Presentatnion of the Leafy Vegetable WG member: Serbia

- **3rd meeting of the Leafy Vegetable Group and EVA Lettuce Network meeting ,Skiernewice 7-8th October 2026.**

- **Milan Ugrinović, Ph.D.**
  - *Breeder,*
    - Institute of Vegetable Crops
      - Smederevska Palanka





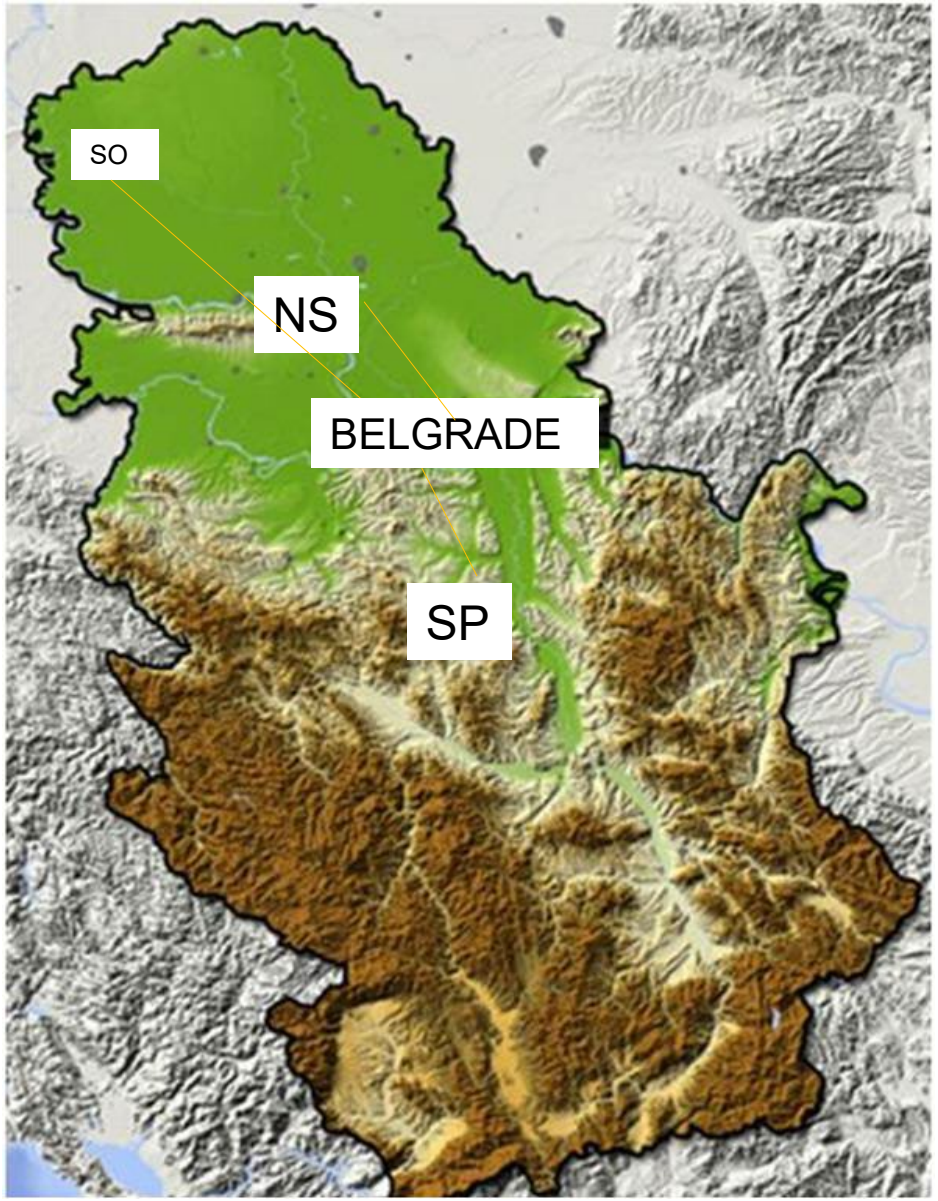




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Facilities for Vegetable seeds collecting and preserving



- Sample collection is done in three different National Institutions
- National Gen Bank, Batajnica, Belgrade, (after 2015)
- Institute of Field and Vegetable Crops, Novi Sad,
- Institute of Vegetable Crops, Smederevska Palanka

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(National) Plant gene bank

- **Numbers**

5194 accessions
261 plant species
(**Vegetables 214 accessions (11 species)**)

Midterm conservation: +4^{0}C
Long term conservation: -18^{0}C
4 laboratories: 100m^2
3 cold chambers: 30m^2 60m^2 140m^2
Total capacity: 100.000 accessions
Drying chamber: 10m^2
Facility was under construction until 2015



Status of the National Gene Bank Leafy Vegetable collection

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- **Capabilities: (Documentation level of the collection)** -

- collecting samples,
- germination tests,
- seed moisture,
- drying,
- preparation for storage,
- Mid-term (+4) and long-term storage (-20)






Leafy vegetables were not in the focus of breeding programs and projects (as some other crops f.ex. Maize, Wheat, Pepper...

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Status of the National Gene Bank Leafy Vegetable collection

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- small number of accessions
- small amount of seeds per sample

- only a passport data

- evaluation has not performed succesfuly (partial scale UPOV)
  lack of funding,
  lack of staff,
  lack of coordination,
  bureaucracy
  ….other reasons









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(National) Plant gene bank achievements and goals

- **1989 Project "Formation of a Gene Pool for the needs of the Plant Gene Bank of Yugoslavia"**
- 1990 The Plant Gene Bank complex construction was completed
- ***1999-2015 Samples of the National Collection kept at the Maize Institute "Zemun Polje"***
- ***2005-2011*** *Plant gene bank* ***equipped for medium and long-term preservation***
- *2009 Food Safety Law - Duties and activities of the Plant Gene Bank*
- *2010-2013* ***additional equipment was acquired***
- 2012 Acquired equipment for the seed laboratory
- 2014 A seed drying room was built
- 2015 Samples of the **National Collection** were transferred to the cold storage of the Plant Gene Bank
- 2016 Database formed and regeneration of the most endangered samples started
- 2018 Regeneration of the oldest wheat samples began in cooperation with institutes
- 2022 Letter of Intent signed for launching International Mega Science Project **"From Genome to Phenome: Deciphering Crop Genetic Resources" (G2P)** financed by Ministry of Science and Technology (MOST) of PR China.
- **2026 vegetable collections steel waiting for regeneration as well as for transfer of accesions from institutes**
- 2026 Laboratory for molecular diagnostics of National GB – in development

Institute of Field and Vegetable Crops
Novi Sad

Colection of the Institute of Fielda and Vegetable Crops in Novi Sad

Among the vegetable species, leafy vegetables (except cabage) are the most neglected group.

Midterm conservation: +4^{0}C
small capacity



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Colection of the Institute of Vegetable Crops Smederevska Palanka

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Lettuce until 2014:

32 (51)* accessions mainly butterhead (spinach 15; **23***
*according to different sources)

https://rivec.institut-palanka.rs/bitstream/handle/123456789/96/93.pdf?sequence=1&isAllowed=y



Experimental field was flooded for more than a month

The cold chamber was without electrisity during the hot summer period.

Only 8 lettuce accessions were saved (+3 spinach)

Midterm conservation: +4^{0}C
moderate capacity

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Colection of the Institute of Vegetable Crops Smederevska Palanka

Species/ latin name	No. of accessions	1-3	
Alliums spp.	106	106	
Brassica ssp.	191	191	
Capsicum annuum	339	339	
Lycopersicon esculentum	325	210	25
Cucurbits and cucumis	66	66	
Lactuca sativa	32 (51)*	32	
Apiaceae	99	99	
Raphanus spp.	14	14	
Solanum melongena	40	40	
Spinacia oleracea	15	15	
Beta vulgaris	23	23	
Total	2265	2265	

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Capabilities of the Institute of Vegetable Crops Smederevska Palanka

- *New research team*
- *Experience with EVA Pepper project*
- *Experimental field with specific weather conditions*
- *Wide experimental field (suitable for isolation)*
- *Plastic greenhouses and glasshouses*

Interested for collaboration and project proposals



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Presentatnion of the Leafy vegetable WG member: state of the art in Serbia

- **Availability of the national collection**
- **Documentation level of the collection** - Collecting samples, germination tests, seed moisture, drying, preparation for storage, mid-term and long-term storage

- **Law on Ministries** - Management of Plant Genetic Resources, policy, legislation (laws, regulations, National Programme, subsidies), PGRFA documentation, national and international cooperation, projects on conservation and use of PGRFA









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Thank You very much

for Your attention!







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