



UNIVERSITY OF
FLORIDA

EXTENSION

Institute of Food and Agricultural Sciences

Ethical Issues Associated with Agricultural Biotechnology¹

Jeffrey Burkhardt²

Introduction

Moral or ethical values are deeply held beliefs about what is right and wrong. Ethical issues arise when these values conflict with one another over an action, policy, or technology. Ethical issues can be personal: I can have a conflict about whether I should repay a debt to a friend when I know that he will use the money to feed his gambling addiction. Ethical issues associated with agricultural biotechnology, however, are social: people have beliefs about biotechnology that conflict with those of others.

The Environmental Issue

One ethical issue concerns the environment. People who favor agricultural biotechnology believe that biotechnology will help farmers reduce the use of chemicals that can have negative impacts. As such, biotechnology is a good thing. Other people, however, believe that not enough is known about the long-term environmental effects of genetically engineered crops, beneficial insects, and microorganisms, so that using these biotech products at this time is wrong. The ethical conflict here is not so much about *whether* we should protect the environment, but about *how far we should go to*

protect the environment. Opponents believe that our ethical responsibility to future generations demands that we make sure that biotech products won't cause the environment any harm. Proponents are confident that scientific assessments can show genetically engineered products are environmentally safe.

The Food Safety Issue

Another ethical issue concerns whether genetically engineered foods are safe to eat. Most people believe that putting people at risk is ethically wrong, but proponents of biotechnology believe that biotech foods do not put people at risk. Other people believe that the food safety tests performed on biotech foods are incomplete, biased, or the wrong kinds of tests. Again, the conflict is not so much about whether food safety is a good thing, something that we ought to achieve, but whether we can say for sure that biotech foods are safe. If we cannot, then they should not be allowed on the market.

-
1. This is EDIS document FE 347, a publication of the Department of Food and Resource Economics, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. Published July 2002. Please visit the EDIS website at <http://edis.ifas.ufl.edu>.
 2. Jeffrey Burkhardt, Professor, Department of Food and Resource Economics, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL.

The Institute of Food and Agricultural Sciences is an equal opportunity/affirmative action employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap, or national origin. For information on obtaining other extension publications, contact your county Cooperative Extension Service office. Florida Cooperative Extension Service/Institute of Food and Agricultural Sciences/University of Florida/Christine Taylor Waddill, Dean.

The "Playing God" Issue

Both environmental and food safety issues arise because people have different views about whether science, regulatory agencies, or companies involved in agricultural biotechnology can assure us that biotech products are environmentally sound or safe to eat—the issue is about the possible impacts of agricultural biotechnology. In contrast, the “playing God” issue concerns the nature of biotechnology itself.

The proponents of biotechnology believe it is a “tool in the toolbox” for making scientific discoveries and for modifying organisms to help farmers and consumers. Biotechnology is good, even ethically necessary, when products of biotechnology can improve the environmental safety of farming or increase the nutritional qualities of food. However, many people see this technology as arbitrarily “interfering with nature,” or disturbing the natural order that God created. These people have deep-seated ideological objections that education about biotechnology's benefits cannot overcome.

In a free society such as ours, we believe that people have a right to have, and act upon, different religious beliefs as long as they do not harm others. The “playing God issue” is further complicated because people who object to biotechnology on religious grounds want to avoid biotech foods. As biotech food production increases, will these people's rights be violated? This is one of the reasons people want biotech foods to be labeled.

Conclusion

Environmental and food safety issues arise because some people think that biotechnology is ethically right, while others think it is wrong. These views are based on different predictions of the impacts of biotechnology. There are other similar issues in this regard. For example, what will be the impacts on peasant farmers in poor countries? How will biotechnology affect global trade? In time, these issues may disappear as we become more experienced with biotechnology and as scientists become better able to assure opponents that biotechnology provides benefits without any significant risks.

The “playing God” issue, however, may not disappear. It can serve as a reminder that in a free society people are entitled to their ethical beliefs, even if they differ from those of the majority. It is everyone's ethical responsibility to respect those differences.

Resources

<http://pewagbiotech.org>

<http://www.biotech-info.net>