45. Detection of Heterologous Genetic Sequence in Maize Samples by PCR Method

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Introduction. The aim was to analyze the DNA extracted from maize samples acquired in trade network for detection of transgenic components. Summarizing of facts about possible consequences of GM plant using and checking of GM plant presence in the environment:

- Genetic engineering allows to improve agricultural quality of plants and to create plants – producers of recombinant pharmaceutically valuable proteins
- Using of GM plants can help in dealing with economic and ecological problems
- General society and some scientists are concerned about possible consequences of GM plant consumption for human health (particularly about decrease of immunity or manifestation of allergic reactions). Therefore the correct marking of GMP containing products is necessary
- In Ukraine sell of GM products is banned. But signature like «Without GMO» on product doesn't need obligate checking. So some products may content transgenic components
- In the world the most popular widespread GM products are breeds of soybean, maize, cotton, potato etc.
- GM maize often contains genes coding for Bacillus thuringiensis (Bt) toxins. Corn borer, the most dangerous maize pest, dies when feeding on Bt-corn. The 35S promoter of cauliflower mosaic virus (CaMV) is used in GM maize to drive the transgene expression.

Conclusions. Seventeen maize samples were checked using PCR method. Among seventeen investigated maize samples amplification of nos-terminator fragment was observed in one sample (TM «Vernet»). These results may indicate the presence of transgenic component in this maize sample. Also our maize samples were investigated of the content of fragments of 35S promoter of cauliflower mosaic virus (CaMV), nos-terminator and transformation events like Bt176 (resistance to insect-pest), NK603 and GA21 (resistance to herbicide glyphosate).

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46. Varieties of food additives in the contemporary human diet

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Introduction. The importance of food additives in nature and man's life cannot be overestimated. Improvement of the food preservation and processing, enhancement of their taste became possible thanks to the chemistry. In the early 20th century food additives were widely used in baked goods, confectionaries, as well as in the production of sausages,