

Special Topics in Biological Sciences: Genetically Modified Organisms

Ethical Principles

These principles guide moral conduct. Each application of genetic engineering can and should be judged by considering all of them.

Major Ethical Principles

1. Do no harm (nonmaleficence)
2. Do good (beneficence)
3. Do not violate individual freedom (autonomy)
4. Be fair (justice)

Secondary Ethical Principles (these promote one or more major principles)

1. Tell the truth
2. Keep your promise
3. Maintain confidentiality
4. Use the principle of proportionality (of risks to benefits)
5. Avoid undesirable outcomes (wedge principle; slippery slope; camel's nose)

How Much Risk?

Assessment of risk is a key to evaluating applications of GMOs. Think of risk as being an outcome of three factors:

$$\text{Amount of Risk} = \frac{\text{hazard} \times \text{exposure}}{\text{safeguards}}$$

What determines an acceptable level (amount) of risk? Ethical principles guide our answer to this question.