



EVA
European Evaluation Network



AGRICULTURAL INSTITUTE OSIJEK – SHORT OVERVIEW AND MAIZE ACCESSIONS IN THE PROJECT

Domagoj Šimić

Agricultural Institute Osijek
Croatia

EVA Maize – Malanirs Kickoff

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Bergamo, Italy



Short presentation of the Agricultural institute Osijek



- Located in the Northeastern Croatia near Hungary and Serbia
- A public research institute in the scientific field of plant science, plant breeding, pomology, seed and agricultural production
- Plant breeding and genetics of maize, wheat, barley, soybean, sunflower, alfalfa, red clover;
- Developing commercial crop varieties predominantly from elite material
- Aims to ensure and develop excellence in applied research and development and to improve production of food and bio-energy, supporting industry and management of the natural resources in the regional, national and European context



Institute's maize collection

- Part of decentralized Croatian plant genetic resources system
- Inbred lines (elite and of historical relevance), synthetics, landraces, open pollinated varieties (OPVs)
- Only inbred lines are genotypically characterized so far (Jambrović et al. 2008; Jambrović et al. 2014; Galić et al. 2023)

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Genetic diversity among maize (*Zea mays*, L.) inbred lines in Eastern Croatia

ANTUN JAMBROVIĆ
DOMAGOJ ŠIMIĆ
TATJANA LEDENČAN
ZVONIMIR ZDUNIC
IVAN BRKIĆ

Abstract

Background and Purpose: Assessment of the genetic diversity among inbred lines is important for hybrid maize (*Zea mays*, L.) breeding. There is no published study reporting genetic diversity and relatedness of maize inbred lines at molecular level among elite inbred lines in major maize pro-

ARRAY-BASED GENOTYPING AND GENETIC DISSIMILARITY ANALYSIS OF A SET OF MAIZE INBRED LINES BELONGING TO DIFFERENT HETEROTIC GROUPS

Antun JAMBROVIĆ¹, Maja MAZUR¹, Zvonko RADAN², Zvonimir ZDUNIC¹, Tatjana LEDENČAN¹, Andrija BRKIĆ¹, Josip BRKIĆ¹, Ivan BRKIĆ¹, and Domagoj ŠIMIĆ¹

¹ Agricultural Institute Osijek, Osijek, Croatia

² Fermopromet d.o.o., Novi Bezdán, Baranjsko Petrovo Selo, Croatia

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RESEARCH

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Genetic diversity and selection signatures in a gene bank panel of maize inbred lines from Southeast Europe compared with two West European panels

Vlatko Galić^{1,2*}, Violeta Anđelković³, Natalija Kravić³, Nikola Grčić³, Tatjana Ledenčan¹, Antun Jambrović^{1,2}, Zvonimir Zdunic^{1,2}, Stéphane Nicolas⁴, Alain Charcosset⁴, Zlatko Šatović^{2,5} and Domagoj Šimić^{1,2}

Accessions included in the Malanirs project – landraces and OPVs

NICODE	INSTCODE	ACCENUMB	ACCENAME	ACQDATE	ORIGCTY	COLLSITE	LATITUDE	DECLATITUDE	LONGITUDE	ECLONGITUDE	DOORDDATUM					
Genebank Country (International Country Code)	GeneBank (FAO Code)	Genebank (Name)	Accession Number	Internal code	Common name	Acquisition Date in Genebank (YYYYMMDD)	Year of multiplication (YYYY)	Germination rate (%)	Human uses (Animal Feeding, Polenta, PopCorn,...)	Country of accession origin (International Code or Name)	Collection site (Country, City,...)	Latitude (Decimal)	Latitude (Degree)	Longitude (Decimal)	Longitude (Degree)	Date of landraces collect in field
HRV	HRV021	CPGRD	CAM00428	AJO01	Beljski zlatni zuban* (1922)	20190314	2020	85	Animal feeding	HRV	Unknown					Unknown
HRV	HRV021	CPGRD	CAM00429	AJO02	Koričev brzak*(~1930)	20190314	2020	85	Animal feeding	HRV	Unknown					Unknown
HRV	HRV021	CPGRD	CAM00430	AJO03	Vukovarski žuti zuban* (1917)	20190314	2020	85	Animal feeding	HRV	Unknown					Unknown
HRV	HRV021	CPGRD	CAM00431	AJO04	Vukovarski zuban* (1911)	20190314	2020	85	Animal feeding	HRV	Unknown					Unknown
HRV	HRV021	CPGRD	CAM00432	AJO05	Beli osmak	20190314	2020	85	Human uses	HRV	Božjakovina	45,8333	45°50'0"N	16,2833	16°17'0"E	1963
HRV	HRV021	CPGRD	CAM00433	AJO06	Žuti osmak	20190314	2020	85	Human uses	HRV	Lipik	45,4147	45°24'53"N	17,1514	17°9'5"E	1963
HRV	HRV021	CPGRD	CAM00434	AJO07	Hrvatica	20190314	2020	85	Human uses	HRV	Martijanec	46,2667	46°16'0"N	16,5667	16°34'0"E	1963
HRV	HRV021	CPGRD	CAM00435	AJO08	Činkvantin	20190314	2020	85	Human uses	HRV	Unknown					1963
HRV	HRV021	CPGRD	CAM00436	AJO09	Maksimirski	20190314	2020	85	Animal feeding	HRV	Zagreb	45,815	45°48'54"N	15,9785	15°58'43"E	1963
HRV	HRV021	CPGRD	CAM00437	AJO10	Maksimirski rani	20190314	2020	85	Animal feeding	HRV	Unknown					1963
HRV	HRV021	CPGRD	CAM00438	AJO11	Maksimirski rani krupnozrni	20190314	2020	85	Animal feeding	HRV	Unknown					1963
HRV	HRV021	CPGRD	CAM00440	AJO12	Krupni zuti zuban	20190314	2020	85	Animal feeding	HRV	Unknown					1963
HRV	HRV021	CPGRD	CAM00441	AJO13	Osmak	20190314	2020	85	Human uses	HRV	Botinec	45,75	45°45'0"N	15,9333	15°56'0"E	1963
HRV	HRV021	CPGRD	CAM00442	AJO14	Kvarantin k-49	20190314	2020	85	Human uses	HRV	Botinec	45,75	45°45'0"N	15,9333	15°56'0"E	1963
HRV	HRV021	CPGRD	CAM00444	AJO15	Crveni osmak	20190314	2020	85	Human uses	HRV	Zdencina	45,6667	45°40'0"N	15,7667	15°46'0"E	1964
HRV	HRV021	CPGRD	CAM00445	AJO16	Osmak	20190314	2020	85	Human uses	HRV	Vizinada-Ferenci	45,3333	45°20'0"N	13,7333	13°44'0"E	1964
HRV	HRV021	CPGRD	CAM00446	AJO17	Osmak	20190314	2020	85	Human uses	HRV	Kompolje	45,2167	45°13'0"N	15,2833	15°17'0"E	1964
HRV	HRV021	CPGRD	CAM00447	AJO18	Osmak	20190314	2020	85	Human uses	HRV	Lovinac	44,4	44°24'0"N	15,6667	15°40'0"E	1964
HRV	HRV021	CPGRD	CAM00449	AJO19	Činkvantin	20190314	2020	85	Human uses	HRV	Vrbnik-Ganica	45,0833	45°5'0"N	14,6667	14°40'0"E	1986
HRV	HRV021	CPGRD	CAM00450	AJO20	Hrvatica	20190314	2020	85	Human uses	HRV	Veliki Potocec	45,9667	45°58'0"N	16,5667	16°34'0"E	1987
HRV	HRV021	CPGRD	CAM00451	AJO21	Žuti osmak	20190314	2020	85	Human uses	HRV	Daruvar	45,59	45°35'24"N	17,225	17°13'30"E	2000
					Synthetics/OPV											
					* Courtesy of MRIZP											

Accessions included in the Malanirs project – geographical distribution



Expectations from Malanirs

- Looking forward to participate in targeting sequencing of landraces for genomic prediction
- We have experience in NIRS analysis using proximal hyperspectral handheld spectroradiometers for canopy (leaf) analysis, but no NIRS on grains