

## **II. Biofuels & Bioenergy**

Harnessing the metabolic power of microbes and the renewable carbon reservoir of plant tissue, scientists are exploring new sources of fuel and energy.

Possible topics for research include: Biological Fuel Cells, Biodiesel; Bioprocessing; Cellulosic Ethanol; Genetically Modified Enzymes; GM Feedstocks; Synthetic Genomics (building microbes from scratch!); etc...

Below, we have provided a few reputable resources to get your project started. Please do not plagiarize from these sources, but put the information in your own words. As you write the text for each section of your poster, indicate the references used in that section by using an “in text” citation (see the contest directions for more information on using references correctly). In addition to the resources provided, we encourage all contestants to seek out other scientifically reliable sources of information, media images, and artistic elements in building the Biotech Expo poster entries.

### **Online Resources on Biofuels & Bioenergy:**

Ceres “The Energy Crop Company”

<http://www.ceres.net/Index.html>

National Association of Biology Teachers—Ethics Resources

<http://www.nabt.org/sites/S1/index.php?p=207>

National Renewable Energy Laboratory: Biomass Research

<http://www.nrel.gov/biomass/>

Novozymes (develops and biomanufactures efficient enzymes for cellulosic ethanol production)

<http://www.novozymes.com/en>

Renewable Fuels Association

<http://www.ethanolrfa.org/>

Science Daily

[http://www.sciencedaily.com/news/plants\\_animals/biotechnology/](http://www.sciencedaily.com/news/plants_animals/biotechnology/)

UC Davis Bioenergy Research Group (BERG): Materials for Download

<http://bioenergy.ucdavis.edu/materials.html>

US Department of Agriculture: Bioenergy & Biofuels

[http://riley.nal.usda.gov/nal\\_display/index.php?info\\_center=8&tax\\_level=3&tax\\_subject=6&topic\\_id=1052&level3\\_id=6599&level4\\_id=0&level5\\_id=0&placement\\_default=0](http://riley.nal.usda.gov/nal_display/index.php?info_center=8&tax_level=3&tax_subject=6&topic_id=1052&level3_id=6599&level4_id=0&level5_id=0&placement_default=0)

US Department of Energy: Alternative Fuels & Advanced Vehicles Data Center

<http://www.afdc.energy.gov/afdc/>

US Department of Energy

<http://www.energy.gov/index.htm>

### **Articles & Books on Biofuels & Bioenergy:**

Coyle, W. (Nov 2007) **The Future of Biofuels: A Global Perspective**. Amber Waves (ERS publication) 5(5): 24-29. [Web link:

<http://www.ers.usda.gov/AmberWaves/November07/PDF/Biofuels.pdf>]

Economic Research Service. (2007) **Global Biofuel Developments: Modeling the Effects on Agriculture**. Presentations made at ERS/Farm Foundation Biofuels Modeling Workshop held February 27, 2007. [Web link:

<http://www.farmfoundation.org/projects/07-27GlobalBiofuelDevelopments.htm>]

Suszkiw, J. (Jul 6, 2007) **Measuring the Merits of Corn Stover-Based Ethanol**

(ARS press release). [Web link: <http://www.ars.usda.gov/is/pr/2007/070706.htm>]

***Note: We are using the above links to suggested reading materials for reasons of convenience and do not specifically endorse Amazon.com or other publishers/book vendors. Opinions and philosophies expressed by the authors of suggested reading materials are not necessarily those of our program and should be viewed as part of the larger societal discussion surrounding biotechnology. Nor do we recommend that students buy suggested reading materials. Please consider using the school and/or public library systems to obtain these materials. Remember, the websites, articles and books listed above are only suggested source materials and are not required.***

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for the Biotech Expo Poster Competition.