Agricultural University of Tirana (AUT), Albania**

Outline

- Introduction
- Albanian Plant Genetic Resources and Gene Bank at the Institute of Plant Genetic Resources (AUT-Albania);
- Major activities carried out:
- Re-introduction of vegetables landraces;

Institute of Plant Genetic Resources, AUT-Albania

Natural conditions for agriculture:

- 57 % of utilized agricultural land lies in less favored areas (hilly and mountain areas);
- Agricultural land: **1, 181, 700 ha**
- Meadows and pastures – 478,200 ha, **arable land – 620,300 ha** , fruit tree (etc) - 83,200 ha



- Fodder crops: 215,700 ha;
- Cereal crops: 145,800 ha ;
- **Vegetables: 32,000 ha** (Tomatoes; Pepper, Cabbages, Watermelons, Onions, etc);
- Potatoes : 10,000 ha ;
- Dried pulses: 15,100 ha (**common bean**, peas ,etc.)

Farm structure:

- > 321 000 agricultural farms
- Average agricultural farms: 1,15 ha
- Main sector: Cattle production

Source: INSTAT, 2018

PGRFA in Albania

Vegetables and common bean have been cultivated in Albania for centuries



Institute of Plant Genetic Resources, Albania

**Plant Gene Bank
Field Collections
(Valias, Tirana)**

•Regional Agricultural Agencies
•Farmers Network

ATTC - Shkoder

ATTC - Korça

**Institute of Plant Genetic Resources
Plant Gene Bank**

ATTC - Vlora

ATTC – Fushe - Kruja

**Faculty of Agriculture
and Environment,
Agricultural University of
Tirana**

NGO

ATTC - Lushnja

**Faculty of Natural Sciences,
University of Tirana
(botanical garden)**

Association for Plant Genetic
Resources (APGR),
botanical gardens, schools, ...

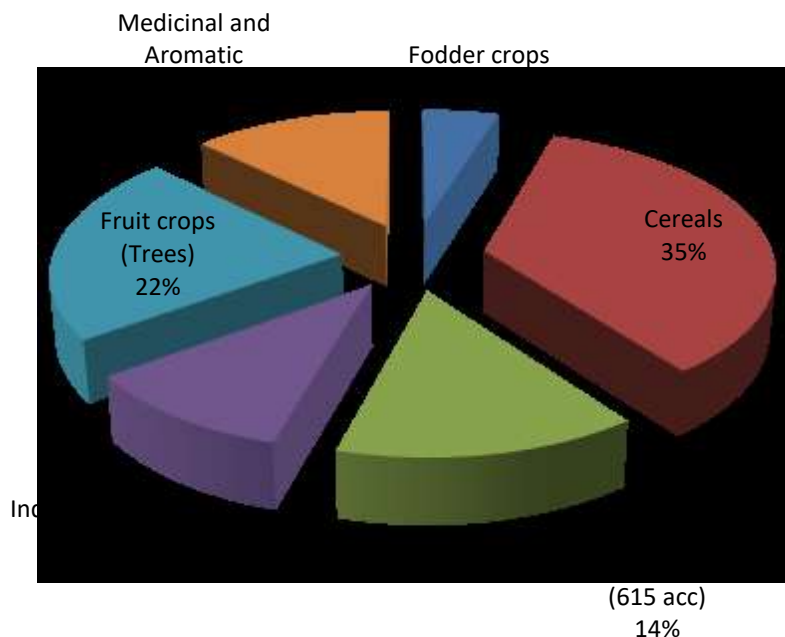
Institute of Plant Genetic Resources, Albania

Conservation of
Plant Genetic Resources,
(*ex-situ & on-farm*)



Institute of Plant Genetic Resources, Albania

Representation of genetic resources by groups
(source: AGB-2017)



Vegetable species – 32

Seed collections – 453 acc (landraces)

National inventory - May 17, 2017

I. Conservation *ex-situ* 4105 acc

1. Albanian gene bank 3 833 acc

a) Seed collections 3219 acc

b) Field collections 614 acc

2. ATTC - Vlora 272 acc

Field collections 272 acc

II. Active Collections 2530 acc

1. Plant production Department(AUT) 30 acc

2. ATTC - Lushnje 821 acc

3. ATTC-Korce 139 acc

4. ATTC-Shkoder 745 acc

5. ATTC-FKruja 233 acc

6. Tobacco station (Cerrik) 193 acc

7. Albania Gene bank 368 acc

Our gaps: Conservation *ex-situ* and *in-situ*, and use of crop wild relatives

Institute of Plant Genetic Resources, Albania

Activities:

- Collecting
- Documentation and Regeneration
- Characterization and evaluation
- Conservation (storage at + 4°C, -20 °C)
- Exchange, research, breeding



Institute of Plant Genetic Resources, Albania

EURISCO multicrop passport data

1. Institute code :ALB017
2. Accession number : AGB0789.
3. Accession name:Kallmeti
4. Genus: *Phaseolus*
5. Species: *Vulgaris* L.
6. Subspecies: ... ssp. *vulgaris* var. *nanus*
7. Country of origin :ALB
8. Collecting number :..... MH;AC;FE06
9. Collecting :..... .20 (Farm)
10. Collecting site:Fishta
11. Collecting Data: 19950620
12. Latitude of collecting site : ..40 ° 42'53" N
13. Longitude of collecting site : 019 °11'20"E.
14. Elevation of collecting site: 130 m



15. Biological status of accession 300
16. Donor institute name : Pretsam M.
17. Donor accession number:NGB1912
18. Other identification number: NLD037
19. Comment:0
20. Location of safety duplicates0
21. Additional passport data:0
22. Characterization data:1
23. Evaluation information: 1
24. Type of the acquired sample: 1
25. Date of acquisition: 20.061995
26. Feeding the sample: 2 (medium-term)
27. Breeder:

Institute of Plant Genetic Resources, Albania

Regeneration of vegetable accessions














Institute of Plant Genetic Resources, Albania

Characterization

Number	Bioversity (formerly IPGRI) descriptor number	Descriptor name	Descriptor state	Notes
Plant				
1	7.1.2.1 (modified)	Plant growth type	1 Determinate 2 Semi-determinate 3 Indeterminate	Recorded at complete developmental stage of the plant. Observed on the whole plot, after admixtures have been removed.
2	7.1.2.9 (modified)	Leaf type	1 Dwarf 2 Potato leaf type 3 Standard 99 Other (specify the leaf type)	See Fig. 3, p. 26 of Descriptors for Tomato.
Inflorescence				
3	7.2.1.1 (modified)	Inflorescence type	1 Generally simple (uniparous) 2 Generally two branches 3 Three or more branches	Observe the 2 nd and 3 rd inflorescence of at least 10 plants.
Fruit				
4	7.2.2.2 (modified)	Presence / absence of dark green stripes on the (shoulders) fruit	0 Absent (uniform ripening) 1 Present (fruit shoulder or stripes – upper part of the fruit, around calyx – are DARK green while pedicellar area of the fruit is LIGHT green)	The observation must be made on unripe fruits.
5	7.2.2.5	Predominant fruit shape	1 Flattened (oblate) 2 Slightly flattened 3 Rounded	Recorded after the fruit turns colour (see Fig. 4, p. 29 of Descriptors for Tomato).

Number	Bioversity (formerly IPGRI) descriptor number	Descriptor name	Descriptor state	Notes
7	7.2.2.11	Exterior colour of fruit	1 Green 2 Yellow 3 Orange 4 Pink 5 Red 99 Other (specify the exterior colour of fruit)	Recorded at physiological maturity.
8	7.2.2.14	Ribbing at calyx end	1 Very weak 3 Weak 5 Intermediate 7 Strong	Recorded when the fruit reaches its maximum size. Reference varieties: Certe (1) Allround (3) Saint-Pierre (5) Supermarmande (7)
9	7.2.2.19	Presence / absence of jointless pedicel	0 Absent 1 Present	See Fig. 6, p. 32 of Descriptors for Tomato, corresponding to Descriptor 7.2.2.18.
10	7.2.2.31	Number of locules per fruit		Counted on at least 10 fruits.
Additional information				
11		Photograph		It is recommended to take a photograph of several fruits, together with a reference scale such as a ruler or a pencil.
12	7.4	Notes		Any original trait not taken into account by the above descriptors should be described here.

☞ Fruit: shape in longitudinal section

←		broadest part		→	
(below middle)		at middle		(above middle)	
					
10 pyriform	8 ovate	5 cylindric (parallel)	6 elliptic (rounded)	9 obovate	7 cordate
					
11 obcordate	4 oblong (parallel)	3 circular (rounded)			
					
		2 oblate			
					
		1 flattened			

Institute of Plant Genetic Resources, Albania

Evaluation of vegetables and common bean

Diversity studies:

- Morphological markers
- Biochemical markers

Disease resistance



Institute of Plant Genetic Resources, Albania

Re-introduction of traditional Albanian vegetables and common bean landraces



Institute of Plant Genetic Resources, Albania

For the future

Our objectives and priorities will be According to:
the Objectives of ECPGR for Phase X (2019-2023):

Long-term goal :

Stakeholders in Europe collaboratively, rationally and effectively conserve *ex situ* and *in situ* PGRFA, provide access and increase sustainable use.

1. To efficiently conserve and provide access to unique germplasm in Europe through AEGIS and the European Collection
2. To provide passport and phenotypic information of actively conserved European PGRFA diversity *ex situ* and *in situ* through the EURISCO catalogue
3. To improve *in situ* conservation and use of crop wild relatives;
4. To promote on-farm conservation;
5. To promote use of PGRFA ;

**Thank you
for your attention**