

GENETICALLY EDITED ORGANISMS – CRISPR/Cas9 AS A NEW TOOL IN FOOD PRODUCTION

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Abstract: Few topics in science raised so much controversy as that of genetically modified organisms, or GMOs. Engineered by technics of recombinant DNA, GMOs include genes from other organisms to produce a particular trait, such as disease or pesticide resistance. However, while GMO technology is still considered to be “new” and not fully understood, recent discovery of gene-editing tool CRISPR/Cas9, with ability to cut out genes and splice in new ones, even more, to do it in vivo, gives a promise for a completely new approach to the production of crop with desirable genetic traits. There is a distinction between 'genetically modified organisms' (GMOs) generated through the transgenic introduction of foreign DNA sequences and 'genome-edited crops' (GECs) generated through precise editing of an organism's native genome. In this paper, we will give an overview of CRISPR/Cas9 applications, as well as of benefits and major issues regarding the use of genetically edited organisms in food production and medicine.

Keywords: Genetically edited organisms, CRISPR/Cas9, food, genome modification, food safety