

TRANSGENIC PLANTS AS A SOURCE OF HIGH QUALITY OILS

Summary

Vegetable oils represent a very important, renewable source of human food, animal feed and have multiple industrial applications. Increasing demand from both food and non-food industry for vegetable oils and their components forces the search for new, more efficient and more economical sources of their acquisition. Today, it is not enough just to increase the acreage of oil plants; there is a need for projects leading to the creation of new varieties. The new varieties should either accumulate more oil or can be capable of biosynthesis of compounds that naturally do not occur in their tissues or are present in trace amounts. In this kind of research well-known commonly used crops such as oilseed

rape and soybean are included. However, the vast majority of works on new varieties of transgenic plants start from research conducted on the model plant *Arabidopsis thaliana*. This paper presents several examples of genetically modified plants with increased oil level, modified oil composition regarding human diet, and with constrained synthesis of many compounds valuable to the industry. Numerous examples of industrial applications for vegetable oils and their components are presented. One of the aims of this paper is demonstration that plurality of research lead to new genetically modified varieties with modified lipid metabolism.