

2. The frequency of mutations from colourless to coloured pericarp in inbred lines.

The frequency of mutations from colourless to coloured pericarp: orange, red and variegata in inbred lines during 15 years of selfing of some Yugoslav varieties of maize has been studied. For that purpose inbred lines from 6 yellow flints, 5 white flints, 7 yellow dents and 4 white dents extracted from some varieties have been used. The mutation rate has been calculated per 10,000 plants. The rate of mutation from colourless to coloured increased in the following order: variegated, orange, red. There is no significant difference in the percentage of mutations from flint types and dent types but there are some small differences in the total mutation rates in yellow flints.

All investigated flints and dents have produced orange mutants, but not all of them have given variegated pericarp.

Frequency of mutations from colourless to coloured pericarp in inbred lines during 15 years of selfing of some Yugoslav varieties of maize.

No.	Variety	Mutation rate per 10,000 plants from colourless to:			Total
		orange	red	variegata	
<u>L. Flints - a) yellow</u>					
1.	Long fellow-Lepoglava	0.6	0.8	-	1.4
2.	Early - Medjimurje	0.3	0.7	0.1	1.1
3.	Early - Maksimir	0.2	-	0.1	0.3
4.	Yellow - Pirot	0.4	0.5	-	0.9
5.	Yellow - Djakovo	0.3	0.6	0.2	1.1
6.	Cinquantino	0.2	0.4	-	0.6
<u>Total Yellow flints: M</u>		0.33	0.5	0.06	
<u>b) white</u>					
7.	Long fellow - Zaječar	0.3	0.4	0.2	0.9
8.	White - Djakovo	0.4	0.7	0.1	1.2
9.	White - Pirot	0.3	0.8	0.2	1.3
10.	White - Knin	0.5	0.7	0.3	1.5
11.	White - Kruševac	0.4	0.9	-	1.3
<u>Total White flints: M</u>		0.38	0.7	0.16	
<u>Total Flints: M</u>		0.35	0.59	0.09	

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No.	Variety	Mutation rate per 10,000 plants from colourless to:			Total
		orange	red	variegata	
<u>II. Dents - a) yellow</u>					
12.	Early dent - Maksimir	0.2	0.8	0.2	1.2
13.	Early dent - Osijek	0.6	0.7	-	1.3
14.	Early dent-Horgoš	0.4	0.6	0.2	1.2
15.	Yellow - Bajša	0.5	0.8	-	1.3
16.	Yellow - Belje	0.3	0.9	0.2	1.4
17.	Yellow - Novi Sad	0.4	0.6	-	1.0
18.	Yellow - Šid	0.6	0.9	0.1	1.6
<u>Total Yellow dents: M</u>		0.43	0.75	0.01	
<u>b) white</u>					
19.	Early white - Horgoš	0.4	0.6	-	1.0
20.	White - Požega	0.3	0.7	-	1.0
21.	White - Zajecar	0.2	0.5	0.1	0.8
22.	Mastadont	0.4	0.7	0.1	1.2
<u>Total white dents: M</u>		0.32	0.62	0.05	
<u>Total dents: M</u>		0.37	0.65	0.09	

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3. Number of knobs and B-chromosomes in some Yugoslav varieties of maize.

The number of chromosome knobs and the number of B-chromosomes have been investigated in 7 yellow flint, 5 white flint, 6 yellow dent and 3 white dent varieties collected in different regions of Yugoslavia. In the table are the data for maturity rate of the different varieties, and the number of knobs on chromosomes and the number of B-chromosomes. In the flints the number of knobs varied from 0 to 4 and the number of B-chromosomes from 0 to 2. Only in 6 of the 12 flint varieties were B-chromosomes found. The dent varieties have a higher number of chromosome knobs. It varies from 2 to 14. In one and the same variety the difference between the lowest and highest number of knobs is usually 2 and only in the varieties with the highest number of knobs is there a difference of 5 knobs.