



# INHERITANCE OF TRANSGENES BY MAIZE PLANTS OF UKRAINIAN BREEDING

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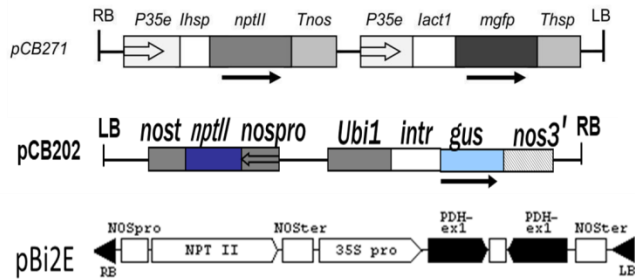
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The **goal** of the study was to produce the transgenic maize of Ukrainian breeding

## Transgene inheritance

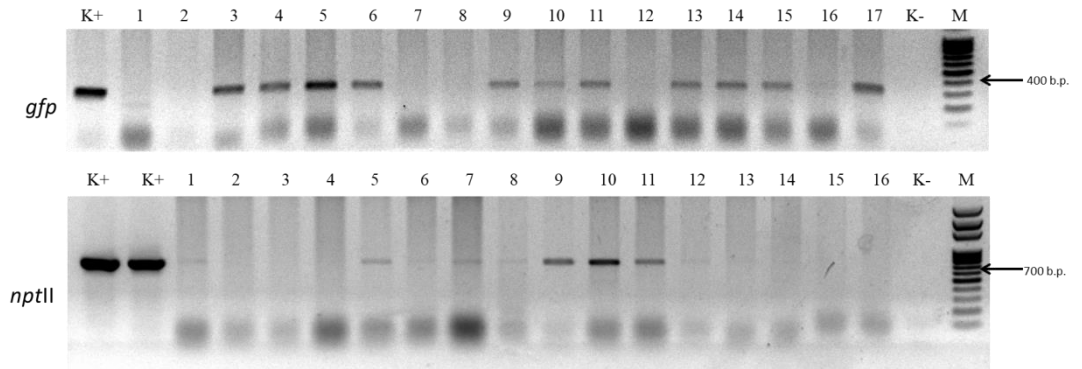
### Vectors used for transformation



### T<sub>1</sub> maize generation



### Electropherograms of PCR analysis products of T<sub>1</sub> maize plant DNA for the presence of transgenes



### Results of DNA analysis of T<sub>1</sub> maize plants by PCR

Group No	Genotype T <sub>1</sub> plants	Vectors	PCR for the <i>gfp</i> gene		PCR for the <i>nptII</i> gene	
			number of plants, pcs	<i>gfp</i> detection frequency, %	number of plants, pcs	<i>nptII</i> detection frequency among <i>gfp</i> +, %
1	T <sub>1</sub> (T <sub>0</sub> <sub>pCB271</sub> (KP7×PRZh5)× T <sub>0</sub> <sub>pCB271</sub> (KP7×PRZh5))	pCB271×pCB271	46	43,5	20	30,0
2	T <sub>1</sub> (T <sub>0</sub> <sub>pCB202</sub> (DK232)× T <sub>0</sub> <sub>pCB271</sub> (KP7×PRZh5))	pCB202×pCB271	80	57,5	46	28,3
3	T <sub>1</sub> (T <sub>0</sub> <sub>pCB271</sub> (KP7×PRZh5)× T <sub>0</sub> <sub>pBi2E</sub> (KP7×PRZh5))	pCB271×pBi2E	54	55,6	30	16,7



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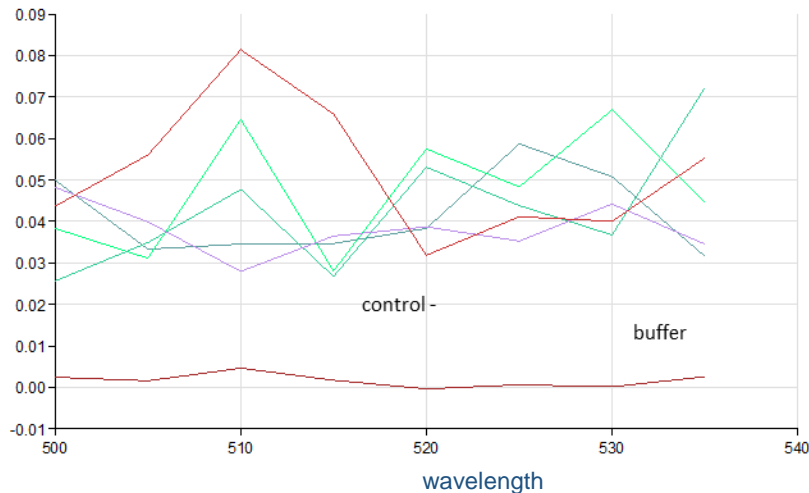
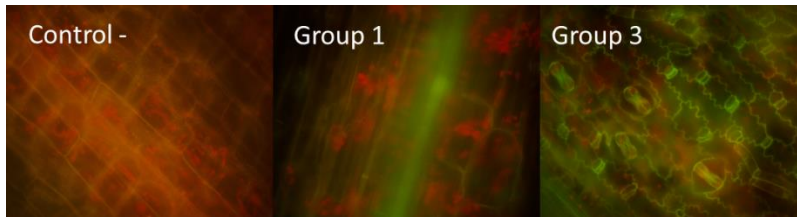
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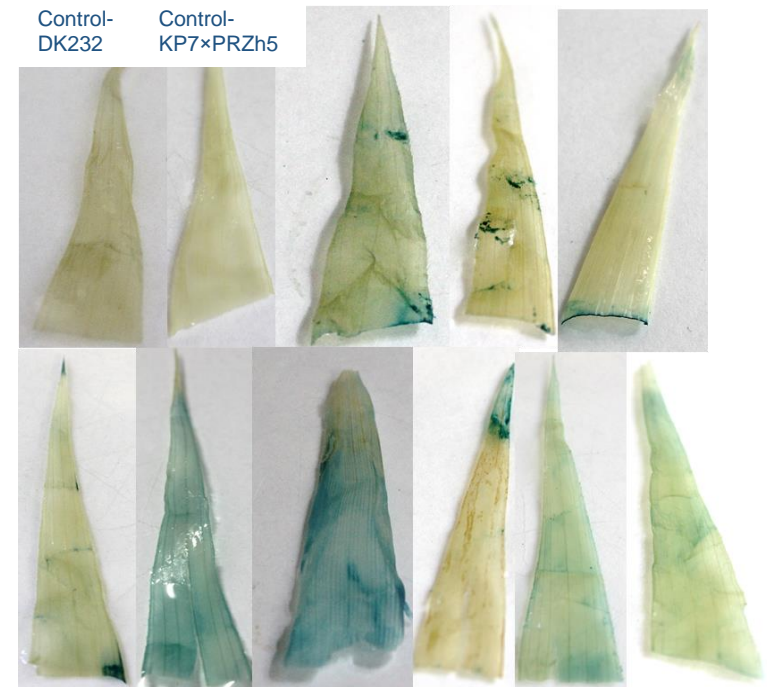
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## Transgene expression in the T<sub>1</sub> maize plants

### GFP fluorescence



### GUS expression



**Conclusions:** established transgene inheritance and expression in T<sub>1</sub> plant generation and accordingly the effectiveness of the protocol of *Agrobacterium*-mediated transformation of pre-cultivated immature embryos for obtaining transgenic maize plants of Ukrainian breeding, proved the incorporation of one copy of the transgene into the plant genome