

12. Advances in Modern Organic Products Production

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Introduction. The word "organic" refers to the way farmers grow and process agricultural products, such as fruits, vegetables, grains, dairy products and meat. Organic farming practices are designed to encourage soil and water conservation and reduce pollution.

Farmers who grow organic produce don't use conventional methods to fertilize and control weeds. Examples of organic farming practices include using natural fertilizers to feed soil and plants, and using crop rotation or mulch to manage weeds. For example, chemically synthesized fertilizers, GMOs and pesticides are not used in agriculture fields, but to kill pests and insects physical and biological methods such as ultrasound, noise, light, traps, temperatures are used. In organic livestock farming special attention is given to the feed and conditions of breeding and transportation must not be stressful for animals, using of antibiotics and hormones is prohibited. As for manufactured goods, refining, mineralization and other methods that kill nutritional properties of the product, as well as addition of artificial flavorings, colorings, etc., is prohibited.

All organic food must display the code number and prefix of the body that certified it, as well as the EU's organic logo. In addition food certified by Soil Association Certification will also display symbol. Organic products must meet all of the normal legal requirements for that product. Excellent taste, no harmful additives, high standards for organic products have a positive impact on your body, boost your health. Organic products are safe for humans and the environment, they are not contaminated by nitrates, heavy metals and residues of pesticides, herbicides, insecticide and other substances of chemical synthesis. Organic products are free of pathogens, parasites and allergens.

Organic products do not contain genetically modified organisms and substances made on their basis. Organic food preserves nutritional properties, quality, safety and natural composition during processing because only natural methods of processing and traditional recipes, natural ingredients and packaging materials are used, the use of synthetic fragrances, preservatives, additives, etc. is prohibited. The use of organic products indirectly promotes the preservation of the environment, namely a positive effect on the reproduction of natural soil fertility; improves animal health, as such methods of detention are applied that are consistent with their natural needs and not cause suffering to animals.

Organic standards put animal welfare first. As well as requiring that animals are genuinely free range (can move around freely), organic standards cover natural living conditions, food quality, the use of antibiotics and hormones, as well as transport and slaughter. Organic farm animals: must have access to fields (when weather and ground conditions permit) and are truly free range; must have plenty of space – which helps to reduce stress and disease; must be fed a diet that is as natural as possible and free from genetically modified organisms (GMOs); must only be given drugs to treat an illness – the routine use of antibiotics is prohibited; cannot be given hormones which make them grow more quickly or make them more productive; must not be produced from cloned animals.

Conclusion. Modern biotechnology includes a range of tools, including genetic engineering, that are utilized to develop beneficial traits in plant and animal agricultural products. For example, crops such as corn and soybean have been genetically enhanced for improved weed, pest, and disease management, reduced pesticide use, higher-yielding crops, reduced soil erosion, and reduced levels of natural toxins.