



COLLECTION OF GRAIN LEGUMES IN THE REPUBLIC OF SRPSKA, B&H

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University of Banja Luka

ForEVA – Fostering the need of implementation of the ECPGR's European Evaluation Network (EVA) on Grain legumes

10-11 October 2023, Bucharest, Romania



Institute of genetic resources, University of Banja Luka

- established in 2009 as a part of University of Banja Luka
- consists of two sub-organizational units:
 1. Center for Biodiversity
 2. Center for sustainable use of genetic resources



Center for Biodiversity



- activities related to basic, developmental and applied research

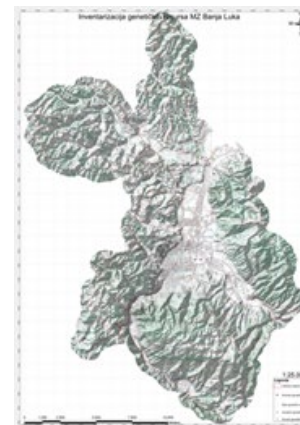
Plant Gene Bank of the Republic of Srpska:

1. seed collections
2. fruit field collections,
3. in vitro collection
4. arboretum,
5. botanical garden,
6. gene library.



Center for sustainable use of genetic resources

1. department for consulting and provision of services
2. department for production and trade of agricultural and forest plant material



Protected area „University city“

Category VI – Protected Area with sustainable use of natural resources



- total area: 27.3 ha
- declared in 2012
- key natural values: Platanus alley, river Vrbas coast, natural monuments, ornithofauna, botanical garden with arboretum



Collection of grain legumes at the Gene Bank of the Republic of Srpska

- 170 accessions of *Phaseolus vulgaris* L.



- 14 accessions of *Phaseolus coccineus* L.



- 10 accessions of *Lathyrus sativus* L.



Project: Grain Legumes Genetic Resources and their Importance for Human Consumption and Sustainable Agriculture (2016-2018)



- expedition in the area of Romania and collecting 7 new accessions of *Phaseolus coccineus*
- morphological characterization and multiplication of new accessions
- molecular characterization of 70 accessions of *Phaseolus vulgaris* and 11 accessions of *Phaseolus coccineus*
- implementation of the SMARTLEG project - "Efficient management of resources for smart legumes utilization"







References



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2. Pipan B., Šuštar Vozlič J., Todorović V., Antić M., Creola B., Ivanovska S., Jankulovska M., Savić A., Vasić M., Meglič V. (2018). **Evaluation of the Balkan *Phaseolus coccineus* L. genetic resources.** Botanica Serbica vol. 42 (supplement 1). 7BBC Book of abstracts, 166.
3. Pipan B., Šuštar Vozlič J., Todorović V., Antić M., Creola B., Ivanovska S., Vasić M., Kainz W., Miceli F., Hauptvogel P., Papa R., Meglič V. (2018). **Comperative evaluation of *Phaseolus coccineus* L. germplasm originating from eight Central European collections.** V: Skočaj M. (ur.). Genetika 2018 : book of abstracts, 8th Congress of the Genetics Society of Slovenia [and] 8th Meeting of the Slovenian Society of Human Genetics, September 19-21, 2018. Ljubljana: Slovensko genetsko društvo:144. <http://genetika2018.alfa-faktor.si/>.
4. Sinkovič L., Pipan B., Vasić M., Antić M., Todorović V., Ivanovska S., Brezeanu C., Šuštar Vozlič J. & Meglič V. (2019). **Morpho-agronomic characterisation of runner bean (*Phaseolus coccineus* L.) from South-Eastern Europe.** *Sustainability*, 11(21), 61-65.

Project: Genetic diversity of wetch species (*Lathyrus* sp.) – genetic resources to revitalize underutilized crop (2019-2021)



- expedition in the area of Trebinje and collecting 3 new accessions of *Lathyrus sativus*
- morphological characterization and multiplication of the collected accessions
- molecular characterization
- the realization of this project was the basis for the application to the EPCGR project "Lathyrus diversity: available resources with relevance to crop improvement – progress reviews and relationship with AEGIS".





References

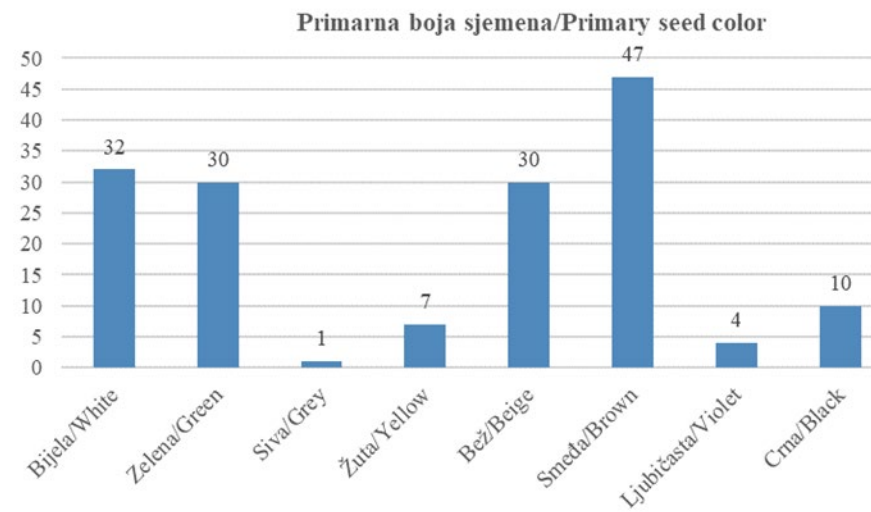
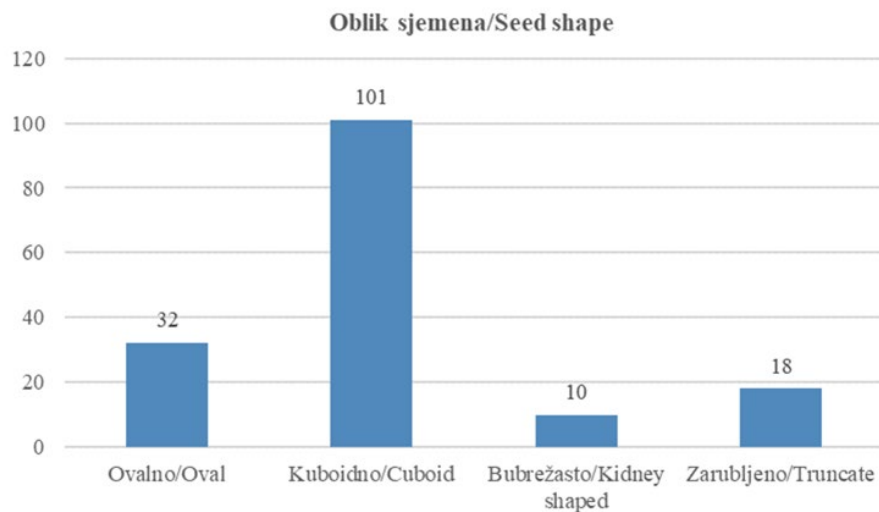


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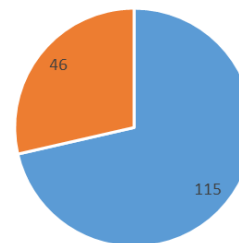
Phaseolus vulgaris catalogue



Characteristic	Min	Max	Av	SD	CV
Seed length (mm)	9,50	18,06	13,90	1,45	10,44
Seed thickness (mm)	4,17	8,13	5,98	0,80	13,37
Seed width (mm)	5,31	10,92	7,88	0,89	11,25
100 seed weight (g)	15,44	73,72	41,48	10,80	26,04



Broj boja sjemena/Number of seed colors



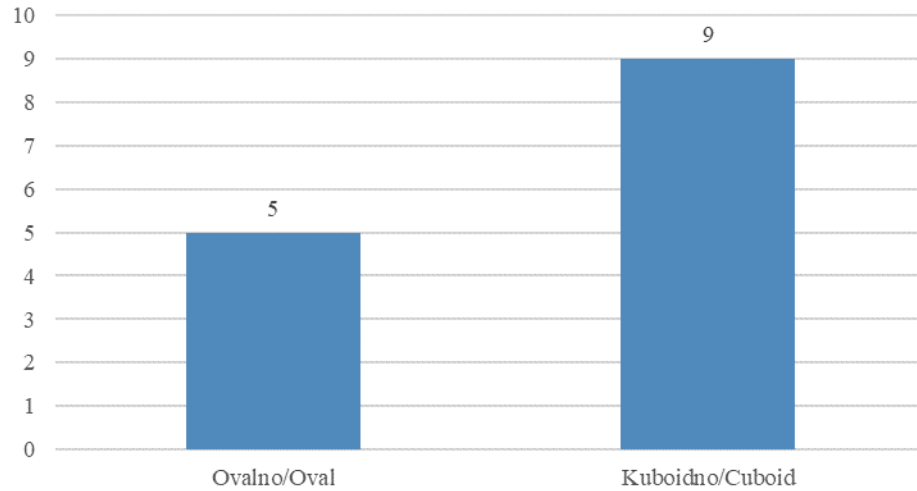
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Phaseolus coccineus catalogue

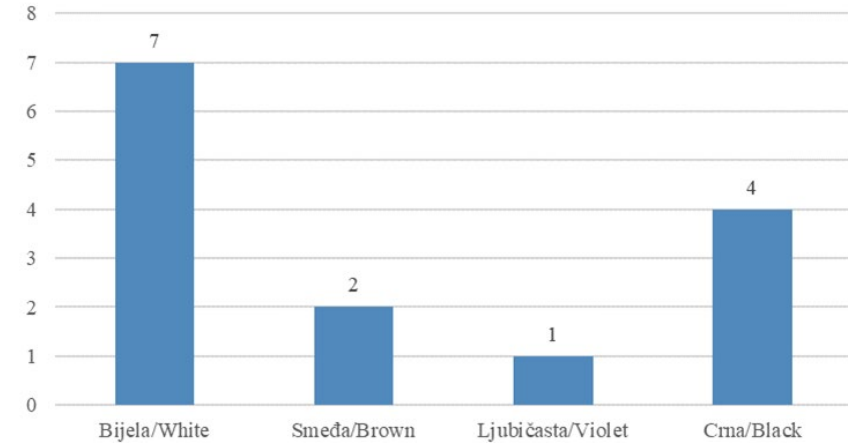


Characteristic	Min	Max	Av	SD	CV
Seed length (mm)	17,80	22,24	20,45	1,19	5,81
Seed thickness (mm)	6,09	9,53	8,65	0,84	9,72
Seed width (mm)	9,57	14,19	12,85	1,18	9,20
10 seed weight (g)	5,89	16,17	13,06	2,67	20,47

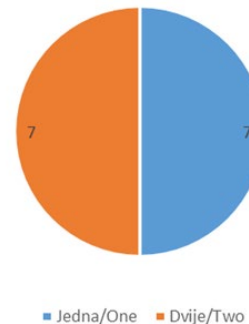
Oblik sjemena/Seed shape



Primarna boja sjemena/Primary seed color



Broj boja sjemena/Number of seed colors

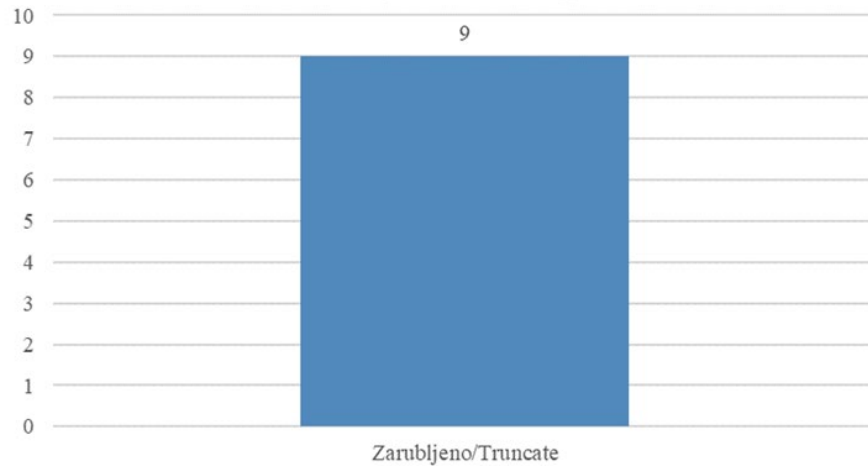


Lathyrus sativus catalogue

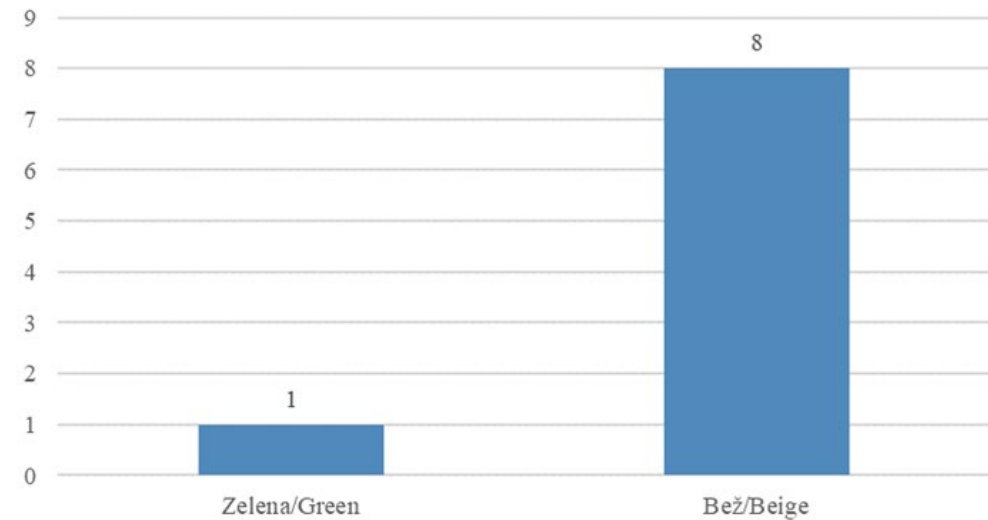


Characteristic	Min	Max	Av	SD	CV
Seed length (mm)	9,05	10,57	9,64	0,43	4,48
Seed thickness (mm)	4,77	6,04	5,46	0,40	7,34
Seed width (mm)	9,00	11,30	10,02	0,67	6,68
10 seed weight (g)	19,70	32,86	25,99	3,88	14,92

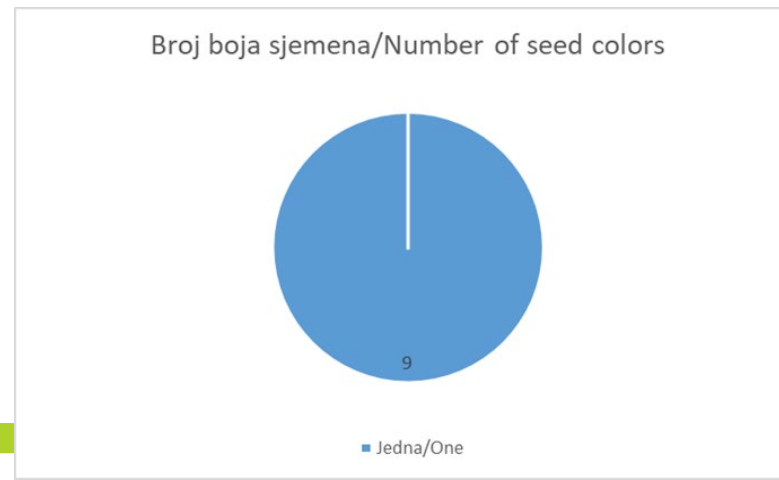
Oblik sjemena/Seed shape



Primarna boja sjemena/Primary seed color



Broj boja sjemena/Number of seed colors



Expectations from EVA legumes [feel free to adjust title]



- Evaluation of material with established conditions of operation
- enhance the conservation, access and use of grain legume genetic resources

