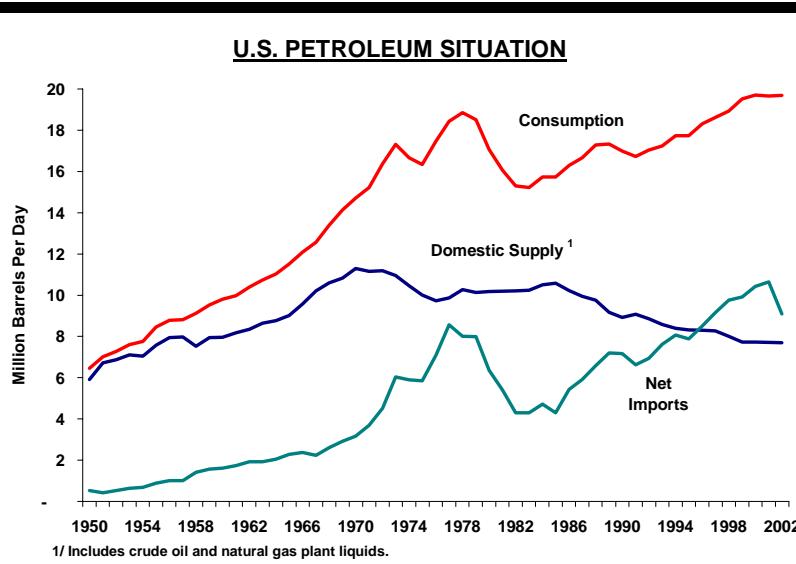




## MULTI-CLIENT STUDY PROSPECTUS

### AN ASSESSMENT OF THE OPPORTUNITIES AND POTENTIAL OF THE EMERGING BIOBASED ECONOMY

- Which Parts of the Current Hydrocarbon Economy Will be Shifted to an Agriculturally Based (Biobased) Economy and What are the Risks and Rewards?
- What is the Likely Role of US Production Agriculture in this Potential Paradigm Shift, Can it Meet the Challenge?
- Which Biobased Input Streams and Technologies Offer the Greatest Economic Opportunities and Which are Likely to be Disappointing?



**Can the US tap into its vast renewable resource base to offset the continuing decline in domestic oil supplies?**

- In 1998, for the first time, net oil imports surpassed domestic oil supply.
- In 2002, the domestic oil supply was 7.7 million barrels per day and net imports were 9.1 million barrels per day.
- The US is now averaging over 3.3 billion barrels of imported oil a year.

Source: US Department of Energy

## An Assessment of the Opportunities and Potential of the Emerging Biobased Economy

### Introduction

Biobased products are non-food, non-feed agricultural products provided as 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. The USDA projects that the number of biobased startups will go from 200 companies in 2000 to over 600 companies by 2003, while numerous major corporations have increased their involvement in the development of biobased products.

Everyday there is an increased awareness of a new role for biobased products in the formation of an entirely new economic segment in the United States and around the world. Feature articles are appearing in Forbes, Wired, Business 2.0 and other publications touting the economic, environmental and national security benefits of utilizing renewable feedstocks for new and innovative consumer products. Many of the world's largest agribusiness and chemical companies are now predicting huge market share for biobased-derived chemicals, plastics and other "high-value" products.

With political, regulatory, environmental and now even strategic forces as drivers, biobased products are poised to dramatically change the structure and finished goods of chemical companies, offer new distribution channels for forestry and agricultural products and offer new investment opportunities in innovative areas. The technologies involved in producing biobased products will come together with other disciplines to create a new generation of products and even entirely new industries.

- DuPont has publicly stated a goal to produce 25% of their products from renewable materials by the year 2010.
- Cargill Dow LLC has invested almost \$1 Billion US dollars in the development of a biodegradable plastics and fibers, made from corn.
- The US National Research Council predicts 50% of US fuels and 90% of US organic chemicals will come from renewable resources by the turn of the century.

Agricultural and chemical industries will play a unique and vital role in helping to change the landscape of this new "bioeconomy".

## **Consider the following:**

- All sectors of the global economy will have a role in the emerging biobased economy including: agribusiness, energy, textiles, construction, biotechnology, chemicals, the financial community – even the auto industry.
- New applications for biotechnology and new conversion processes using enzymes are dramatically changing the paradigms of traditional agricultural and chemical industries.
- The convergence of many disciplines and technologies is creating an exciting, yet confusing business environment where breakthroughs don't always translate into profitable returns.
- The global, national and local policy ramifications encompassing environment, worker safety and economic development will have a major role in creating incentives for biobased products.
- The US Farm Bill and impending Energy Policy will have major ramifications to the development of biobased products and biofuels.

*This study will examine these and other macroeconomic and agriculture/energy forces that are already affecting the development of biobased products. Participants in this study will gain the insight needed to properly position, measure/evaluate and manage the risks and opportunities associated with the development of biobased products. Critical to the analysis will be an economic and business assessment of specific biobased sectors. This study is an important input for agriculture and energy decision makers and stakeholders.*

## **Key Questions to be Answered by This Study**

- Identify which sectors of the economy biobased products are likely have the greatest impact over the next decade and where are the investment opportunities?
- What factors should be evaluated for determining risk/reward for participating in the biobased products value-added chain?
- What emerging conversion technologies will help pave the way for the manufacture of large volumes of biobased products?

- How will rural development, domestic energy security and crop diversity be enhanced through the commercialization of biobased products?
- Will land use and agriculture production trends significantly change in order to supply biobased product manufacturers with non-food/non-feed crops genetically designed as industrial raw materials?

## Purpose of the Study

The purpose of the study is to provide analytic insight and foundations needed to successfully evaluate decisions and assumptions already in place involving biobased products. The study also will help participants to identify opportunities and risks and provide for objective evaluation of case studies, as well as, a framework for strategically positioning their operations in the context of the emerging biobased economy.

## Study Outline: The Emerging Biobased Economy

### I. Product and Technology Assessment

#### A. BRIEF ASSESSMENT OF EXISTING AND EMERGING BIOBASED TECHNOLOGIES

1. Survey of advancements in biotechnology to date and its impact on the utilization of biobased feed stocks
2. Current chemistry
3. Modified chemistry
4. Bio-processes
5. Novel molecules

#### B. OVERVIEW OF MAJOR BIOBASED PRODUCTS (EXISTING AND EMERGING) WITH A FOCUS ON "HIGH VALUE" CHEMICALS, PLASTICS, PACKAGING, AND RELATED PRODUCTS.

1. Commodity Chemicals / Biofuels
  - a) Ethanol
  - b) Biodiesel
  - c) Other Bulk Chemicals and Fuels
2. Biopowers / Bioenergy
  - a) Biopower

- b) Impact of other new renewable technologies such as wind, solar, fuel cell etc.
- 3. Biobased Chemicals & Liquids
  - a) Intermediate chemicals: ethylene, acetic acid, fatty acids
  - b) Specialty chemicals / Enzymes
  - c) Cleaning products, chemicals, surfactants, soaps, detergents
  - d) Fuel additives and lubricants
  - e) Oils, waxes, binders, rust inhibitors, fuel additives, lubricants, functional fluids
  - f) Paints, inks, coatings, adhesives
  - g) Solvents and co-solvents
- 4. Biobased Plastics, Polymers, Films and Packaging
- 5. Cellulose Fiber Products
  - a) Cotton and other plant derived fibers
  - b) Forestry products
  - c) Composites: pressed and molded
  - d) Pulp, paper, and packaging products
  - e) Nonwovens, geotextiles, textiles
- 6. Pharmaceuticals and nutraceuticals

## **II. Summary of Global Environment / Energy Governmental Policies and Initiatives**

### **A. SURVEY OF NATIONAL AND GLOBAL ENERGY POLICIES IN KEY COUNTRIES AND REGIONS**

- 1. United States and Canada - Overview and Selected States
- 2. European Union - Overview and Selected Countries
- 3. Russia / Asia
- 4. United Nations
- 5. Summary and comparison of the international, national and state/local policy developments and regulations

### **B. SURVEY OF NATIONAL AND GLOBAL ENVIRONMENTAL POLICIES**

- 1. United States - US Environmental Protection Agency & Selected State Regulations

2. Kyoto Protocol to the United Nations Framework Convention on Climate Change (United Nations)
3. European Union, Canada & Asia Policy

### **III. Detailed Survey of Governmental Policies Concerning Biobased Products and Related Agricultural Initiatives**

#### **A. THE EMERGENCE OF GOVERNMENT INITIATIVES TO STIMULATE BIOBASED PRODUCTION, INCLUDING:**

1. Farm Security and Rural Investment Act of 2002 (HR2646) - Section 9002. Federal Procurement of Biobased Products.
2. Biomass Research & Development Act of 2000 - Funded through the Farm Security and Rural Investment Act of 2002.
3. US Department of Energy - Bioenergy Activities
4. European Union Policy, European Commission Research Activities, and Policy from Selected Countries
5. Natural Resources Canada, Agrifood Canada Activities, and Canadian Government Incentives for Biobased Products.
6. Summary of Activities in Asia Including China and Japan.

#### **B. THE EMERGENCE OF NORTH AMERICAN AGRICULTURAL INITIATIVES TO STIMULATE BIOBASED PRODUCTS, INCLUDING:**

1. BioProducts Canada Inc. - an industry-led, not-for-profit coalition funded by the private and public sectors.
2. US Commodity Groups - National Corn Growers Association and United States Soybean Board
3. Biotechnology Industry Organization (BIO) - Industrial / Environmental
4. Potential impact of Biobased Manufacturers Association (BMA)
5. Renewable Fuel Association, National Biodiesel Board, Governors Ethanol Coalition, American Coalitions for Ethanol, and other renewable energy/fuel associations.

#### **C. ANALYSIS OF POTENTIAL POLICY IMPACTS (STRENGTHS, OPPORTUNITIES, THREATS AND WEAKNESSES) ON THE USE OF HYDROCARBON AND BIOBASED PRODUCTS**

## **IV. Evaluation of the Critical Demand-Side and Supply-Side Issues Regarding Global Uses for Biobased Products**

### **A. GLOBAL MACRO ECONOMIC OUTLOOK**

1. Review and outlook of the economic health of major industrial and developing countries
2. Population trends of the key economies
3. Macro drivers of biobased products

### **B. ANALYSIS OF PRIMARY USES OF HYDROCARBON PRODUCTS, CONSUMPTION – TRENDS AND PRICES**

1. The identification and quantification of the major finished and intermediary hydrocarbon products and their relative importance in terms of volume and value
2. An analysis of major hydrocarbon input prices

### **C. LINKAGE OF ECONOMIC GROWTH AND THE DEMAND FOR HYDROCARBON BASED PRODUCTS**

1. Analysis of the relationship between the economic growth of global economies and the demand for hydrocarbon products
2. Global outlook for future hydrocarbon based products and their consumption
3. General overview and price outlook for hydrocarbon materials versus major biobased input streams

### **D. EVALUATION OF THE EXTENT AND AVAILABILITY OF GLOBAL PETROLEUM RESERVES – WITH SPECIAL CONSIDERATION OF GEOPOLITICAL ISSUES**

1. The US and other major economies, their dependence on foreign oil reserves
  - a) Consumption trends of domestic versus foreign hydrocarbon in the major global economies
  - b) Long-run strategic concerns and considerations for the US
2. Estimated in-ground petroleum reserves and rate of depletion
  - a) Review of the major petroleum producing countries, trends of production and their level of reserves
  - b) OPEC and their ability to control supplies

3. Evaluation of geopolitical stability and the future impact on petroleum supplies

## **V. Supply-Side Issues & Concerns; the Important Role of Agricultural Lands, Agronomic Practices and Institutional Linkages**

### **A. PLANT INPUT STREAMS**

1. Waste & by-products - This category includes crop residues such as corn stover and wheat straw
2. Existing crop parts
3. Dedicated crops
4. Modified genetics

### **B. STATUS AND OVERVIEW OF VARIOUS BIOBASED SUPPLY-CHAINS**

1. Information systems
2. Price discovery
3. Quality of inputs
4. Consistency of supply
5. Coordination

## **VI. Findings; Status and Potential of the Biobased Economy**

### **A. SUMMARY OF THE ECONOMIC STRENGTHS OF BIOBASED PRODUCTS**

### **B. WEAKNESSES OF THE BIOBASED TECHNOLOGIES**

### **C. BIOBASED SECTORS THAT REPRESENT THE BEST OPPORTUNITIES**

### **D. THREATS TO THE BIOBASED ECONOMY**

## **VII. Conclusion/Summary**

### **A. IDENTIFY THE BEST R&D INVESTMENT OPPORTUNITIES**

### **B. IDENTIFY THOSE SECTORS OF AGRICULTURE THAT WILL BE IMPACTED POSITIVELY AND NEGATIVELY**

**C. IDENTIFY WHERE INDUSTRY PARADIGM SHIFTS WILL OCCUR****D. IDENTIFY WHAT GOVERNMENT INITIATIVES AND POLICIES MAKE THE MOST SENSE****Study Schedule and Deliverables**

- **Pre-study Conference:** A meeting of subscribers and the Sparks/AgroTech project team will be held in Memphis, Tennessee, to review the detailed plans for the study. At this meeting, the group will be given the opportunity to identify additional areas of interest as well as to provide emphasis for specific study topics.
- **Comprehensive Study Report and Presentation Materials:** All participants will receive the study report, including supporting information, analyses, forecasts and select case studies developed as part of the study. Clients also will receive copies of PowerPoint materials for presentations made in association with the study.
- **Post-Study Seminar:** A concluding, day long seminar will be held for all study clients as a group, to review the findings and implications of the study with the Sparks team.
- **Optional Presentation at Client Offices:** Sparks' staff will travel to client offices to present the final report and conduct in-house seminars, as requested. These seminars will be tailored to each client's individual needs and interests. Clients will be charged only for Sparks' personnel out-of-pocket travel and related expenses.

**Proposed Project Schedule**

May 2003	Kickoff Meeting
August 2003	Final Report Sent to Clients
August 2003	Group Presentation
August-December 2003	Individual Presentations at Client Offices

**Study Fees**

The fees for participating in the study are US\$12,500 (client), US\$14,500 (non-client) and US\$10,000 (academic). The fees entitle subscribers to receive the comprehensive study and to attend the kickoff meeting and group presentation. The costs of participants' travel to the kickoff meeting and post-study seminar, as well as the expenses for Sparks' staff travel to institutions or companies' offices for individual presentations (optional), are not included in the study fees indicated above.

## About Sparks Companies, Inc.

**Sparks Companies, Inc. (Sparks) is the world leader in broad-based agricultural and commodity market research, analyses and consulting.** Founded in 1977, the company now serves more than 750 firms and institutions worldwide. From our headquarters in Memphis, Tennessee, SPARKS now spans the globe with a far-reaching network of services and clientele.

The company's professional depth and experience allow us to provide a wide range of services related to the economic and management concerns of clients. Underpinning these services, **Sparks's principal strengths lie in an expansive information base and a professional and experienced staff.** Representing Sparks's primary asset, our employees are well-trained and seasoned researchers and consultants with extensive backgrounds in business and government; most hold advanced degrees in agriculture or related fields. The Sparks team has extensive experience in agribusiness and similar areas as well as in agricultural policy decision-making. Many Sparks employees have gained insights from past government service in senior policy, analysis and advisory positions; from major trade associations; from land grant universities; and as senior officials of leading agribusiness companies.

**The world's agricultural and food industry is expanding and remains in a constant state of change.** Successful businesses and institutions must deal with rapidly shifting market conditions that are driven by international influences, technological innovations, policy shifts, weather conditions, emerging consumers and fluctuating consumer preferences. To continue succeeding in this environment, businesses must have access to reliable market information and authoritative economic consulting services. It is Sparks's economic expertise and diverse client base that combine to provide unique insights, risk management and strategic planning for agribusinesses around the world.

In its role as a world leader in comprehensive commodity, food industry and agribusiness research and consulting, **Sparks offers several broad categories of services:**

- Research/Analysis
- Education/Training
- Business Consulting
- News/Communications

## About AgroTech Communications, Inc.

AgroTech Communications, Inc. is a global leader in supplying the connectivity and communication conduit between primary participants in the ever-expanding landscape of the biobased economy. AgroTech furnishes timely information pertaining to the rapid evolution and breakthroughs in biobased product development and emerging bioenergy markets to its clients. The firm has extensive experience in the gathering, categorizing



and dissemination of this valuable information via web based, electronic platforms. AgroTech was founded in 2000, and is located in Memphis, Tennessee.

AgroTech Communications, Inc.'s flagship product is the **Biobased Information System™**, a comprehensive and scaleable online database that classifies and disseminates information concerning biobased products, bioenergy, and agricultural biotechnology. The **Biobased Information System™** uniquely facilitates the information flow between stakeholders in the emerging bioeconomy, and thereby opens opportunities for AgroTech Communications, Inc.'s clients. The **Biobased Information System™** contains over 7,800 contacts, 3,500 articles of information, and a worldwide audience of professionals.

In order to facilitate the expansion of the biobased economy, AgroTech has also engaged in the following business, research and information development activities:

- Generated specialized information products, including weekly newsletters, hosted biobased conferences and seminars, and other networking and information tools;
- AgroTech has in partnership with industry; academic and governmental institutions conducted numerous field trials of crops, which are used in biobased industrial applications;
- AgroTech has also engaged in project consulting activities, advising numerous clients in the industry.

AgroTech has worked closely with all stakeholder groups in the biobased value chain, including farmers, processors, rural development professionals, manufacturers, universities, governments and entrepreneurs. It is through these relationships, the firm has developed an unparalleled understanding of the interrelated complexities and position of today's biobased economy.

## Project Team Biographies

Mr. Tom Scott, Senior Vice President and Dr. John Whims, Senior Consultant will coordinate the overall project. Mr. Pete Nelson, President of AgroTech Communications will also serve as a project leader and Dr. Bruce A. Scherr, President and Chief Executive Officer of Sparks will be a project reviewer. In addition, Mr. John De Pape, Vice President, Mr. Scott Richman, Vice President, and Dr. William Motes. Senior Vice President will provide focus on the Canadian, bio-technical and government policy aspects of this study. The biographies of these individuals are given below. Other Sparks professionals will contribute to the study as topics and activities dictate.



## Sparks Companies, Inc.

**Bruce A. Scherr, President and Chief Executive Officer.** Dr. Scherr has been with Sparks since 1987 and has worked extensively with companies to develop improved price risk management procedures, to organize and manage purchasing and merchandising programs, and to assist agribusinesses and public sector institutions in strategic and tactical planning. Formerly, he was president of Sparks, Jacobs, Scherr, Inc. (SJS), a sister company to Sparks, and president of Agri-Commodities, Inc., an agriculture consulting firm based in Andover, Massachusetts, which was acquired by SJS. Prior to forming Agri-Commodities, Dr. Scherr was a divisional vice president at Data Resources, Inc., where he developed and utilized for the public and private sectors the first commercially available econometric model for US agriculture. Dr. Scherr received his bachelor's degree from Rutgers University and his master's and doctorate degrees from Purdue University, all in agricultural economics. Currently, he is a member of the Board of Trustees of North American Electric Reliability Council (NERC). He served as a member of the Board of Directors for Desert STAR Inc., an electrical transmission Independent System Operator for the Desert Southwest from January 2000 through February 2002. In addition, Dr. Scherr has served as a member of the University of Tennessee's (UT) Institute of Agriculture Agricultural Development Board and UT's Committee for the Future. He is a member of several honorary research and agricultural societies, a member of the National FFA Foundation Sponsors' Board 2000 through 2001 and a former advisor to the President's Council of Economic Advisers and National Aeronautics and Space Administration.

**James K. Allwood, Vice President.** Mr. Allwood is director of Sparks's Energy Services; provides agricultural and food commodity consulting and risk management support to a wide range of domestic and international clients; and is director of the International Agri-Professional Development Institute's commodity merchandising and risk management schools. His commodity related client base includes grain companies, soy crushers, feed companies, poultry producers, meat processors, restaurant chains, bakeries, by-product processors, biotech companies, farm market advisory services, hedge funds and transportation companies. Mr. Allwood comes to Sparks from Ralston Purina Company, St. Louis, Missouri, where he gained over 20 years' experience in various Ralston Purina business activities, including cereals, pet foods, livestock feeds, soy proteins, restaurants, baby foods and treasury operations. As director of Ralston Purina's Regulatory, Economic and Commodity Services, his responsibilities included economic and commodity outlook; commodity purchasing and risk management strategies; financial risk management strategies; research activity resulting in new products and product improvements; marketing research; government sales; regulatory compliance; and international negotiations. Mr. Allwood received his bachelor's and master's degrees in agricultural economics from the University of Missouri, Columbia.

**Terry L. Dunn, Vice President.** Mr. Dunn's primary responsibilities include research and analyses for international and domestic consulting clients. In addition to these duties, he is serving as editor and publisher of Sparks's new daily Energy Comments report. His consulting work has included an 18-month assignment in Egypt, working with the food industry to expand exports. He also worked in the Ukraine, the former Soviet republic of Georgia, and several Central European countries. On the recent Egyptian assignment, he served as director of market information with responsibilities for the development of an extensive database of processed fruits and vegetables for Egypt and its main competitors and a web-based distribution system for the information. In Ukraine, he assisted with the development of farm enterprise budgets and business plans for the Ukraine Land Share and Privatization project as well as analyses of various agricultural development and investment projects for several private US companies. Prior to his work on consulting projects, Mr. Dunn was a member of Sparks's long-term analysis team, developing five-year supply/demand forecasts for Europe, Central Europe, the Former Soviet Union and Mexico. Prior to joining Sparks, Mr. Dunn was assistant vice president and director of technical commodity research for Clayton Brokerage, St. Louis, Missouri. He received his bachelor's and master's degrees in agricultural economics from Oklahoma State University.

**William C. Motes, Senior Vice President.** Dr. Motes, located in Sparks's Washington, D.C., office, has primary responsibilities that include client consulting for international commercial clients and development projects. Formerly, he was a principal member of Economic Perspectives, Inc. and served as director of

policy analysis for the Secretary of Agriculture (1979-81). Dr. Motes was associate director of USDA's Budget and Program Evaluation Office and was legislative assistant for agriculture for US Senator Dick Clark. He holds degrees in agricultural economics from Kansas State University and received his doctorate in agricultural economics from Iowa State University.

**Scott A. Richman, Vice President.** Mr. Richman provides management consulting services to agribusiness, with emphasis on feasibility studies and the positioning of products within specialized markets. He has worked extensively with the agricultural biotechnology and grain processing industries on products ranging from herbicide resistant crops to ethanol. He received his bachelor's degree in economics from Vanderbilt University and his master's degree in international affairs at Columbia University where he specialized in international business.

**Thomas P. Scott, Senior Vice President.** Mr. Scott is head of Sparks Companies, Inc., Project Consulting Group based in Memphis. His responsibilities include general consulting with a specialty emphasis on company strategy and international markets. Specialized work has included corporate strategic formation, futures market development, economic development and long-term analysis. In addition to work in North America, Mr. Scott has extensive experience in the agribusiness sectors of Central Europe and Southeast Asia. Prior to joining SPARKS, he had various assignments in management, trading logistics and merchandising for the Continental Grain Company. A native of upstate New York, he received his bachelor's degree in agricultural economics from Cornell University and a master's in business administration from the Amos Tuck School of Business Administration at Dartmouth College.

**John F. Whims, Senior Consultant.** Dr. Whims has almost 20 years of experience in the area of strategic planning and business development in the public and private sectors. He has been the lead consultant for many federal, state and local government agencies and fortune 500 food and agriculture business projects. His work has involved some of the following activities; evaluated the market potential and positioning of an emerging agricultural technology, conducted macro economic analyses of foreign and domestic economies, utilized input-output models for economic impact analysis, and developed risk management hedge programs. Prior to joining Sparks, Dr. Whims was in private consulting, conducting economic and financial analyses for the processed foods and agricultural commodity markets. He received a bachelor's degree in business administration from Greenville (Ill.) College, a master's of business administration from Central Michigan University and his doctorate in agricultural economics from Michigan State University.

## **AgroTech Communications, Inc.**

**Peter Nelson, President.** Mr. Nelson co-founded AgroTech Communications, Inc. in 2000, and provides unique insight into emerging biobased industries, based on his involvement at many levels of the industry ranging from public policy to working directly with entrepreneurs since 1996. He has conducted project consulting work with entrepreneurs and rural development professionals, as well as providing strategic direction to organizations including New Uses Council Inc. He has had a major role in the formation of the Biobased Manufacturers Association (BMA) and is a founding board member. Mr. Nelson has delivered many papers and business presentations on the subject of biobased products and bioenergy, and is a sought out speaker on this topic. His recent speaking engagements include: Southern Agricultural Economics Association in Mobile, Alabama; Bioenergy 2002 in Boise, Idaho; and the 2002 Earth Day Congressional Briefing on Biobased Products, Washington, D.C. Mr. Nelson is also the leading writer and publisher for *AgFiber Technology News* published since 1999. He was a leading strategist at the Governor's Opportunity Arkansas: Building Partnerships for Greater Prosperity Summit and drafted the "Tennessee Biobased Products for Farmers and Rural Development Act of 2000" signed by Governor Don Sundquist. Mr. Nelson served as one of the five steering committee members for the Southeast Sun Grant Initiative, a national program to assist land grant universities' enhanced activities in biobased products and bioenergy. He also recently worked with the Mississippi Alternative Energy Enterprise reviewing projects for a \$6 million funding solicitation.



**Jere Griggs, Government Relations/Consulting.** Jere Griggs served as the Tennessee Commissioner of Agriculture from 1979 through 1981 and recently retired from his role as Agribusiness Development Coordinator for the Tennessee Department of Agriculture. Jere was the Executive Vice President and a Member of the Board of Directors of Pen Holdings from 1989 through 1997. Pen Holdings was a highly diversified company with interests in coal production and marketing; cotton ginning, warehousing and merchandising; lumber processing and marketing; and international trading. During Jere's tenure, Pen Holdings was in the top ten largest companies (in sales volume) among privately held companies in Metropolitan Nashville, Tennessee. He also served as President and CEO of Pen Cotton Company from 1984 to 1997 and President and CEO of Pen Hardwood Company from 1992 to 1997. During that time Jere also served as President and CEO of Pen Trading Company. Jere was also a partner and Co-Manager of Griggs Family Partnership engaged in farming, cotton gin and grain elevator operations in Crockett and Gibson Counties, Tennessee. Mr. Griggs has joined AgroTech Communications, Inc. as a primary advisor, consultant, and to coordinate government relations in Nashville and Washington, DC.

**Dan Manternach, Vice President for Business Development and Marketing.** Dan Manternach has over 25 years experience in market research, analysis and risk management. Prior to joining AgroTech he was VP for Marketing and Sales at Sparks Companies. Before that he'd spent 22 years with Professional Farmers of America where he was a highly sought-after speaker on megatrends in global agriculture both nationally and internationally. In 1997, by then President of Pro Farmer, he was named Agricultural Communicator of the Year by the National AgriMarketing Association. In recent years, Manternach says his professional interest has "focused heavily on the potential for biotechnology to solve many of mankind's future needs in health, nutrition and energy in a much more environmentally safe and sustainable way." He graduated in 1973 from Iowa State University, with a Bachelor of Science in Journalism and Mass Communication.

**Jay Witherspoon, Information Technologies.** Mr. Witherspoon has specialized knowledge in the use of the Internet in the collection, analysis, categorization and dissemination of information about biobased products and bioenergy. He has worked since 1998 on a variety of projects helping to define the digital infrastructure for biobased products in the United States and Canada. This experience has brought him face to face with exciting methods of coordinating the flow of information between ever-expanding stakeholders. He has also been employed as Interactive Coordinator and R&D Manager with Conaway Brown, Inc., a full-service advertising and marketing agency, where he has managed projects for Smith & Nephew, Inc., National Bank of Commerce, and International Paper. He graduated in 1997 as a Cambridge Scholar from Rhodes College in Memphis, Tennessee with a Bachelor's Degree in English Literature.



### *ENROLLMENT FORM*

- Yes, I want to participate in the multi-client study "***An Assessment of the Opportunities and Potential of the Emerging Biobased Economy***" I understand that the cost of the study is US\$12,500 for current Sparks clients and US\$14,500 for non-clients and US\$10,000 for academic institutions. One-half will be billed upon initiation of the study and the remainder upon receipt of the final report.

### **FAX to (901) 766-8158**

- Please have someone contact me to provide further information.

Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Return this form to: Dr. John F. Whims  
Sparks Companies, Inc.  
775 Ridge Lake Blvd., Suite 400  
Memphis, TN 38120  
Phone: 901-766-4529  
Fax: 901-766-8158  
[jwhims@sparksco.com](mailto:jwhims@sparksco.com)

