

## **Educational Resources for Food & Agricultural Biotechnology:**

### **Background Information, Lesson Plans, Lab Experiments, Classroom Demonstrations, and more**

**Recombinant DNA and Biotechnology: A Guide for Students** (ISBN: 1555811760)

**Recombinant DNA and Biotechnology: A Guide for Teachers** (ISBN: 1555811752)

by Helen Kreuzer, Adrienne Massey. Paperback. 2nd edition (December 2000 and January 2001), American Society for Microbiology. This is an excellent text for non-majors or self-study – well written, well organized, well referenced and includes hands-on exercises. The section on risk-benefit analysis of biotechnology uses the Bt corn-Monarch butterfly issue as a case study, and a suggested activity on debating biotechnology uses herbicide tolerant crops as an example. This is also a good resource for scientists who want to communicate more effectively with non-scientists.

<http://www.bio.com/resedu/educate2.html>. Provides more than 50 resources with lesson plans, pictures and informational material.

<http://www.biochemlinks.com>. Contains links to many sites providing lesson plans, graphics and quizzes on biotechnology.

<http://www.biotech.iastate.edu>. Educational resources include lesson plans, lab activities, classroom demonstrations and general information.

<http://www.biotech-info.net/teachers.html>. A section of AgBiotech InfoNet that provides information resources for student projects and for teachers' lesson plans.

<http://www.biotech.wisc.edu>. Explains the range of biotechnology activities at the University of Wisconsin to all age levels. The Educational Outreach section contains a wealth of lesson plans, ideas and information.

<http://www.biotechnology.gov.au/>. Maintained by the Australian government, the education section features simple teaching tools and is being expanded to include lesson plans.

<http://www.coe.tamu.edu/~tbet/>. This Texas A & M site lists links for resources on teaching biotechnology and other science topics.

<http://www.enc.org/weblinks/lessonplans/science/>. Lesson plans are available on a wide range of science topics, including biotechnology; they are accompanied by laboratory experiments and demonstrations.

<http://www.foukeffa.org>. Contains hundreds of lesson plans and power point presentations covering a wide range of topics related to agriculture, including biotechnology (must search through plant and animal categories to find specific plans).

<http://gslc.genetics.utah.edu>. Provides general information on biotechnology education, mostly geared to human genetics.

<http://www.kumc.edu/gec/>. Offers lesson plans and other teaching tools available from the University of Kansas medical center, focusing on human genetics and the human genome project.

<http://www.netspace.org/MendelWeb/>. This is a great resource for students and teachers, built around Gregor Mendel's seminal paper of 1865. The site presents the original paper, translations, discussion topics, and homework problems.

<http://www.nbif.org>. Games, workshops, activities, clip art, and other materials, all centered on biotechnology, are available at this site.

<http://www.thegateway.org>. This is an excellent source for lesson plans on science subjects for elementary and secondary grade levels.

<http://vector.cshl.org/dnaftb/>. This initiative from Cold Spring Harbor Laboratory explains the science behind DNA through short lessons, images, problems, interviews and links.

<http://www.fourhcouncil.edu/ycc/ffg/FSCI.html>. Developed by the National 4-H Council, this site contains curricula and activities designed for K-12 education.

<http://ublib.buffalo.edu/libraries/projects/cases/ubcase.htm#plant>. This site at the University of Buffalo contains two case studies on genetically modified organisms ("Frankenfoods" and "Torn at the Genes"), including scientific background information, discussion questions, and teaching guides.

<http://www.bioethics.net>. Offers a wide range of resources on bioethics issues, including a service that provides help to students with bioethics homework.

<http://www.biotechterms.org>. An on-line glossary of terms associated with biotechnology.

For additional web resources, check the "Links" section of CSU's Transgenic Crops web site (<http://www.colostate.edu/programs/lifesciences/TransgenicCrops/links.html>).