

Connecting a Worldwide Network of New Crops and New Uses Researchers, Entrepreneurs, and Corporations through an Internet-Based Communication System for Biobased Products

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INTRODUCTION

Government, universities, and private industry stakeholders have all endorsed and promoted the concept of a centralized information conduit for emerging biobased products, new crop development, and related technologies. The development of products and energy from agricultural crops present unique challenges dealing with the complexities of crossing multiple disciplines in conducting research and development. The biobased products industry is highly fragmented and there is a need to expand transparency mechanisms to better understand and adopt new technologies and open new marketing channels (U.S. Department of Energy 1999).

Biobased products are non-food, non-feed agricultural products that are used in a variety of commercial/ industrial applications, thereby harnessing the energy of the sun to provide raw materials for industry. The Federal Government has set the goal of tripling US use of bioenergy and biobased products by the year 2010. Meeting this goal could create \$15–\$20 billion a year in new income for farmers and rural America, and reduce annual greenhouse gas emissions. Biobased products include liquid fuels, energy, chemicals, lubricants, plastics, paper, construction materials, advanced composites, and much more (Biomass R&D Board 2000). The USDA projects that the number of biobased startups will go from 200 companies in 2000 to over 600 companies by 2003, while virtually every major corporation has some involvement in the development of biobased products. The Biobased Information System® (www.biobased.org) was developed to help bring these emerging technologies and companies together to share information and capitalize on opportunities.

DESCRIPTION

The Biobased Information System® (BIS) is a centralized, online database that is fully searchable, while offering networking capabilities between stakeholder websites (Fig. 1). The system is an ever-expanding pool of categorized information and data quantifying tools used to gather, sort, exchange, and disseminate biobased information to a highly targeted, specialized audience who access the system through the affiliated website of

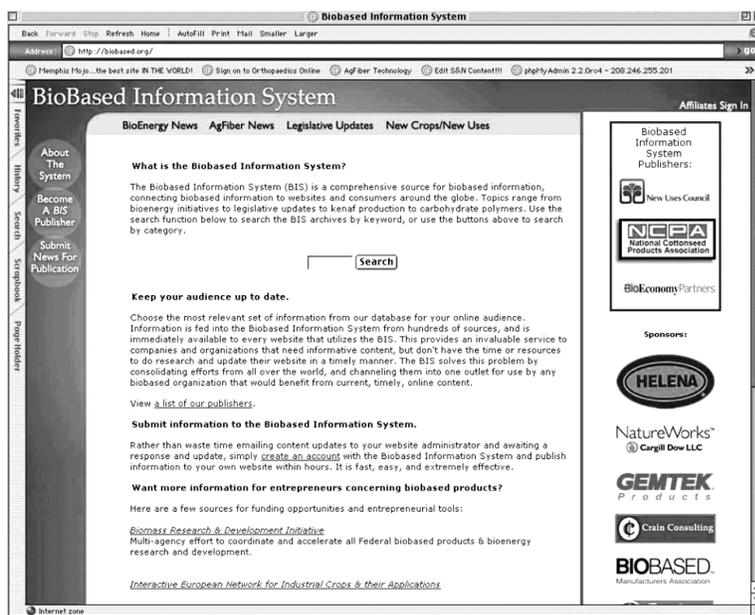


Fig. 1. Biobased Information System® Website (www.biobased.org)

individual choice. The Biobased Information System® is uniquely designed to balance the interests of many individual websites while utilizing a central connection point. The system is designed to spur increased use of biobased products and the advancement of new biobased technologies by connecting relevant entities, building enthusiasm, and providing an informal measuring stick to the growth and vitality of the industry.

The Biobased Information System® database currently has over 7,800 contacts, 3,000 business news articles and hundreds of patents, solicitations, and upcoming events.

COMPONENTS

One of the primary functions of the Biobased Information System® is the daily syndication of information to websites around the world which in turn, provide information to their constituents. These websites, called “publishers,” serve to collect additional information that can be added back to the database for use by the collective group of users. The primary users of the Biobased Information System® can be categorized as follows: information publishers, information originators, and information consumers (Werbach 2000). Each participant is encouraged to perform all three functions of the Biobased Information System®.

Information Originators create content for use in the Biobased Information System®, entering it into the system via the internet. Content from individual originators is comprised of editorials, press releases, research summaries, and other newsworthy items. Originators include consultants, journalists, companies, organizations, and anyone with an interest in publishing news about their part in the development of biobased products. The content supplied by originators is augmented with news from standard news services such as the AP and Reuters, and sorted before being supplied to the publishers described below.

Upon the entry of information from originators, members of the AgroTech Communications, Inc. administration team classify each piece of information as it pertains to a specific crop, end use, geography, and target audience. These classifications are used for getting the right information to the right publishers and the criteria are ever-growing and expanding. The system automatically, selectively outputs the information to publisher websites around the globe.

Information Publishers are any website in the world who would like to join the Biobased Information System®. The company has documented that there are over 1,000 independently owned and operated websites from around the world, dealing with some element of biobased industry. As the Biobased Information System® expands, both non-profit and for-profit websites will continue to become publishers utilizing the system to distribute news and information that augments the functionality of their site (Fig. 2).

Publishers can link easily to the Biobased Information System® by filling out a form specifying the interests of their audience. Publishers then embed a personalized link generated by the Biobased Information System® into a page on their website. News and information specific to the publisher’s interest(s) is thus drawn from the Biobased Information System® into the website of the publisher.

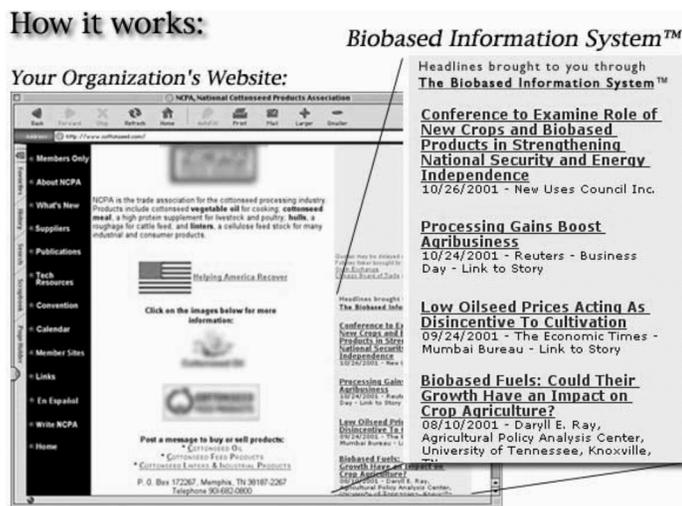


Fig. 2. Example of Publisher Website: National Cotton Seed Products Association.

The following list of websites contains some of the many publisher websites plugged into the Biobased Information System®:

Biobased Manufacturers Association	Mississippi Alternative Energy Enterprise
Bioeconomy Partners Organization	Molecular Farming
Biomaterials Network, European Commission	National Biodiesel Board
Canadian New Uses Council	National Cotton Seed Products Association
Carbohydrate Economy Clearinghouse	New Uses Council Inc.
Coach House Group, UK	Resource Conservation Alliance
Fiber Futures, Materials of the Future Foundation	Tennessee Department of Agriculture
Full Circle Ag	The Soy Daily
Ifarm.com	United Soybean Board

Information Consumers are any global stakeholder who has an interest in biobased products, new crops, and related technologies. Regular users of the Biobased Information System® include university researchers, private entrepreneurs, farmers and cooperatives, rural development professionals, financiers, government officials, and laboratory personnel.

APPLICATIONS AND IMPLEMENTATION

The Biobased Information System® is being used by a variety of organizations and initiatives as a networking hub to help collaborate on biobased product research and development. One such project currently underway is the development of the website and online communication tools utilized by the Sun Grant Initiative. This initiative is a US-based network coordinated by five regional land-grant universities spearheaded by South Dakota State University, and also including two US Department of Energy laboratories. The purpose of the Sun Grant Initiative is to help land-grant institutions broaden their responsibilities beyond traditional agricultural issues to address the complexities of a biobased economy (K. Kephart, unpubl. proposal). The Biobased Information System® is enabling the Sun Grant Initiative to seamlessly integrate with global databases, coordinate activities among the various regions, and provide news on the activities of the initiative both internally and externally. As federal funding continues for the program, these activities will be expanded to allow greater collaboration and networking between all stakeholders in the initiative.

A project in conjunction with Tennessee State University in Nashville, Tennessee is currently being considered for funding by the United States Department of Agriculture's Cooperative State Research, Education, and Extension Service. The project is entitled *Development of Internet-Based Education for Biobased Product Information: Preparing Students for Careers in Agriculture*. This program includes participation by United States Department of Agriculture and South Dakota State University. The major purpose of the proposal is to prepare students to work in the biobased product economy of the future by creating a unique learning and network tool useful for ongoing student experiential learning and faculty development. Specifically the project will train students in the use of communication information technology to be used for biobased product information and to develop biobased product undergraduate curricula (elective courses) to be offered for delivery via the Internet.

The proposed use of the Biobased Information System® as an interactive learning tool for undergraduate and graduate students will be state-of-the-art technology used to teach students practical tools for e-commerce in agribusiness, and specific and unique knowledge concerning the scope and potential of biobased products. AgroTech Communications, Inc. is actively seeking to adapt the Biobased Information System® for use in many different classroom settings in the United States and internationally. Institute of Technology Development in Jackson, Mississippi; University of Tennessee in Knoxville, Tennessee; and the US Department of Energy are some of the stakeholders who are exploring ways to use the system to help their specific biobased education needs.

AgroTech Communications, Inc. is working with the Tennessee Department of Agriculture in using the Biobased Information System® as a method to provide real-time information about commercializing biobased products. Farmers in Tennessee, and throughout the United States, need accurate information about emerging opportunities in biofuels, biochemical, bioenergy, new crops, and other biobased products. Although there is a lot of interest in these areas, farmers and rural development professionals are frequently misled by promoters and consultants based on lack of good, business-based information. The Biobased Information System® provides daily news on the Tennessee Department of Agriculture website, searchable information, links to other resources and the ability to contact knowledgeable individuals in their fields of expertise.

The Biobased Information System® is serving as the networking and business development hub for the Biobased Manufacturers Association, offering a platform for innovative marketing and transactions involved with biobased products. The Biobased Manufacturers Association is being developed to facilitate the sale of member's products by cooperative brokerage, and is organizing the efficient purchase and sale of raw resources and finished goods for the benefit of members. The Biobased Manufacturers Association is organized as a non-profit corporation under federal provisions as a 501-C6. The organization operates regionally as a marketing facility to aid and promote the selling of members' products by receiving a nominal transaction fee for successful services and also sponsors a variety of marketing related activities (Biobased Manufacturers Association 2002).

CONCLUSION

The various uses and applications of the Biobased Information System® described in this paper are only a few of the many possibilities for this ever-expanding industry. Each of the projects described has the benefit of being productive on its own and each could stand alone as a worthwhile project. However when they are all joined together by a centralized database, the opportunities expand exponentially. AgroTech Communications, Inc. and the Biobased Information System® are dedicated to expanding this dynamic conduit between the many, varying interests of the biobased products economy.

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