



Recommendation 1213 (1993)¹

Developments in biotechnology and the consequences for agriculture

Parliamentary Assembly

1. Biotechnology which in a sense has a history as long as bread making and brewing can be defined as the use of biological organisms, systems and processes in industrial, manufacturing and service activities. The elucidation of the nature and functioning of the nucleic acids (DNA and RNA) in the 1950s has paved the way for the manipulation of the building blocks of living organisms so that cells or molecules can be altered. The gene pool available for "crossing" has been widened far beyond the limits of sexual compatibility.
2. Biotechnology's application in the agricultural sector (including forestry and fisheries) has resulted in the production of new animals which could not have been bred with traditional methods and the creation of new pest resistant and other genetically modified plants. The use of tissue culture has permitted the rapid regeneration of cells into identical full sized plants and animals (clones). Some of the new animals and plants have already been patented.
3. Biotechnology can be used to promote contrasting aims:
 - 3.1. to raise agricultural outputs or reduce inputs;
 - 3.2. to make luxury products or basic necessities;
 - 3.3. to replace chemical herbicides and insecticides or target them more efficiently;
 - 3.4. to upgrade pedigree flocks and herds or expand indigenous stock in developed countries;
 - 3.5. to upgrade plants for industrial use;
 - 3.6. to convert grain into biodegradable plastics or into methanol for fuel;
 - 3.7. to hasten maturity in livestock or prevent sexual maturation in locusts or in farmed salmon;
 - 3.8. to produce more nutritious and better flavoured foods or diagnose tests for bacterial contamination;
 - 3.9. to engineer crops for fertile temperature zones or for semi-arid regions;
 - 3.10. to fight viral epizootic or build up populations of endangered species;
 - 3.11. to reduce production of "greenhouse gases" or utilise them in food production;
 - 3.12. to clone meat animals for particular markets or form embryo banks to maintain genetic diversity.
4. The Assembly is convinced that biotechnology offers the agricultural sector (including forestry and fisheries) important new development perspectives for plant and animal breeding, for the production of food as well as non-food products (energy, pharmaceuticals, medicine).

1. Assembly debate on 12 May 1993 (34th sitting) (see [Doc. 6780](#), report of the Committee on Agriculture, Rapporteur: Mr Gonzalez Laxe). Text adopted by the Assembly on 13 May 1993 (36th Sitting).



5. Biotechnology can also be misused, for example for the production of new diseases or for the creation of animals or plants which could have unwanted negative effects on specific ecosystems. The altering of genes and cells and the manipulation of life processes of animals can also result in unnecessary suffering and thus violate animal welfare regulations.
6. The Assembly is of the opinion that the manipulation of genes and life processes must be subjected to a careful monitoring by the application of appropriate policies in order to detect inherent risks, avoid harmful aspects and promote promising developments.
7. The Assembly recalls the responsibility of developed countries towards the developing countries and, in this context, supports the respective engagements stipulated in the Biological Diversity Convention adopted at the United Nations Conference on Environment and Development in Rio de Janeiro.
8. It has taken note with satisfaction of Recommendation No. R (92) 9 of the Committee of Ministers to member states on the potential ecological impact of the contained use and deliberate release of genetically modified organisms and of the decision to organise a pan-European conference on this theme from 24 to 26 November 1993 in Strasbourg, which will bring together top-level ecologists and scientists.
9. The Assembly, recalling its [Resolution 870 \(1986\)](#) on the biogenetic revolution in agriculture - a blessing or a curse, recommends that the Committee of Ministers:
 10. extend its work on bioethics (that is the systematic study of human conduct towards life, examined in the light of ethical values and principles) to include issues related to the production, release, use and trade of new or modified living organisms, animals and plants or food and non-food products, and work for a European harmonisation of legislation in this field;
 - 10.1. extend its work on bioethics (that is the systematic study of human conduct towards life, examined in the light of ethical values and principles) to include issues related to the production, release, use and trade of new or modified living organisms, animals and plants or food and non-food products, and work for a European harmonisation of legislation in this field;
 - 10.2. invite the European Community and the European Patent Office to take part in this work;
 - 10.3. initiate the work by convening a European conference with representatives of all relevant professions and interest groups concerned to examine the scope and main content of European concerted action and use the experience already gained in the Council of Europe's work on bioethics;
 - 10.4. organise, on the basis of the pan-European conference mentioned above, a second European meeting bringing together the representatives of the world of science and ecology as well as the representatives of all the professions and interest groups involved;
 - 10.5. promote the setting up of national committees to analyse bioethical aspects regarding the use of biotechnology in the agricultural field, in particular with regard to field research. Such bodies could also give advice on the monitoring of new developments, on necessary policy reforms, on measures to be taken to preserve biodiversity and could be the national bodies of a European network co-operation;
 - 10.6. draw up a European convention covering bioethical aspects of biotechnology applied to the agricultural and food sector.
11. Furthermore, the Assembly asks the Committee of Ministers to call on governments of member states and the Commission of the European Communities:
 - 11.1. to increase and co-ordinate European research and development in the field of biotechnology, giving priority to research of existing natural biodiversity and the sustained development and exploitation of these resources;
 - 11.2. to deploy all necessary efforts towards ratifying the Biological Diversity Convention concluded in Rio de Janeiro at the occasion of the United Nations Conference on Environment and Development;
 - 11.3. to give special emphasis to biochemical engineering and its potential applications for the pharmaceutical industry in general and for the production of new vaccines and disease-resistant plants in particular;
 - 11.4. to encourage the creation of new enterprises to exploit inventions in biotechnology and adopt a regulatory framework for their operation;
 - 11.5. to pay special attention to the need for better and more information to the public through the organisation of information activities and exhibitions and through appropriate labelling;

- 11.6. to strengthen training programmes on biotechnologies and their applications in the field of agriculture, forestry, fisheries as well as food and non-food production and processing;
- 11.7. to accept the concept of "farmers' rights" as resulting from the United Nations Food and Agriculture Organisation's (FAO) resolution, adopted in November 1989, as well as to encourage the implementation of the project on an "International Code of Conduct for Planned Biotechnology" drawn up by the FAO;
- 11.8. to take action to protect biodiversity and ecosystems from all possible negative influences that biotechnological inventions might cause and to use biotechnology in preserving biodiversity;
- 11.9. to adopt a cautious policy with regard to the granting of patents for biotechnological inventions and applications so as to take due account of ethical considerations and environmental safety concerns;
- 11.10. to implement technology assessments for biotechnology inventions as a precondition for further research and development and to work for the setting up of an international biotechnology assessment office;
- 11.11. to encourage the inclusion of bioethics in the training of specialists in the field of biotechnology and favour the development of professional ethical norms for work regarding biotechnologies and their applications - including the setting up of professional bodies at institutional, national, European and international levels;
- 11.12. to associate the non-governmental organisations concerned with these activities.