

Heaf, D., Wirz, J.: **Genetic Engineering and the Intrinsic Value and Integrity of Animals and Plants.** (Proceedings of a Workshop at the Royal Botanic Garden, Edinburgh, UK). - *Ifgene* – International Forum for Genetic Engineering, Hafan 2002. 116 pp. ISBN 0-9541035-1-3.

Ifgene is a forum open to anybody concerned about gene technology that went international in 1995 out of Dutch work group founded in 1989. *Ifgene* organised first workshop on intrinsic value in 2001 in Switherland.

Proceedings of this second workshop are composed from 14 lectures followed by discussion, of plenary discussion, 7 introductions to discussion and summary. Five lectures are focused on animals, two on plants and the rest deal with general views.

Cost-benefit frame is used as a routine when considering the impact of genetic engineering. The living organisms subjected to this treatment are usually out of focus. The task of the workshop was to attract attention to this view.

It exposed a broad spectrum of ideas. The philosophical introduction by Holmes Rolston III explained that "intrinsic value" and "integrity" include all the holistic reflection of life and identity of each organism. It was followed by the theological point of view presented by Donald Bruce. Classifying transgenesis as a logical step after selective breeding he concluded that Christian theologians have not seen a sound basis to oppose genetic modification. Mike Radford discussed the issue from the legal point of view. He addressed four heads: moral, environmental, health safety and animal welfare and defined rules of the last one.

Scientific side was addressed by Howard Davies who pointed on other breeding methods such as induction of mutation, increasing the number of chromosomes and similar interventions of the organism's integrity and Ruth Richter documenting that introduction of a gene into plant changes more traits than the target one.

The contribution of Harry Griffin, director of the Roslin Institute was of particular interest. He discussed the ethics of animal welfare that might be disturbed by, e.g. the introduction of a human gene in order to produce human peptide. He said: "...over the time we have deliberately shuffled the genome of the wolf to create Dachshunds or Pekinese or Labradors with hip displacement: is this not a much greater violation of the integrity of a species than the introduction of a single human gene?" Bruce Whitelaw from the same institution

explained the nature and future of transgenesis.

Timothy Brink underlined the attention farmer should pay to the intrinsic value and integrity of plants and animals because in doing so they will be working in a kind of partnership with nature, remain in control of many of the essential elements of agriculture which keeps them independent and self-reliant. He and others recited the holistic approach but evaluating transgenesis they isolated it from other breeding methods and environment of plants. They do not consider the agro-ecosystem as a niche for crop plants and breeding including transgenesis as a process of increasing fit to it. Similar isolated evaluation is typical for organic farmers (Tom Baars): they consider transgenesis being in conflict with the organism's identity, with its nature. However they do not refrain from using radiation mutants created by man. More realistic is the contribution of Johannes Wirz describing the push-pull concept by protecting the crop by other plants that either attracts pests limiting in the same time their reproduction, or repel the insects.

Three authors from Aberdeen addressed the socio-economic implication. They quoted the view that public attitude in Europe "...did not focus so much on GMOs as a technological artefact, but rather on the institutional context" of this issue. Discussing risk perception by public the authors as well as some other participants of the workshop considered just GMO as a source of it due to uncertainties that exist. They do not touch the uncertainties of radiation mutagenesis that are much greater and also they neglect the intensive anti-propaganda of Frankenstein-type slogans that modulates the public attitude. Focusing such type of campaign on radiation mutants, public will feel uneasy about them and will ask labelling, etc.

A bit extraordinary presentation by Christina Henatsch discussed the leaf morphology as an indicator of planetary influences (e.g., constellation of Saturn, Jupiter or Venus relative to Moon) on plant development.

The Proceedings can be recommended as an inspiring source of ideas either by the acceptance or opposition to views presented there.

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