



Albanian National Inventory Development and Status

**EURISCO NFP regional Training Workshop for
Southeast Europe
19-21 May, 2015, Tirana, Albania**

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NFP for Documentation in Albanian Genebank
(Agricultural University of Tirana)**

Documentation-Type of data

‐ Genebank data

- Exploring and Collecting data.
- Acquisition and Registration data.
- Sample Processing and Germplasm testing data.
- Conservation type data.
- Storage and Monitoring data.
- Characterization & Evaluation data/Experimental data.
- Regeneration data.
- Some Molecular Markers data .
- Documentation and Information data.
- Distribution data.
- Equipment's and Collection Security data.
- etc

Source of data

explorations/collecting data



On farm conservation

STANDARDS

- [1 Exploration Skeds 2015.](#)
- [2 Collecting Skeds 2015.](#)
- [3 Collecting Labels \(General model\).](#)
- [4 Collecting Cartels \(General model\).](#)

Olive I Bardhi Tiranes

Olive Ulliri i zi i Tiranes



- [9 Eurisco descriptors final version vers-1](#)
- [10 EURISCO Descriptors Version 2 Full](#)
- [11 MULTI-CROP PASSPORT DESCRIPTORS 2012 V.2](#)



Source of data - ex situ seed collection



Source of data

☞ Sample processing



☞ Germplasm testing

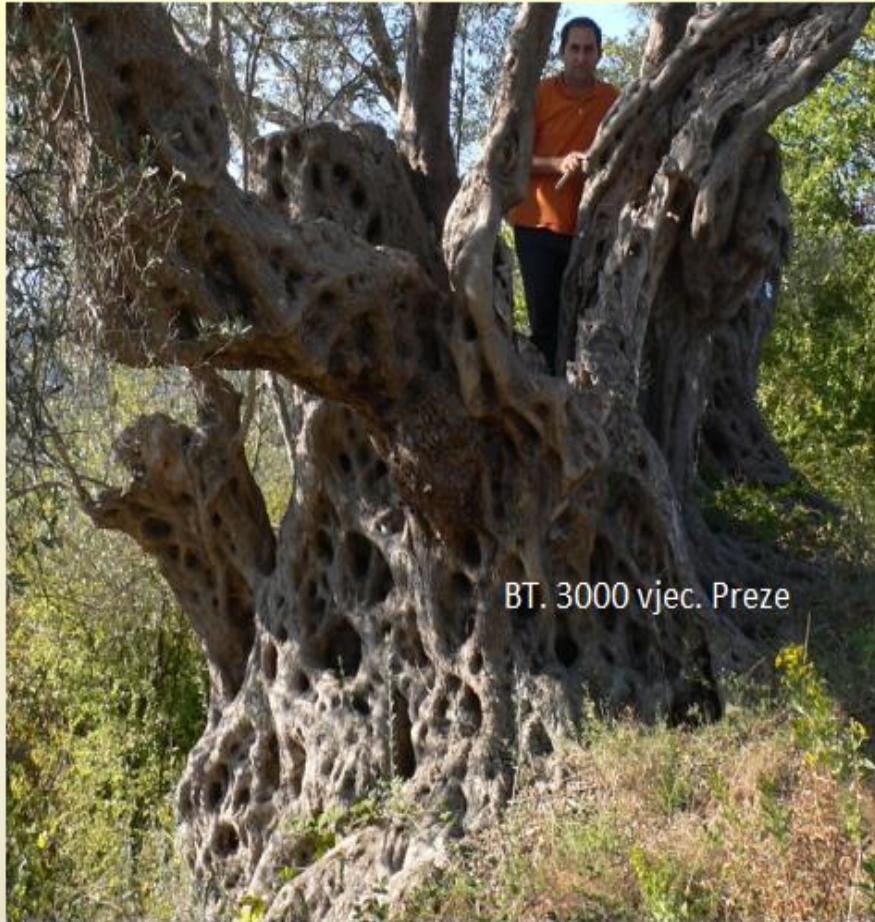


☞ Conservation



Field collection data





On Farm data



In situ

On farm conservation

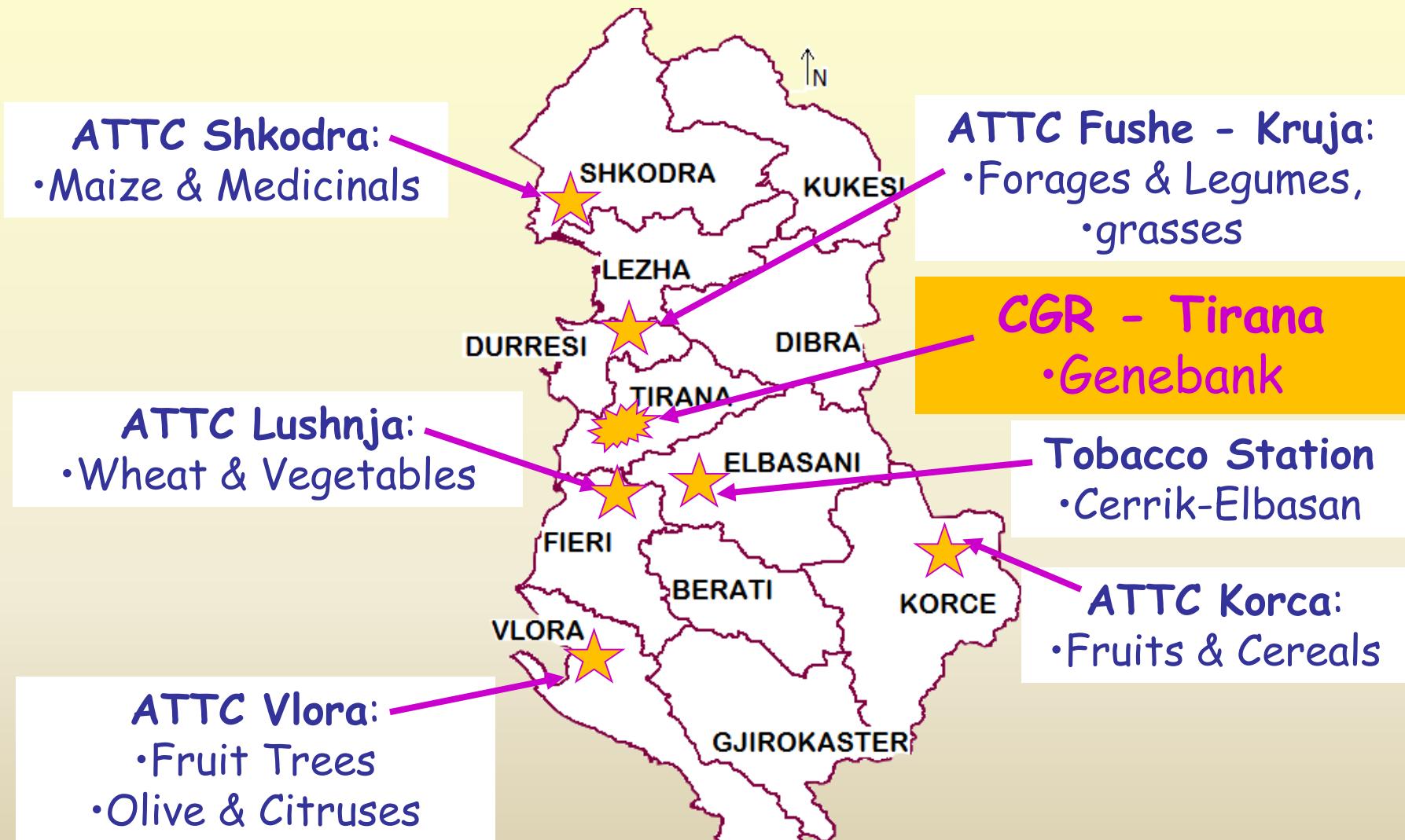
Ex situ

On farm conservation

In Situ, On Farm data (1st steps of documentation)

Crops / Accession	In Situ	On farm	In Situ/On Farm
Fruit Trees (landraces listed 633 acc.)	163	130	293
Vitis sp.	2	44	46
Olive trees (1000-3000 years old)	116	40	156
Citrus	12	11	23
Medicinal (wild species)	403	0	403
Phaseolus (landraces)	0	5	5
Zea mays (landraces)	0	3	3
Total (accession)			1269
Genus			63
Species			76
Farmers engaged with PGR (on farm)			13
Farmers (listed as potential in the future)			45

Agricultural Institutions data



Main databases

= according to Research Groups and Crops.

1. Arable crops (cereals, forages, industrials, medicinal & aromatic plants) and germplasm management database.
2. Horticulture crops (vegetables, fruit trees, grapevine, subtropicals, olive & citrus) database.
3. Documentation (database, documentation, information, publication) data.

DOCUMENTATION DATA

- Acquisition and Registration
(Standards & Genebank Rules)

Accepted for long-term preservation

- ✓ Mandate species
- ✓ Within region
- ✓ Information of identity
- ✓ Seed quality
- ✓ Seed quantity
- ✓ Passport data
- ✓ Specific characteristic

DOCUMENTATION DATA

- Sample Seed Processing and Storage.
 - Seed cleaning = YES
 - Seed drying = YES
 - Seed moisture content = YES
 - Seed package = YES
- Germplasm testing.
 - Viability Testing = YES
 - Health diagnosis (Purity + Health Testing) = YES (partially)
 - Trans-gene detection (OMG testing). = NO
- Use of Molecular Markers (=Realized only in some crops)
- Conservation Types.
 - Seed bank conservation. = YES
 - Field bank conservation. = YES
 - In vitro bank conservation. = NO
 - Cryo-bank conservation. = NO
 - Vegetative bank conservation = YES (Some crops)
 - DNA bank conservation. = NO

ALB Plant Genetic Resources Inventory

1. Home (genebank) Inventory of PGR (> 3700 acc.)

ex situ seed collection = 2510 accession.

ex situ field collection = 644 accession.

(82 genera and 128 species)

(with standard data + raw data)

&

2. ALB National Inventory (NI) in EURISCO (= 2111 acc.)

= 2111acc (= 33 genera, 62 species),

(with standard data)

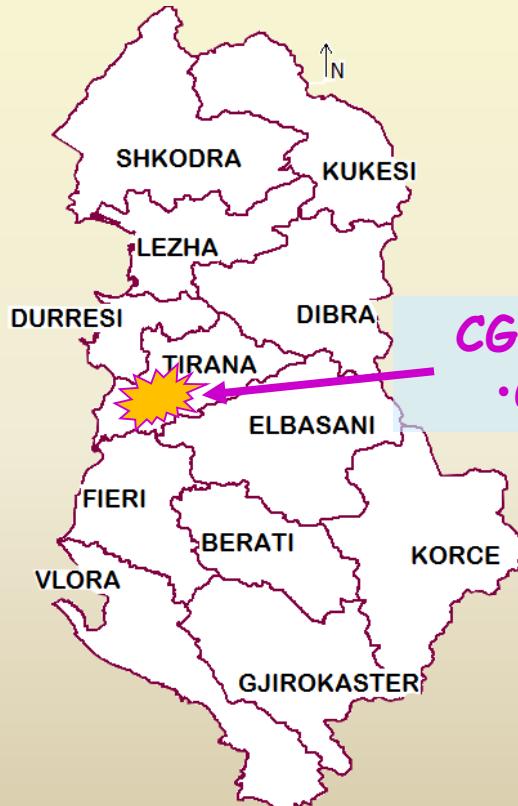
ALB National Inventory (NI) Development

Genebank (15 years) activity has:

- carried out over 44 exploration/collecting missions.
- in all different districts of Albania.
- collected over 4.000 different samples/acccessions.
- of more than 80 genera and 130 different species.

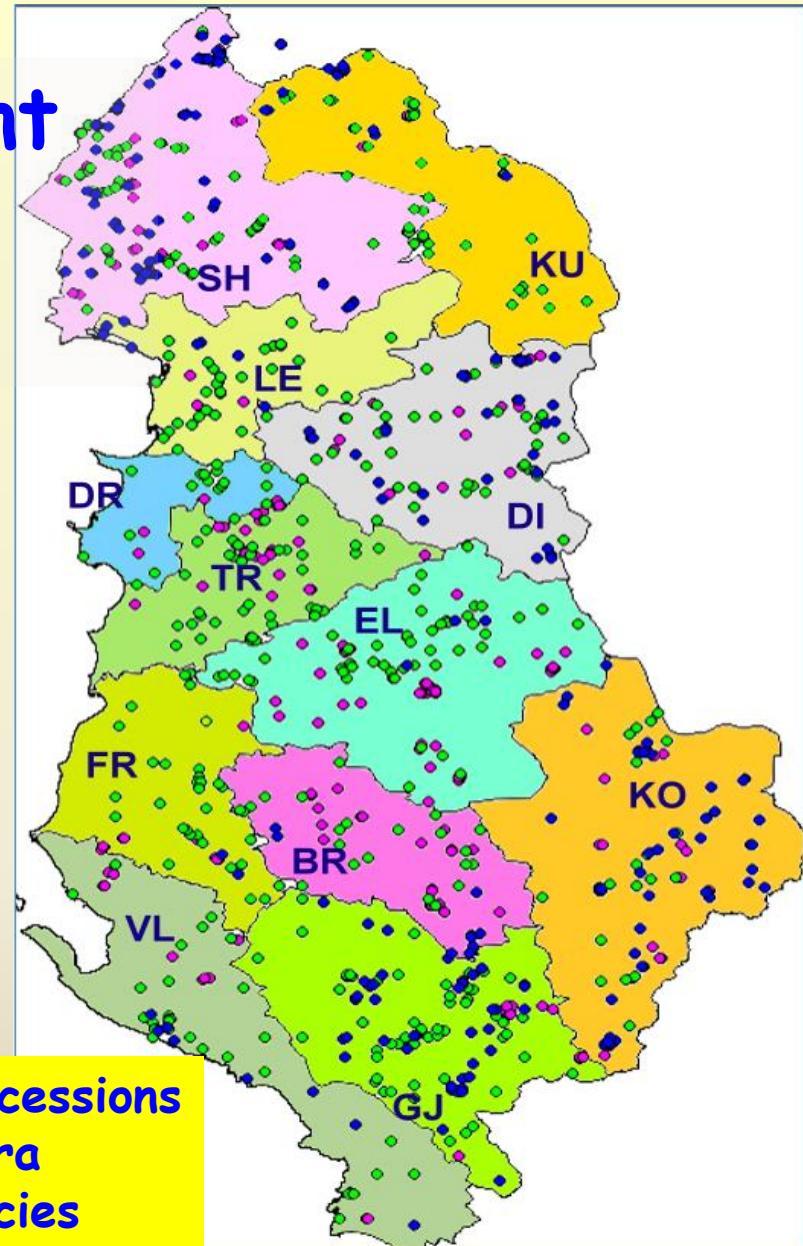
Albania NI Development

"Success" Stories



CGR - Tirana
•Genebank

4000 accessions
80 genera
130 species



ALB NI Development

ALB NI in EURISCO



- Dec. 1998 = 0 accession
- Dec. 2008 = 404 accessions.
- Dec. 2014 = 2111 accessions.
- May 2015 ~..4070 accessions (..*checking process*)

ALB NI is present on-line in: <http://eurisco.ecpgr.org/>
<http://eurisco.ipk-gatersleben.de/>

Albania NI in EURISCO

= 2111 acc (= 33 genera, 62 species),

Genebank = 1839 accessions.

ATTC Vlora = 272 accessions.

Breeding Materials = 976 acc. (= 6 genera, 25 species)

Collected Materials = 1135 acc. (31 genera, 40 species)

COLLECTED - NO-GEO DATA = 446 acc (26 species)

COLLECTED+GEO DATA = 689 acc (18 genera, 19 species).

96% of NI in EURISCO is represented by Albanian accessions.

Albania National Inventory (NI)

Accessions by country of origin

(data only for Old genebank Inventory = 2687 acc.)

Country of origin	Accessions	%	Country of origin	Accessions	%
Albania	2193	81.6%	Czeck...	17	0.6%
Italy	70	2.6%	Nederland	12	0.4%
Germany	58	2.2%	Austria	11	0.4%
USA	40	1.5%	China	11	0.4%
France	30	1.1%	Russia	10	0.4%
North Corea	25	0.9%	Romania	10	0.4%
Lituania	24	0.9%	unknown	87	3.2%
Greece	22	0.8%	Other 15 countries	67	2.5%

More than 80% of accessions are from Albania.

Accession origin from Italy, Germany, Usa and France range from 1% to 3%.

Characterization, evaluation and molecular data.

- Pea 28 acc. (15 QL traits + 23 QN characters)
+ 14 RBIP markers
 - Grass pea 12 acc. (10 QL traits + 14 QN characters)
 - Tobacco 22 acc. (10 QL traits + 14 QN characters)
 - Maize 104 acc. (10 QL traits + 21 QN characters)
 - Haricot 117 acc. (5 QL traits + 4 QN characters)
 - Apple 12 acc. (8 QL traits + 4 QN characters)
 - Plum 14 acc. (12 QL traits + 16 QN characters).
 - Olive 6 acc. (18 QL traits + 16 QN characters)
+ 14 SSR markers.
 - Olive 24 acc. (18 QL traits + 27 QN characters)
-

Total = 222 acc. / AGB accessions in EURISCO = 1839 acc. = 12%.

SEEDNet Project (2009-2010):

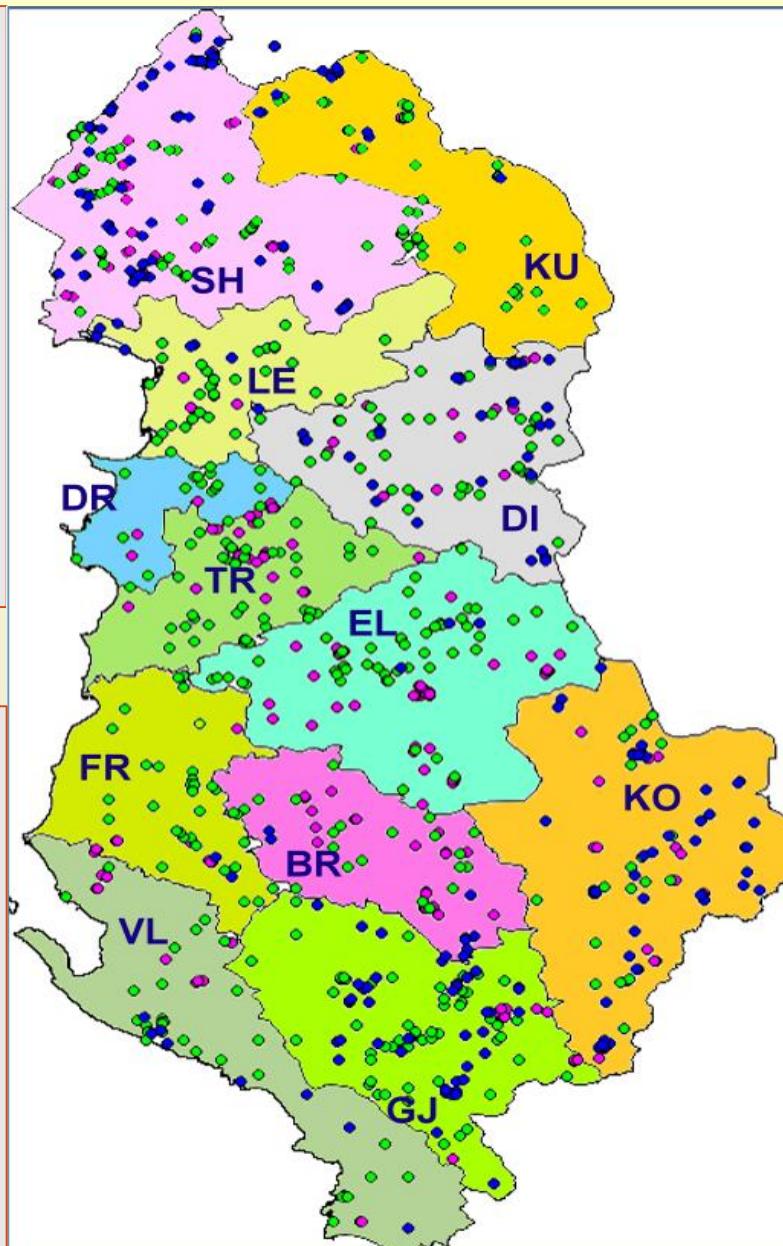
COLLECTED = 630 acc.
(= 27 genera, 36 species).

Contribution: = 630 acc.
New areas surveyed & collect
= 12 new genera,
= 17 new species.

FAO Project (2013-2014):

COLLECTED = 528 acc.
(= 40 genera, 52 species).

Contribution: = 528 acc.
New areas surveyed & collect
= 18 new genera,
= 25 new species.



ACTUAL STATUS OF ALB (NI)

ALB NI total (May 2015):

Breeding + Collecting Materials = 4070 acc.

(86 genera, 128 species).

<u>GENEBANK</u>	= 3798 ACC
<u>ATTC VLORA</u>	= 272 ACC
<u>TOTALI</u>	= 4070 ACC

<u>SEEDS</u>	= 3154 ACC (EX SITU BASE COLLECTION)
<u>TREES</u>	= 916 ACC (FIELD COLLECTIONS)
<u>TOTAL</u>	= 4070 ACC

(..checking process)

Database formats:

Data are recorded in Excel, Word, Word, Access, photo, etc., formats, according to International Standards and Descriptors.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	
1	NICODE	INSTCODE	ACCENUMB	COLLNUMB	COLLCODE	GENUS	SPECIES	SPA	SI	S	CROPNA	ACCENAME	ACQDATE	ORIGC	COLLSITE	LATITUDE	LONGITUDE	ELEVATION	COLLDATE	BR	SAMP	AN	COLL	DONORCO	DONORNU	OT	DUPLSITE	ST
868	ALB	ALB017	AGB0867	KHP140	ALB006	Zea	mays	L.		maize	Çaragjati	20030108	ALB	Mat	4135-N	01959-E	350	1976----	300	40	ALB006	IMO0339	ALB006	13				
869	ALB	ALB017	AGB0868	KHP141	ALB006	Zea	mays	L.		maize	Qelqor i bard	20030108	ALB	Permet	4013-N	02021-E	350	1976----	300	40	ALB006	IMO0340	ALB006	13				
870	ALB	ALB017	AGB0869	KHP142	ALB006	Zea	mays	L.		maize	Miser i bardh	20030108	ALB	Permet	4013-N	02021-E	350	1976----	300	40	ALB006	IMO0341	ALB006	13				
871	ALB	ALB017	AGB0870	KHP143	ALB006	Zea	mays	L.		maize	I bardhe i me	20030108	ALB	Tropoje	4224-N	02010-E	600	1976----	300	40	ALB006	IMO0342	ALB006	13				
872	ALB	ALB017	AGB0871	KHP144	ALB006	Zea	mays	L.		maize	Dukaj	20030108	ALB	Permet	4013-N	02021-E	450	1976----	300	40	ALB006	IMO0343	ALB006	13				
873	ALB	ALB017	AGB0872	KHP145	ALB006	Zea	mays	L.		maize	Qeserat	20030108	ALB	Puke	4202-N	01954-E	400	1976----	300	40	ALB006	IMO0344	ALB006	13				
874	ALB	ALB017	AGB0873	KHP146	ALB006	Zea	mays	L.		maize	Filat	20030108	ALB	Korçe	4035-N	02040-E	600	1976----	300	40	ALB006	IMO0345	ALB006	13				
875	ALB	ALB017	AGB0874	KHP147	ALB006	Zea	mays	L.		maize	Fare madh p	20030108	ALB	Diber	4140-N	02027-E	400	1976----	300	40	ALB006	IMO0346	ALB006	13				
876	ALB	ALB017	AGB0875	KHP148	ALB006	Zea	mays	L.		maize	Mashkullore	20030108	ALB	Gjrokaster	4009-N	02010-E	400	1976----	300	40	ALB006	IMO0347	ALB006	13				
877	ALB	ALB017	AGB0876	KHP149	ALB006	Zea	mays	L.		maize	Fara Gurres	20030108	ALB	Shkoder	4215-N	01946-E	500	1976----	300	40	ALB006	IMO0348	ALB006	13				
878	ALB	ALB017	AGB0877	KHP150	ALB006	Zea	mays	L.		maize	Miser Gushtë	20030108	ALB	Puke	4202-N	01954-E	500	1976----	300	40	ALB006	IMO0349	ALB006	13				
879	ALB	ALB017	AGB0878	KHP151	ALB006	Zea	mays	L.		maize	Fara e Lushë	20030108	ALB	Tropoje	4224-N	02010-E	600	1976----	300	40	ALB006	IMO0350	ALB006	13				
880	ALB	ALB017	AGB0879	KHP152	ALB006	Zea	mays	L.		maize	Pa emertim	20030108	ALB	Kolonje	4049-N	01937-E	700	1976----	300	40	ALB006	IMO0351	ALB006	13				
881	ALB	ALB017	AGB0880	KHP153	ALB006	Zea	mays	L.		maize	Imesem	20030108	ALB	Shkoder	4215-N	01946-E	250	1976----	300	40	ALB006	IMO0352	ALB006	13				
882	ALB	ALB017	AGB0881	KHP154	ALB006	Zea	mays	L.		maize	Gushtak Pes	20030108	ALB	Kukes	4211-N	02012-E	400	1976----	300	40	ALB006	IMO0353	ALB006	13				
883	ALB	ALB017	AGB0882	KHP155	ALB006	Zea	mays	L.		maize	Mesutek	20030108	ALB	Kukes	4211-N	02012-E	400	1976----	300	40	ALB006	IMO0354	ALB006	13				
884	ALB	ALB017	AGB0883	KHP156	ALB006	Zea	mays	L.		maize	Reç i verdhe	20030108	ALB	Shkoder	4215-N	01946-E	400	1976----	300	40	ALB006	IMO0355	ALB006	13				
885	ALB	ALB017	AGB0884	KHP157	ALB006	Zea	mays	L.		maize	Gushtak i ve	20030108	ALB	Shkoder	4215-N	01946-E	450	1976----	300	40	ALB006	IMO0356	ALB006	13				
886	ALB	ALB017	AGB0885	KHP158	ALB006	Zea	mays	L.		maize	Reç i vedhe	20030108	ALB	Tropoje	4224-N	02010-E	450	1976----	300	40	ALB006	IMO0357	ALB006	13				
887	ALB	ALB017	AGB0886	KHP159	ALB006	Zea	mays	L.		maize	Koleskati	20030108	ALB	Sarande	3952-N	02000-E	100	1976----	300	40	ALB006	IMO0358	ALB006	13				
888	ALB	ALB017	AGB0887	KHP160	ALB006	Zea	mays	L.		maize	Bokel kuqe v	20030108	ALB	Diber	4140-N	02027-E	450	1976----	300	40	ALB006	IMO0359	ALB006	13				
889	ALB	ALB017	AGB0888	KHP161	ALB006	Zea	mays	L.		maize	Imesem	20030108	ALB	Shkoder	4215-N	01946-E	200	1976----	300	40	ALB006	IMO0360	ALB006	13				
890	ALB	ALB017	AGB0889	KHP162	ALB006	Zea	mays	L.		maize	Fara e dte	20030108	ALB	Peshkopi	4140-N	02027-E	450	1976----	300	40	ALB006	IMO0361	ALB006	13				
891	ALB	ALB017	AGB0890	KHP163	ALB006	Zea	mays	L.		maize	I verdhe i me	20030108	ALB	Tropoje	4224-N	02010-E	550	1976----	300	40	ALB006	IMO0362	ALB006	13				
892	ALB	ALB017	AGB0891	KHP164	ALB006	Zea	mays	L.		maize	Fara e kuqe	20030108	ALB	Tropoje	4224-N	02010-E	500	1976----	300	40	ALB006	IMO0363	ALB006	13				
893	ALB	ALB017	AGB0892	KHP165	ALB006	Zea	mays	L.		maize	16-18 rreshet	20030108	ALB	Fier	4044-N	01936-E	100	1976----	300	40	ALB006	IMO0364	ALB006	13				
894	ALB	ALB017	AGB0893	KHP166	ALB006	Zea	mays	L.		maize	Fara e dte	20030108	ALB	Diber	4140-N	02027-E	450	1976----	300	40	ALB006	IMO0365	ALB006	13				
895	ALB	ALB017	AGB0894	KHP167	ALB006	Zea	mays	L.		maize	Gielash	20030108	ALB	Shkoder	4215-N	01946-E	300	1976----	300	40	ALB006	IMO0366	ALB006	13				

Belul Gixhari, Albanian Gene Bank

EURISCO Workshop, Tirana, 19-21 May, 2015

Access

The screenshot displays a Microsoft Access application window with several overlapping data entry forms and tables:

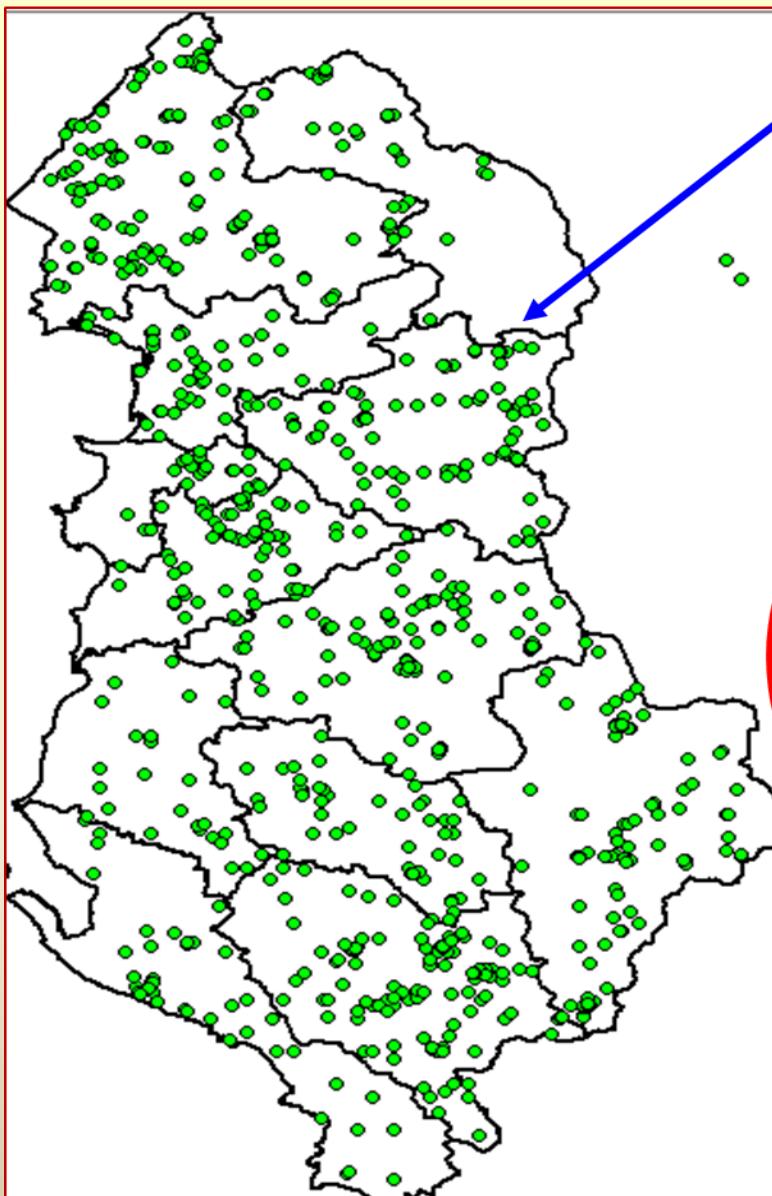
- INSTITUTES Table:** Shows records for ALB017 (HPGRC), JPN179 (NARCH), MEX038 (CINVESTAV), and USA738.
- PASSPORT Table:** Shows records for PRT entries with various species details like Lens angulatus.
- COLLSRC Table:** Shows records for PRT entries with habitat details like Wild habitat, Forest, woodland, Shrubland, and Grassland.
- STORAGE Table:** Shows records for PRT entries with storage details like Unknown and Seed collector.
- COLLUSC Table:** Shows records for PRT entries with coordinates and elevation details.
- Navigation Bar:** Includes icons for Windows Start, Task View, Internet Explorer, Paint, CALD3, File Explorer, Google Chrome, and a lock icon.

Quality of data

Different collecting missions used different data formats. Problems are:

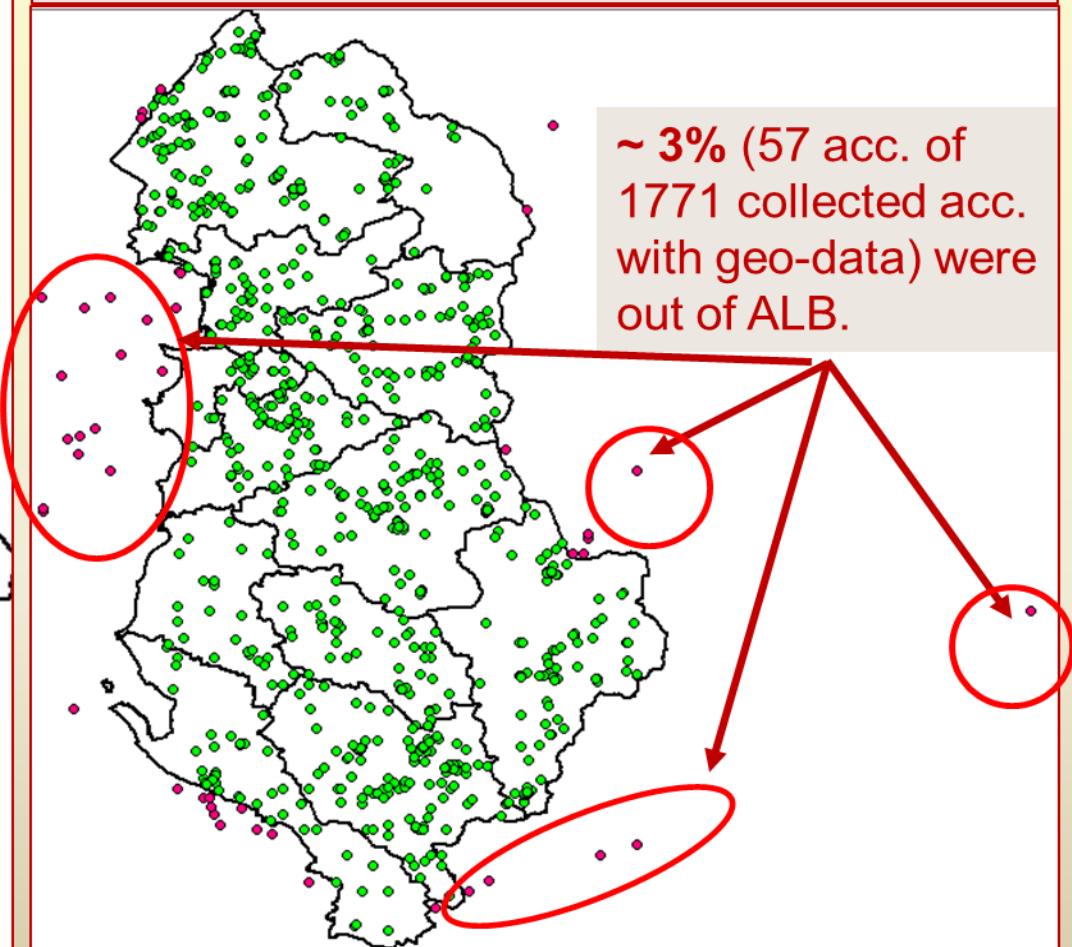
- **Scientific names** (ex *M. chamomilla* coll. 2003-2005: ~ 5-6 written forms).
- the right **English** word when more than one exist, and
- especially **geographical data** (= **different formats**).

LATITUDE	LONGITUDE
4056--N	4056--N
4056--N	4056--N
411813.30N	0211813.30E
412327.06N	0192327.06E
40°15'41.77"N	40°15'41.77"N
40°29'31.19"N	40°29'31.19"N
40.0900	20.0900
42.1500	19.1500



Quality of data (CAPFITOGENE Tools)

More than 95 % of collected accessions with geo-data were situated within ALB.



~ 3% (57 acc. of 1771 collected acc. with geo-data) were out of ALB.

PGR documentation

WEB based approaches

CGR (Centre of Genetic Resources)

<https://qendraeresursevegenetike.wordpress.com>

AUT (Agricultural University of Tirana)

<http://www.ubt.edu.al>

EURISCO

[http://eurisco.ipk-gatersleben.de;](http://eurisco.ipk-gatersleben.de)

Genesys

<http://www.genesys-pgr.org>

SESTO

<http://sesto.nordgen.org>

WIEWS

<http://www.pgrfa.org/WIEWS/>



QENDRA E RESURSEVE GJENETIKE BIMORE

Një dritare e hapur për të ardhmen

Qendra e Resurseve Gjenetike

KALENDAR

MAY 2015

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
« Feb						

AKTIVITETE TE PRITSHME

No upcoming events

<https://qendraeresursevegjenetike.wordpress.com/resurset-gjenetike-bimore/gjermoplazma/> e Shkencore.

HOME ▾

QENDRA RESURSEVE GJENETIKE BIMORE ▾

RESURSET GJENETIKE BIMORE ▾

PUBLIKIMET ▾

MENAXHIMI ▾

NEWS

Q

GJERMOPLAZMA

DRITHRAT

FORAGJERET

LIN

PERIMET

ECP

MEDICINALET & AROMATIKET

l dhe

INDUSTRIALET

Min

PEMET FRUTORE

Oliv

HARDHIA

Uni

Wo

SUBTROPIKALET

<https://qendraeresursevegjenetike.wordpress.com>



Thank you