



Status of Brassica collection in Serbia

Dragana Rajković, Ana Marjanović Jeromela, Nevena Nagl

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Serbia - intro

- 5.7 million ha of arable land, ~70% is being cultivated
- Rapeseed (*Brassica napus* L.) ~30 000 ha
- Cabbages and other *Brassica* vegetables ~10 000 ha



Southeast Europe map

Plant gene bank in Serbia

- National plant gene bank 4 238 accessions from 249 species
 - All accessions from National Gene Bank Collection are already sent to EURISCO
- Institutes and universities are main collection-holders (over 20 000 acc)
- mid term (+4C) and long term (-20C)



National plant gene bank

Vegetable cabbages

No	Species	Crop name	Common name
1	<i>Brassica oleracea</i> var. <i>capitata</i> L.	cabbage	Žarkovac
2	<i>Brassica oleracea</i> var. <i>capitata</i> L.	cabbage	Ditmar
3	<i>Brassica oleracea</i> var. <i>capitata</i> L.	cabbage	Belka
4	<i>Brassica oleracea</i> var. <i>capitata</i> L.	cabbage	Beli kupus



IFVCNS collection of brassicas for oil production

- 56 varieties and 180 lines of WOSR

- 11 varieties and 20 lines of SOSR

Evaluation of 23 traits

Accessions of other oil brassicas:

• *Brassica nigra* L., black mustard (NS Crna)

• *Sinapis alba* L., white mustard (NS Gorica, NS Bela)

• *Raphanus sativus* var. *oleiformis* Pers., oilseed radish

• *Camelina sativa*, false flax (NS Slatka, NS Zlatka)

Research & breeding



IFVCNS collection of vegetable brassicas

No	Species	Crop name	Common name
1	<i>Brassica oleracea</i> var. <i>capitata</i> forma alba	white cabbage	Futoški
2	<i>Brassica oleracea</i> var. <i>capitata</i> forma alba	white cabbage	Ditmar
3	<i>Brassica oleracea</i> var. <i>capitata</i> forma alba	white cabbage	Čuruški
4	<i>Brassica oleracea</i> var. <i>capitata</i> forma alba	white cabbage	Deronjski
5	<i>Brassica oleracea</i> var. <i>capitata</i> forma alba	white cabbage	Boljevački
6	<i>Brassica oleracea</i> var. <i>capitata</i> forma rubra	red cabbage	Orion
7	<i>Brassica oleracea</i> var. <i>botrytis</i>	cauliflower	Snežna grudva
8	<i>Brassica oleracea</i> var. <i>gongylodes</i>	kohlrabi	Bečka bela
9	<i>Raphanus sativus</i> var. <i>radicula</i>	radish	Saxa Treib
10	<i>Raphanus sativus</i> var. <i>radicula</i>	radish	Verica
11	<i>Brassica nigra</i>	black mustard	NS Crna

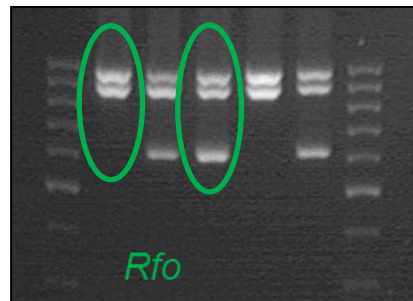
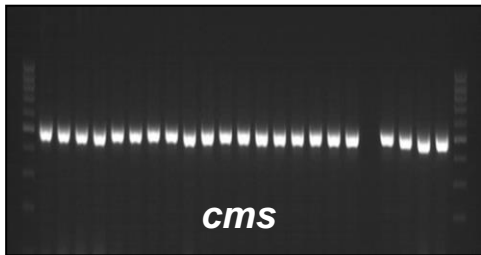
IFVCNS collection of brassicas for other purposes

Fodder crop & green manure

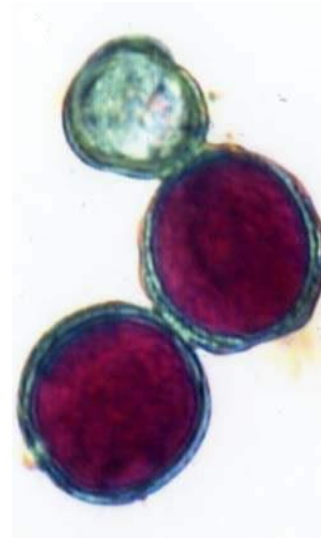
No	Species	Crop name
1	<i>Brassica napus</i> L.	oilseed rape
2	<i>Brassica oleracea</i> L. var. <i>viridis</i> L.	fodder kale (NS Bikovo, NS rani, Perast)
3	<i>Brassica rapa</i> subsp. <i>oleifera</i> (DC.) Metzg	turnip rape
4	<i>Brassica juncea</i> (L.) Czern	brown mustard

Oilseed rape agronomic and quality traits

- Number of lateral branches, silique number, seed number, yield, plant height etc.
- Flower morphology, pollen features and number of chromosomes



Stability of CMS and fertility restoration



Rating pollen viability



Pollen presence



Institute of vegetable crops Smederevska palanka collection of vegetable brassicas

No	Species	Crop name
1	<i>Brassica oleracea</i> var. <i>capitata</i> L.	cabbage
2	<i>Brassica oleracea</i> var. <i>botrytis</i> L.	cauliflower
3	<i>Brassica oleracea</i> var. <i>italica</i> L.	broccoli
4	<i>Brassica oleracea</i> var. <i>gemmifera</i> L.	Brussels sprout
5	<i>Brassica oleracea</i> var. <i>acephala</i> L.	kale
6	<i>Brassica oleracea</i> var. <i>gongylodes</i> L.	kohlrabi
7	<i>Brassica oleracea</i> var. <i>acephala</i> L.	collard
8	<i>Eruca sativa</i> L.	arugula