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**On solutions to the food production problems**

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Food production's growth rate lags behind the pace at which the population is increasing and it seems that this trend will pursue. Current food deficiency is nearing the 60 mln ton mark. Major role is solving the world food deficiency is put onto the intensification of agricultural production. However, many scientists believe that it is impossible to deal with ever growing lack of food via expending the cultivated areas, increasing livestock, amplifying the agriculture and animal husbandry technologies. It is possible to increase the products' nutritional value using the plants richer with protein, vitamins and cultivating new cattle breeds.

Currently food industry utilizes different methods of product improvement and technological processes enhancement. The most economically beneficial way to do it is to add supplements and this led to their wide spread over the last years in the majority of countries. Another way to solve the food deficiency is to synthesize food out of chemical ingredients, this is especially important for vitamin rich products and premixes. Biotechnology allows to solve the lack of protein and vitamins with the help of microorganisms rapid growth potential which is thousand fold quicker than cattle's and 500 times faster than plants'. Different chemical products and compounds are used to cultivate microorganisms: natural gas, oil, starch, hydrolyzates and other. Completely different way to solve the problem is to use genetically modified (GM) products.

Usage of genetically modified seeds significantly increases the yield. Some experts suppose with current world population level only GM products can help us to avoid the starvation, as it allows raising more plants and modifying nutritional value of food products. Opponents of this approach believe that breeds of plants and cattle that currently exist are more than enough to feed Earth's population and that all food deficiency problems are caused by economic and social circumstances and should be solved with the help of governments' policies, rather than genetics.

Some scientists view the development of GM products as a branch of animal and plant selective breeding. Others on the contrary think that it is a sidestep from classic selection principles, as GM products are not the result of careful step-by-step breeding, but basically just an artificially synthesized experimental species. In our opinion such intrusion into natural processes could have harmful consequences for the genetically modified products' consumers and lead to ecological imbalance.

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**Indicate type of presentation:** ☐ Oral ☒ Poster