

# Consumer ethical concerns relating to biotechnology in livestock production

## Abstract

A number of new food technologies have been developed to make production of food safer and more efficient. One of such new technologies is biotechnology i.e. genetic modification. However, genetic modification may bring substantial benefits, introduction of biotechnology developments to the consumers brought up several ethical concerns. Particularly various ethical considerations have been risen with respect to the use of biotechnology in livestock production. Genetic modification in livestock production has numerous potential applications in different stages of the production chain. For instance, in animal breeding (genetic modification of animal itself), animal growing (genetically modified medication, feed and feed supplements, such as feed additives, hormones and micro-organism) and processing (using GM bacteria). These appli-

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cations can be beneficial for consumers from an economic point of view and/or in the field of animal welfare, food safety, sensory quality or the environment. The objective of this study is to investigate consumer ethical concerns to genetic modification in livestock production and to identify which applications may be acceptable by consumers. Previous studies found that consumer attitudes with respect to biotechnology depend on the area of applications and on the type of application. A pilot survey was conducted in The Netherlands. Preliminary results show that in general Dutch consumers worry more about the applications of genetic modification in animal breeding than about GM ingredients in animal feed. Animal welfare is considered as an important ethical concern to the consumers.