

GATERSLEBEN ALLIUM SYMPOSIUM & ECPGR ACTIVITIES

20 – 22 MAY 2025

Allium Germplasm Collection

Vegetable Germplasm Bank – CITA Aragon (Zaragoza, Spain)

CENTRO DE INVESTIGACIÓN Y TECNOLOGÍA
AGROALIMENTARIA DE ARAGÓN

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ECPGR Allium Working Group – Spain

- The Spanish genebank BGHZ was founded in **1981** and holds a collection of **19,019** accessions (may, 2025) belonging to more than 300 species, mainly of **Spanish landraces/farmers' varieties**, but also crop wild relatives and neglected and underutilized species.



- Accessions are stored in hermetic glass bottles, as dry seeds with silicagel, in freezing room chambers at -18°C .



Objectives

1. *Ex situ* conservation

- To prevent biodiversity loss (genetic erosion)
- Activities:
 - Germplasm acquisition
 - Regeneration
 - Primary characterization
 - Seed storage
 - Security duplication
 - Distribution



Objectives

2. Promote the utilization

- Providing seeds to users for researching, plant breeding and training.
- Participating in research projects aimed at their use in plant breeding and/or in the recovery of local landraces.



Examples of participatory varietal selection programs

'Tomate Rosa de Barbastro'	Remarkable results	<i>Solanum lycopersicum</i> L.
	- This landrace has been registered as a Conservation Variety. - Selected seeds are being commercialized by a local cooperative	
'Cebolla Dulce de Fuentes'	Remarkable results	<i>Allium cepa</i> L.
	- The studies have contributed to obtain the Protected Designation of Origin (PDO) quality mark. - Nowadays growers use the seeds from the low pungency breeding program.	
'Judía Caparrona de Monzón'	Remarkable results	<i>Phaseolus vulgaris</i> L.
	- A Local Growers Association has been established. - Growers have access to high quality seeds selected from local populations	
'Borraja de Flor Blanca'	Remarkable results	<i>Borago officinalis</i> L.
	'Movera', a variety with delayed bolting, has been selected from white-flowered local populations. 'Movera' is the most cultivated variety by local growers.	

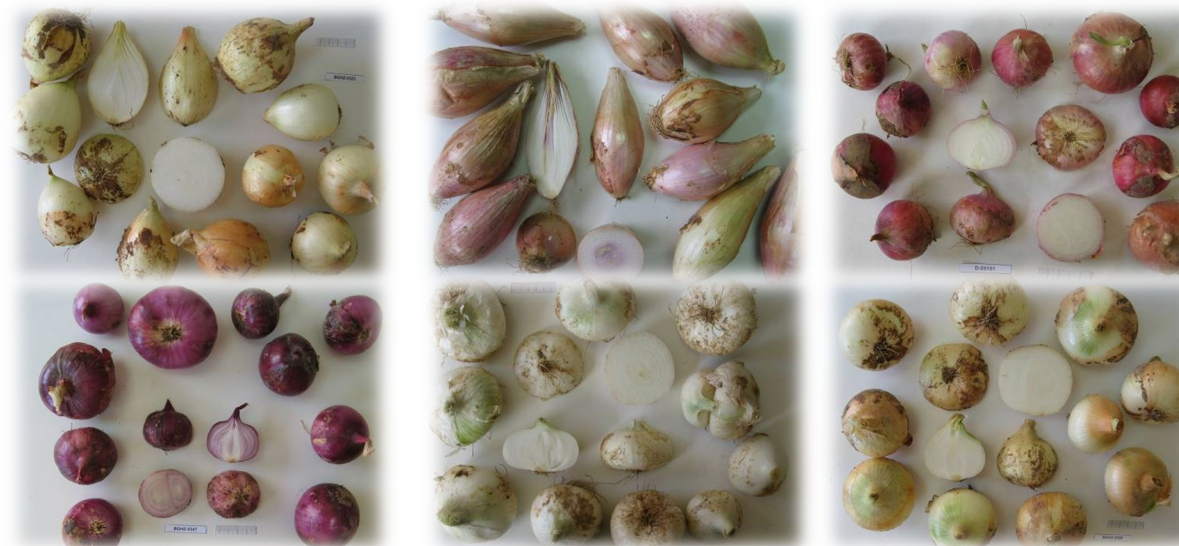
Species	Accessions
• <i>Allium altaicum</i> Pall.	1
• <i>Allium ampeloprasum</i> L.	14
• <i>Allium cepa</i> L.	653
• <i>Allium cristophii</i> Trautx.	1
• <i>Allium fistulosum</i> L.	1
• <i>Allium giganteum</i> Regel	1
• <i>Allium grossii</i> Font Quer	1
• <i>Allium karataviense</i> Regel	1
• <i>Allium porrum</i> L.	119
• <i>Allium pyrenaicum</i> Costa & Vayr.	2
• <i>Allium ramosum</i> L.	1
• <i>Allium schoenoprasum</i> L.	4
• <i>Allium senescens</i> L.	2
• <i>Allium</i> sp.	10
• <i>Allium sphaerocephalon</i> L.	6
• <i>Allium triquetrum</i> L.	1
• <i>Allium tuberosum</i> Rottler ex Spreng.	1
• <i>Allium uniflorum</i> Larrañaga	1
TOTAL	820

✓ 820 accessions

✓ At least 17 species (10 *Allium* sp.)

✓ Main collections (94%):

- Onion (*Allium cepa*, 653 accessions)
- Leek (*Allium porrum*, 119 accessions)



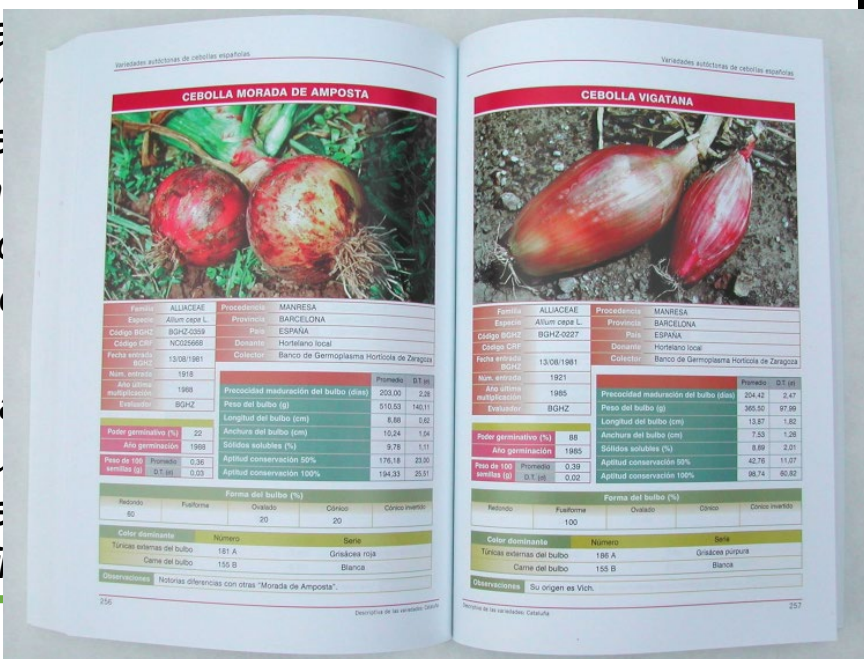
Book about Spanish traditional onions

Species

- *Allium altaicum* Pall.
- *Allium ampeloprasum* L.
- *Allium cepa* L.
- *Allium cristophii* Trautx.
- *Allium fistulosum* L.
- *Allium giganteum* Regel
- *Allium grossii* Font Quer
- *Allium kara*
- *Allium porra*
- *Allium pyre*
- *Allium ram*
- *Allium scho*
- *Allium sen*
- *Allium sp.*
- *Allium spha*
- *Allium triqu*
- *Allium tube*
- *Allium unif*

Accessions

1
14
653
1
1
1
1
1



Familia	ALLIACEAE	Procedencia	RUTE
Especie	Allium cepa L.	Provincia	CORDOBA
Código BGHZ	BGHZ-1134	País	ESPAÑA
Código CRP		Donante	Arturo Gullin Garcia
Fecha entrada BGHZ	1983	Colector	Banco de Germoplasma Hortícola de Zaragoza
Núm. entrada	DES3		
Año última multiplicación	1983		
Envase	BGHZ		

Precocidad maduración del bulbo (días)	Promedio	D.T. (%)
Peso del bulbo (g)	211,00	180,33
Longitud del bulbo (cm)	8,90	1,18
Anchura del bulbo (cm)	10,38	1,54
Sólidos solubles (%)	7,79	0,92
Aptitud conservación 50%	24,10	0,30
Aptitud conservación 100%	55,75	33,56

Redondo	Fusiforme	Ovalado	Cónico	Cónico invertido
40		30	20	10

Color dominante	Número	Serie
Túncas externas del bulbo	195 C	Blanca
Carnie del bulbo	195 C	Blanca

Observaciones: Ácido prúico: 7,0



Familia	ALLIACEAE	Procedencia	ROTA
Especie	Allium cepa L.	Provincia	CADIZ
Código BGHZ	BGHZ-0947	País	ESPAÑA
Código CRP	NC024595	Donante	Hortelano local
Fecha entrada BGHZ	27/07/1992	Colector	Banco de Germoplasma Hortícola de Zaragoza
Núm. entrada	9203		
Año última multiplicación	1987		
Envase	BGHZ		

Precocidad maduración del bulbo (días)	Promedio	D.T. (%)
Peso del bulbo (g)	211,00	180,33
Longitud del bulbo (cm)	8,90	1,18
Anchura del bulbo (cm)	10,38	1,54
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Redondo	Fusiforme	Ovalado	Cónico	Cónico invertido
33,33		66,66		

Color dominante	Número	Serie
Túncas externas del bulbo	81 A	Paja púrpura
Carnie del bulbo	70 A	Paja púrpura

Observaciones:

TOTAL

<https://citarea.cita-aragon.es/citarea/handle/10532/2916> (full-text)

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Allium pyrenaicum Costa & Vayr. is a rare and endangered species endemic to Spain (Pyrenees). Seeds of this species were recently collected as part of a collaboration agreement between CITA and CGN.



Collecting seeds from wild, August 2024.

- C. Mallor (CITA - Spain),
- R. Lievers (CGN - The Netherlands)

