



Ethics and Legality of Genetic Engineering



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Since human existence, going back to the Hunter-gatherer lifestyle, genetic modification has been there. None of the plant's genetics is the same way they used to be 10,000 years ago; selective breeding and human alteration have helped us have much more fruitful harvests. The defining difference between Genetic Modification and Genetic Engineering is that: while the first wait for a lucky hit the latter has no room for doubt. With the rapid advancement of science, genetic engineering is born and it is one of the most controversial and intriguing discussions.

What is not advancing as rapidly is the ability to analyze and evaluate the importance of practicing these technologies whilst conserving the nature of our environment. The conservation of nature does not mean resisting change; instead, it is about maintaining human-independent nature. With this perspective, genetic engineering raises plenty of ethical questions and challenges moral values, thus, a new branch of ethics is born: bioethics. The primary focus of bioethics is how is it used, who uses it (or who controls decision-making about using it), and what the outcomes are. It also handles topics like the application of medical and biological sciences in appropriate, humane, and responsible ways. In this matter, Germany employs Genetic Engineering Act and which aims to prevent the exploitation, regulate activities and developments of genetically modified organisms.

A rising threat of genetic modification with genetic engineering is the unpredictableness of it all. One of the fundamental reasons for this is that those who develop, advocate for, or employ these modifications shan't overestimate their ability to predict the results. Past failed experiments should discourage overconfident and hasty implementation. With the uncalculable and unforeseeable effects genetic modification carries, a singular change in our genes can restructure our concepts, norms, and values; once a modified gene is implemented it is undoable.

Even though there is opposition to genetic modification in some areas, it is an undeniable fact that it has elevated modern medicine. Insulin shots, previously acquired from the animal pancreas are now being produced synthetically and with further improvement, genetic engineering shows promise for curing terminal illnesses like HIV and cancer with a simple vaccination. These improvements are encouraging but we shouldn't resort to a gene-focused approach with healthcare and medicine considering it can misprioritize types of solutions.

Another frequently discussed dispute is that our genetic engineering techniques are developed in such a way that it is impossible to determine if an organism has been modified or not. This causes an abundance of complications, furthest making it near impossible to legislate genetic engineering. The law is falling behind technology and there is a lack of regulations for genetic engineering. Following are ethical complications like individuals who would like to refrain from consuming GM food due to religion, etc.

Lastly, it should be our main focus to prioritize communicating risks and benefits thoroughly, evaluate decision-making processes, and value public engagement and acceptance. It should be our primary intent to comprehensively analyze and include all perspectives in discussing this matter.