



# Allium Germplasm Collection

Vegetable Germplasm Bank – CITA Aragon (Zaragoza, Spain)

CENTRO DE INVESTIGACIÓN Y TECNOLOGÍA  
AGROALIMENTARIA DE ARAGÓN

Cristina Mallor  
[cmallor@cita-aragon.es](mailto:cmallor@cita-aragon.es)  
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 adquisition
  - Regeneration
  - Primary characterization
  - Seed storage
  - Security duplication
  - Distribution



**VEGETABLE GERMPLASM BANK  
of ZARAGOZA - BGHZ**

**Objective**  
Preventing biodiversity loss in horticultural crops and wild relatives species.

**Prospecting**  
Endangered landraces are collected.

**Multiplication**  
Samples are grown in the field to increase the amount and quality of the seeds.

**Characterisation**  
Primary characterisation data are collected during the entire crop cycle.

**Preservation**  
The samples are stored as seeds at low relative humidity and low temperature (-18°C).

**Backup**  
A duplicate sample is preserved in the base collection at the National Plant Genetic Resources Centre of INIA (CRF-INIA).

**Distribution**  
Requests aimed at research, plant breeding and promotion of preservation and sustainable use of vegetable resources are handled.

More information: <http://highlife.aragon.es/>  
 Contact: Cristina Mallor [cristina.mallor@cita-aragon.es](mailto:cristina.mallor@cita-aragon.es)

**GOBIERNO DE ARAGÓN**

## 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.

**ONION**



### Examples of participatory varietal selection programs

<p><b>'Tomate Rosa de Barbastro'</b></p>  <p><b>Remarkable results</b></p> <ul style="list-style-type: none"> <li>• This landrace has been registered as a Conservation Variety.</li> <li>• Selected seeds are being commercialized by a local cooperative</li> </ul>	<p><b>Solanum lycopersicum L.</b></p> 
<p><b>'Cebolla Dulce de Fuentes'</b></p>  <p><b>Remarkable results</b></p> <ul style="list-style-type: none"> <li>• The studies have contributed to obtain the Protected Designation of Origin (PDO) quality mark.</li> <li>• Nowadays growers use the seeds from the low pungency breeding program.</li> </ul>	<p><b>Allium cepa L.</b></p> 
<p><b>'Judía Caparrona de Monzón'</b></p>  <p><b>Remarkable results</b></p> <ul style="list-style-type: none"> <li>• A Local Growers Association has been established.</li> <li>• Growers have access to high quality seeds selected from local populations</li> </ul>	<p><b>Phaseolus vulgaris L.</b></p> 
<p><b>'Borraja de Flor Blanca'</b></p>  <p><b>Remarkable results</b></p> <ul style="list-style-type: none"> <li>• 'Movera', a variety with delayed bolting, has been selected from white-flowered local populations.</li> <li>• 'Movera' is the most cultivated variety by local growers.</li> </ul>	<p><b>Borago officinalis L.</b></p> 

Species	Accessions
• <i>Allium altaicum</i> Pall.	1
• <i>Allium ampeloprasum</i> L.	14
• <i>Allium cepa</i> L.	653
• <i>Allium cristophii</i> Traux.	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
<b>TOTAL</b>	<b>820</b>

✓ 820 accessions

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

✓ Main collections (94%):

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

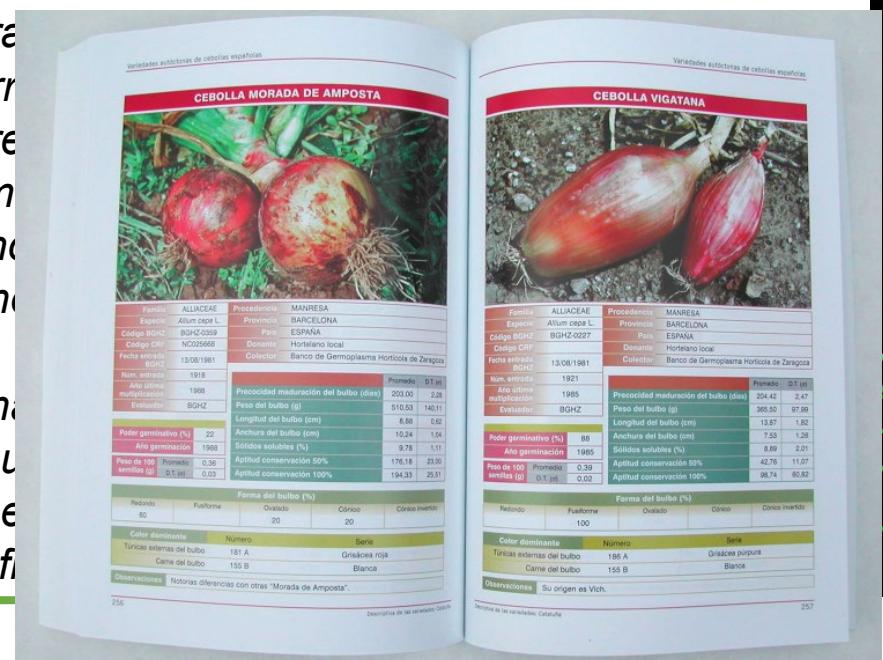


## Species

- Allium altaicum* Pall.
- Allium ampeloprasum* L.
- Allium cepa* L.
- Allium cristophii* Traux.
- Allium fistulosum* L.
- Allium giganteum* Regel
- Allium grossii* Font Quer
- Allium kara*
- Allium porrum*
- Allium pyrenaicum*
- Allium ramazanii*
- Allium schoenoprasoides*
- Allium senescens*
- Allium sp.*
- Allium sphaerocephalum*
- Allium triquetum*
- Allium tuberosum*
- Allium unifolium*

## Accessions

1  
14  
653 →



Book about Spanish traditional onions



Familia	ALLIACEAE	Procedencia	RUPE
Especie	Allium cepa L.	Provincia	CÓRDOBA
Código BGHZ	BGHZ-1134	País	ESPAÑA
Código CIF		Donante	Antonio Guillén García
Fecha entrada	1963	Colector	Banco de Germoplasma Hortícola de Zaragoza
Nºm. entrada	DB530		
Año última multiplicación	1993	Precocidad maduración del bulbo (días)	Promedio 211,00 D.T. 81
Evaluador	BGHZ	Peso del bulbo (g)	457,89 162,53
		Longitud del bulbo (cm)	8,92 1,18
		Anchura del bulbo (cm)	10,25 1,54
		Bóndoles solubles (%)	7,79 0,62
		Aptitud conservación 50%	24,10 9,30
		Aptitud conservación 100%	55,75 33,56

		Promedio	D.T. (d)
Poder germinativo (%)	45	211,00	
Año germinación	1993	457,89	162,53
Peso de 100 semillas (g)	0,26	Longitud del bulbo (cm)	8,92 1,18
D.T. (d)	0,00	Anchura del bulbo (cm)	10,25 1,54

		Promedio	D.T. (d)
Redondo	Redondo	30	20
Fusiforme	Fusiforme	30	20
Ovalado	Ovalado	20	10
Cónico	Cónico		
Cónico invertido	Cónico invertido		

		Número	Serie
Color dominante	Número	Blanca	
Túnica exterior del bulbo	Número	195 C	
Came del bulbo	Número	195 C	
Observaciones			Ácido práctico: 7,9.



Familia	ALLIACEAE	Procedencia	RUPE
Especie	Allium cepa L.	Provincia	CÁDIZ
Código BGHZ	BGHZ-0347	País	ESPAÑA
Código CIF	NC024665	Donante	Hortícola local
Fecha entrada	27/07/1982	Colector	Banco de Germoplasma Hortícola de Zaragoza
Nºm. entrada	DB283		
Año última multiplicación	1987	Precocidad maduración del bulbo (días)	Promedio 211,00 D.T. 09
Evaluador	BGHZ	Peso del bulbo (g)	217,53 66,09

		Promedio	D.T. (d)
Redondo	Redondo	65,00	55,00
Fusiforme	Fusiforme	65,00	55,00
Ovalado	Ovalado	20	10
Cónico	Cónico		
Cónico invertido	Cónico invertido		

		Número	Serie
Color dominante	Número	Paja púrpura	
Túnica exterior del bulbo	Número	61 A	
Came del bulbo	Número	70 A	
Observaciones			

		Promedio	D.T. (d)
Redondo	Redondo	65,00	55,00
Fusiforme	Fusiforme	65,00	55,00
Ovalado	Ovalado	20	10
Cónico	Cónico		
Cónico invertido	Cónico invertido		

**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)

