

Contact: Andy Baumert

GROW IOWA VALUES FUND PROPOSALS

Action Requested: Consider approval of Regent universities' FY 2011 Grow Iowa Values Fund (GIVF) proposals.

Executive Summary: The 2005 Iowa General Assembly appropriated \$5 million annually through FY 2015 to the Board of Regents through the GIVF administered by the Iowa Department of Economic Development. The funds are for *"capacity-building infrastructure in areas related to technology commercialization, entrepreneurship, and business development for the purposes of state economic development."* For FY 2011, the appropriation was reduced to \$3.8 million.

Each of the universities has submitted a proposal for how it will direct a share of these appropriations in FY 2011 which is the sixth year of funding under the program. Appropriations require a one-to-one funding match by the universities. The FY 2011 proposals from the universities total \$3,648,000 million. An amount of \$152,000 is reserved for the Board to allocate to research and commercialization projects submitted by private colleges and universities.

The \$3.648 million in GIVF funding will be matched on a one-to-one basis from a variety of sources including: private companies participating in projects, university matching funds, client and testing fees, and non-state research grants.

The universities' proposals are summarized in this memo. Complete proposals are included on the website.

Iowa State University: \$1,459,200

Iowa State University proposes to allocate FY 2011 GIVF funds in a manner consistent with that used in previous years in which funds were focused in two primary areas: 1) Infrastructure and Entrepreneurial Culture and 2) Commercialization Competitive Grants.

Infrastructure and Entrepreneurial Culture: \$500,000

ISU proposes to allocate \$500,000 to further develop the infrastructure that will support the staff and activity required to grow, improve and sustain the technology transfer/commercialization efforts at ISU. Funds will be allocated to the following units:

- Pappajohn Center for Entrepreneurship: \$200,000 to provide private sector consultants and market research for startup companies and to provide staff to assist entrepreneurial efforts by faculty and students.
- ISU Research Park: \$200,000 to provide startup companies with a reduced-cost environment, to market opportunities at ISU to existing technology companies nationwide, and to actively assist growth by current tenant companies.
- Vice-Provost for Research: \$100,000 to the Vice Provost for Research office to fund opportunistic commercialization projects during the fiscal year, to promote collaborative relationships between ISU and Iowa companies, and to coordinate collection of commercialization performance data.

Commercialization Competitive Grants Program: \$959,200

ISU proposes to allocate \$959,200 to build and sustain a larger pipeline of projects utilizing ISU-developed technology. A Request for Proposals process was used campus-wide to obtain proposals for the development of innovations with commercial potential and to support the expansion of existing companies which will contribute significantly to the Iowa economy. Twenty-two projects were submitted with ten projects being selected and proposed to receive a total of \$942,389. In addition, \$16,811 will be allocated later in the fiscal year by the Vice President for Research and Economic Development for a project consistent with the mission of the GIVF.

The ten new projects involving Iowa companies have been selected from among those submitted under the RFP and are proposed to be funded:

- \$40,590 is requested for market research to expand the usage of a cloud-based software product used by business for compiling and filing complex reports. Financial reporting requirements, such as those now required by the Securities and Exchange Commission, have become highly complex, requiring large amounts of data which must be compiled, filed and maintained in readily searchable formats. An ISU Research Park company, WebFilings, Inc., has developed a unique software product that solves these issues using low-cost cloud-based computing capacity. The funds requested will be used by ISU faculty, staff and students, and the company to research other market segments for the software. The company, which has grown to more than 50 employees since forming in 2008, projects that the SEC filings market segment alone could raise employment to more than 200. WebFilings will provide \$48,640 in cost share funding.
- \$78,305 is requested to develop advanced diagnostic methods to evaluate next generation fuel nozzles. Goodrich Engine Components Division (GECD), a West Des Moines company with over 500 employees, has been selected to supply Rolls Royce with nozzles for the new Rolls Royce engines in the Airbus 350 commercial aircraft as well as fuel nozzles and manifolds for the Hamilton Sundstrand Power Systems' power unit which will be offered on the Boeing 787. The proposed research project will develop advanced diagnostics methods to evaluate improved fuel nozzles that enable engines to meet new mandated reductions in pollutant emissions from jet engines as well as improving the fuel efficiency and reliability of the engines. The company has committed to \$42,226 in cost share funding, while ISU will provide \$43,484 in cost share.
- \$83,000 is requested for further development of a novel genetic test method for infectious and inherited bovine diseases and for its application to testing livestock embryos. Demand for genetic testing of livestock to eliminate disease and improve efficiency has grown rapidly in recent years. Researchers at the ISU College of Veterinary Medicine and an ISU Research Park company called Ames Center for Genetic Technologies (ACGT), propose development of a new method of genetic testing that greatly reduces the needed sample size and allows for more rapid multiplex testing. The reduced sample size is also believed to make testing of livestock embryo biopsies feasible. The company and researchers project the new method could reduce testing costs from the current range of \$40-\$150 each down to as little as \$5. The company, which has 3 employees, has committed to \$30,000 in cost share, while ISU will provide \$81,700 in cost share.
- \$99,883 is requested to evaluate and test an improved, patented form of delivering a dietary supplement called HMB (B-hydroxy-B-methylbutyrate) which researchers say diminishes muscle damage and inflammation resulting from exercise stress. The company partner, Metabolic Technologies, Inc. of the ISU Research Park, Ames, has already been successful

marketing a form of HMB as a medical nutritional supplement used in wound-healing products such as Juven marketed nationally by Abbott Nutritional Laboratories. The company projects that sales in the larger nutrition supplement market could reach \$20 million to \$30 million within five years supporting 10 to 20 additional full time jobs. The company has committed to \$85,785 in cash and in-kind matching funds; ISU will provide an additional \$45,748 in cost share.

- \$106,961 is requested to develop and validate a specific commercial application of a new DNA analysis system. An ISU Research Park company, Advanced Analytical, Inc., has developed an advanced capillary electrophoresis system for DNA analysis based on ISU research. The proposal is to expand the commercialization of this technology by developing a specific analysis application for food-borne disease pathogens of interest to Iowa's poultry industry. With over 65 million birds, Iowa is the nation's leader in egg production. A Dallas Center poultry genetics company, Hy-Line International, will provide microbial samples for the analysis. Advanced Analytical will provide \$100,000 in cost share while ISU will provide \$9,900 in cost share as part of a grant from the Midwest Dairy Association.
- \$109,000 is requested to evaluate the feasibility of using ultra-high performance concrete to construct wind turbine towers up to 394 feet tall to take advantage of more sustained and higher wind velocities at that height. Construction costs and roadway restrictions limit the size of steel tubes which are currently used as wind turbine towers, effectively limiting the height of the towers to 263 feet. Researchers propose building two towers of 328 feet and 394 feet using columns of prestressed, ultra-high performance concrete and project the value of electricity generated per turbine will increase by \$100,000 per turbine. Cooperating companies include Innovative Precast Solutions of Des Moines, which also operates plants in Iowa Falls and West Burlington, Clipper Windpower, Inc., a California company with operations in Iowa, and Lafarge North America, a Canadian company. The companies will provide a total of \$79,000 in cost share while ISU will provide \$30,000 in cost share.
- \$109,243 is requested for development of software to improve data mining in health care informatics and enable the creation of a new Iowa-based data mining and artificial intelligence company. Researchers at the ISU Center for Computational Intelligence, Learning and Discovery will form the new company and will collaborate with an existing Texas-based company, Collaborative Health Solutions, LLC, (CHS) which has already developed a health informatics platform with a database of 15,000 symptoms and risk factors associated with 700 illnesses. The project will focus on development of new algorithms and software for: 1) computer-assisted diagnosis and treatment, 2) allowing patients to share information anonymously within a patient community, 3) for intelligent and interactive acquisition of patient symptoms, risk factors, test results and history prior to a physician visit allowing the physician and patient to be better prepared. The researchers and company believe the software will be highly attractive to care providers because it will improve accuracy of diagnoses and save time during patient intake. The researchers project the newly-formed company will create 5 jobs in informatics and advanced analytics, 5 to 10 jobs in software engineering and 2 support jobs. CHS, LLC has committed \$109,243 in cost share.
- \$117,944 is requested for a project involving the Cedar Rapids-based Rockwell Collins company to develop new electronic switching regulators that dramatically increase the power efficiency of battery-operated devices. Researchers believe a new type of "spur-free" switching regulator will double the useful life of batteries in portable devices, increasing the service time between battery changes or, alternatively, reducing the number of batteries needed in a device, saving weight and space. Rockwell Collins, a company with over 20,000 employees, is heavily involved in the design and manufacture of electronic systems for both civilian and military portable electronic applications such as night vision goggles and helmet-mounted

displays and believes the technology will provide them a key technological advantage over their competitors. It is also believed the technology has commercialization potential with other companies involved in manufacturing consumer devices such as cell phones. Rockwell Collins will provide \$40,000 in cost share while ISU will provide \$78,091 in cost share.

- \$120,075 is requested for a project aimed at commercialization of an improved and lower cost type of very powerful microscope. In conjunction with an Ames company, Novascan Technologies, Inc., the researchers propose to build what is called an integrated, single molecule atomic force microscope-flouresence microscope (AFM). The study of single molecules and their interaction with receptors, toxins and pharmaceuticals has become a powerful tool in biomedical research, drug discovery and ultra-sensitive bio-sensing applications. The market for AFM devices is estimated at \$100 million per year and the researchers believe a more cost effective type would have significant market advantage. The project would allow the building and testing of the device. Novascan has committed to \$130,000 in cost share while ISU has committed to \$153,658 in cost share.
- \$77,388 is requested for a project to develop a technology to analyze the reliability of software, with particular application toward transportation safety-related software. Computers and software are used pervasively in transportation applications such as motor vehicles and aircraft where computer or software malfunctions can have catastrophic results. In conjunction with an ISU Research Park company, EnSoft Corporation, the researchers proposed to develop a programmable software pattern analyzer and develop a prototype for a transportation control system. A previous GIVF project in collaboration with EnSoft resulted in a software product called SimMerge that has now been adopted by 31 companies and by the NASA Orion Project in the first year of release. The company has committed to \$50,000 in cost share while ISU has committed to \$36,280 in cost share.

University of Iowa: \$1,459,200

The University of Iowa proposes to allocate \$1.459 million in GIVF funding toward a variety of efforts that are part of an integrated model of economic development support. In 2009, SUI began to shift the emphasis on the use of GIVF funds from a focus on people and infrastructure to an increasing focus on enhancing technology disclosures, new company formation, commercialization and assisting startups. The integrated model involves the Vice President for Research, the University Research Park (UIRP), the Pappajohn Entrepreneurial Center (JPEC) and the University of Iowa Research Foundation (UIRF).

GIVF funding will be matched on a one to one basis from licensing revenue, industry funding, lab lease rental payments and developer funding.

Specific allocations are proposed as follows:

- \$300,000 to support new company formation and faculty education programs through UIRF with the goal of increasing research that can be commercialized. This new component in faculty education will provide support for all stages of new company formation, from conceptualization at the laboratory through legal entity formation to first equity investment. These efforts will include:
 - university-private sector collaboration for proof-of-concept support for commercialization of SUI intellectual property
 - gap funding for early stage technologies and startup companies
 - use of technology savvy development experts to identify tech transfer opportunities

- entrepreneurs-in-residence to support spinout companies
- university-private sector formation of startup companies in Iowa

- \$262,250 to support operational and personnel costs of key economic development areas. These funds will support critical functions in the UIRP, the BioVentures Center, Technology Innovation Center and the IOWA Centers for Enterprise.

- \$246,250 to fund expenses at the new BioVentures Building. The building provides critical space and services for life sciences startup companies at the Research Park.

- \$150,000 to fund the expansion in Industrial Biotechnology (IB) capability at the Center for Biocatalysis and Bioprocessing (CBB). CBB is collaborating with several startup companies involved in producing biochemicals and fuels from biomass. Private and federal investments in IB are creating a number of opportunities for these collaborations requiring additional equipment at the CBB.

- \$331,700 to integrate and develop economic development support functions. The funds will be used by the Research Vice President for salary cost of key staff in economic development and to supplement proof of concept funding for translation of promising basic research to clinical and commercial applications.

- \$166,000 to support training, consultation and outreach for Iowa entrepreneurs through the John Pappajohn Entrepreneurial Center (JPEC). Projects will include:
 - Development of on-line technology commercialization modules for UI faculty, staff and students needing information about commercialization and intellectual property development.
 - JPEC will sponsor two entrepreneurship boot camps focused on commercialization and high-growth ventures.
 - JPEC will direct three new venture funding competitions. The purpose is to identify new venture opportunities, assist aspiring entrepreneurs and provide one-on-one assistance and training.
 - JPEC will continue its student venture fund to provide financial assistance to student entrepreneurs and teams participating in national business plan competitions.

Metrics

The University uses the following metrics to evaluate the effectiveness of funding provided to GIVF projects:

- Number of R&D agreements with Iowa companies
- Company matching funds provided
- University matching funds provided
- Number of license or option agreements
- Number of new companies formed and jobs created
- Company revenue created

University of Northern Iowa: \$729,600

The University of Northern Iowa proposes to allocate \$729,600 in five project areas. Each project has achieved substantial outcomes and leveraged private and federal support. Specific details are included for the following five projects:

- Technology transfer and business incubation,
- Rural entrepreneurship,
- Market research,
- Regional development and
- National Ag-Based Lubricants Center.

GIVF funds will be matched on a 1:1 basis.

Project 1: Technology Transfer and Business Incubation ♦ \$254,600

UNI continues to advance intellectual property evaluation and protection, commercialization of campus innovations through licensing/strategic partnerships, and new business development. A number of proposed services directly impact these efforts, including the Innovation Incubator and extension of the MyEntre.Net initiative. These efforts will result in stronger, broader based linkages between the University and the greater Iowa business community. Specific priorities for FY 11 are:

Area 1 - Business Incubation:

Expansion of the Innovation Incubator was completed in FY10, providing additional business development suites. All but one of the new suites is currently occupied and three new businesses recently graduated into the regional economy. The goal for FY11 is to bring the incubator to full capacity and strengthen the mix of tenants, including more information technology companies. UNI's 4th Street Incubator, a partnership with the City of Waterloo and area development groups, graduated its 40th tenant into the regional economy in 2010 and will continue to play an important role in UNI's incubation and business development programs. The student business incubator has been full all of 2010 and another 30 student businesses are served as affiliates. As in past years, several student businesses recently graduated from the student business incubator and we anticipate quickly filling the vacancies.

Area 2 - Intellectual Property Development:

Intellectual property development at UNI continues to mature as a result of collaboration between Business and Community Services and the Office of Sponsored Programs. Due to the retirement of UNI's first full-time Intellectual Property Officer, intellectual property priorities for FY11 were reassessed. Specifically, more emphasis will be placed on the market feasibility of UNI's IP portfolio and commercialization efforts. Fewer IP disclosures have been received in the past year due to less available funding for faculty research projects. Our goal is to move five technologies to commercialization in FY11 through licensing, trade secrets or business development.

Matching Funds: Federal Funds from the SBA, UNI Research Foundation and program income

Results/Metrics: Occupancy at the expanded Innovation Incubator, 4th Street Incubator and Student Business Incubator will be at 100% occupancy by the end of the fiscal year. At least 10 intellectual property disclosures will be received, 5 patents filed and 5 technologies will be commercialized.

Project 2: Rural Entrepreneurship ♦ \$150,000

MyEntre.Net is an entrepreneurship development system serving entrepreneurs and rural communities since 2003, bringing online services to entrepreneurs and in-community support to rural leadership toward creating entrepreneurial communities. In FY11, the online community will continue to be enhanced with on-demand and free research assistance for MyEntre.Net users, an ongoing *Dream Big, Grow Here* campaign and contest to attract growth-oriented small Iowa employer firms, and continued regional EntreBash! events statewide. UNI will continue to lead a consortium of statewide service providers in the planning of EntreFest!, the statewide conference for small business and entrepreneurs, hosted this year in Dubuque, Iowa. This project will address the following critical areas of entrepreneurial development in the coming year:

Area 1 - Continued growth of MyEntre.Net, as Iowa's Online Community for Small Business Owners and Entrepreneurs:

In FY11, new online business analyst services will be created to provide on-demand, complementary access to business information and research to support MyEntre.Net members. Additionally, development of a peer-to-peer lending component on MyEntre.Net will continue and other new technologies will be introduced to enhance interaction among entrepreneurs online. A recently announced *Dream Big, Grow Here* campaign will target small employer firms in the state, providing a new portal for statewide service providers to showcase their new resources and services throughout the year.

Area 2 - Entrepreneurial Communities Project:

In support of a planned expansion of outreach services within BCS, UNI will continue to deliver Entrepreneurship Economic Development Seminars statewide to communities requesting assistance in developing entrepreneurship support systems. In addition, participating communities will receive local EntreBash! events coordination, master calendar development and printing assistance, shared technology resources at MyEntre.Net and annual economic impact data collection through direct surveys of entrepreneurs in those regions.

Area 3 - UNI will lead a consortium of 15-20 service provider and private partners in the delivery of the fourth annual EntreFest!, Iowa's conference for small business in the state:

2011 will mark the fourth consecutive year of EntreFest!, Iowa's statewide conference for small business and entrepreneurs. The 2010 event saw a record number of attendees in West Des Moines; the conference will move in 2011 to downtown Dubuque where more than 350 small Iowa firms are expected to attend.

Matching Funds: Regional Business Center client fees and Federal funds (SBA)

Results/Metrics: In FY 2010, MyEntre.Net's online community will grow by 50% to 9,000 Iowa small business owners engaged online. 500 small business owners will attend a regional EntreBash! event and 300 community leaders will begin the process of creating an entrepreneurship support system by participating in the Entrepreneurial Communities Project. Those served through this systems approach will generate 125 new or expanded businesses and create 300 new full-time jobs. 350 entrepreneurs representing 50 Iowa counties will attend the 4th annual EntreFest! statewide conference for small business on February 24th and 25th 2011.

Project 3: Market Research ♦ \$75,000

Whether starting or expanding a business, accurate information is needed to make sound decisions. Gathering and using “market intelligence” data to make decisions is what Strategic Marketing Services (SMS) offers. SMS will leverage Grow Iowa Values Fund support in five primary areas:

Area 1: Market research projects for established Iowa companies

This area of activity will receive priority for funding. Market research project costs will be split between the client and a GIVF investment, with maximum GIVF support of \$10,000 per project. The logic behind this approach:

- Funding to support market research projects is extremely limited and must be leveraged
- Established businesses should be willing to pay at least one-half of the project cost
- Priority will be given to businesses in the state’s target industry clusters

Area 2: Start-up business secondary market research and patent research services

To support the concept of “Economic Gardening” in Iowa, Strategic Marketing Services will provide secondary market research services including patent research services to entrepreneurs and small businesses throughout the state. SMS will work in cooperation with existing economic development organizations and business service providers to conduct secondary research on behalf of those organizations’ clients.

Area 3: Market research consultations, plans, and assessments

SMS will consult with Iowa businesses, entrepreneurs, statewide associations and local governments to assess their market research needs. Where appropriate, market research plans will be developed. In some cases, the client may wish to undertake some or all of the research activities on their own, utilizing the market research plan as a guide.

Area 4: Assistance to UNI’s technology transfer program

Phase One research provides initial market screening for inventions and innovations to identify potential competitors. The UNI Research Foundation (UNIRF) will support 50% of Phase One research and GIVF will support 50%.

Area 5: Market research projects for Iowa associations and local governments

Communities or organizations seeking to undertake market research projects to grow their economic base. Three examples include: 1) an association might seek information to grow its membership or provide services that would result in the strengthening of Iowa’s economy; 2) a community may seek to become a regional center for specialized medical services by attracting medical specialties; 3) a community may seek to capitalize on its growing senior population to maintain or stimulate the local economy and support workforce development initiatives. GIVF support will be used to cover half the costs of these projects with the client paying the remaining half.

Matching Funds: Program income

Results/Metrics:

SMS will complete 6-10 market research projects for Iowa businesses. The maximum allowed amount for any one project is limited to \$10,000. Measurement will be based on new/increased sales, new sales leads, new product introductions, product modifications, customer satisfaction measurements, new jobs created, physical plant expansions, new market penetration, market

expansion, and job retention. In addition, the number of consultations, assessments, and market research plans, economic gardening projects or secondary research projects and technology transfer projects will be tracked.

Project 4: Regional Development ♦ \$100,000

The Institute for Decision Making (IDM) will continue implementing economic development assistance programs that help to sustain Iowa's regional economies into the future. Specific priorities for FY 2011 are:

Area 1: Sustainability of Regional Work and Strengthening the Collaborating Member Groups

Many of Iowa's organized economic regional groups continue to benefit from technical and other assistance in sustaining themselves as active regions. Regional workforce continues to be a focus, and IDM will continue to collaborate with Iowa Workforce Development on workforce projects. IDM will continue to act as a quasi-staff member to one region (Off-Shore Iowa), and to continue assisting other regions by providing technical assistance and/or strategic planning assistance.

Area 2: Regional Metrics Project

In FY 2009 IDM outlined metrics for regions in collaboration with IDED. These metrics will be updated in FY 2011. IDM will review and analyze 10 regional benchmark metrics in all 15 Iowa marketing regions. IDM will also assist regions in tracking 3-4 additional indicators based on individual regional plans. Testimonial letters will be gathered from the regions and used to outline progress on individual regional projects.

Area 3: BEST of Iowa Partnership

In partnership with the Iowa Department of Economic Development (IDED), Regents universities, community colleges, utilities, Professional Developers of Iowa (PDI) and the Iowa Department of Education, IDM will strengthen the Business Expansion & Strategic Trends (BEST) of Iowa program. BEST of Iowa supports local economic development organizations in implementing or increasing the effectiveness of their business retention and expansion efforts. BEST initiatives include enhancing statewide coordination of existing industry programs and implementation of the Synchronist Business Information System® at the regional level. Specifically, IDM will assist with improving data collection and input at the state and regional levels as well as developing a coordinated response to technology transfer issues on behalf of the Regents universities.

Area 4: Entrepreneurial Communities Project

In support of entrepreneurial development across Iowa, IDM will partner with the UNI Regional Business Center and their MyEntre.Net program to implement the Entrepreneurial Communities Project (ECP). The goal of the ECP is to build the capacity of community stakeholders towards fostering entrepreneurial development within their respective communities. The approach centers on four areas: 1) research and assessment, 2) education of community stakeholders, 3) development of a community entrepreneurship strategic plan, and 4) implementation of the plan and follow-up. IDM staff will lend research and strategic planning expertise to this project, as well as providing customized technical assistance to meet community's needs.

Matching Funds: Program income, workforce development grants/contracts, federal funds from the Economic Development Administration (anticipated)

Results/Metrics: IDM will solicit and report testimonials related to all areas. In addition, progress will be tracked quantitatively across regional metrics and among communities engaged in entrepreneurial development. We anticipate four regional economies will directly benefit from the Entrepreneurial Communities project, engaging 300 entrepreneurs and 60 community leaders.

Project 5: National Ag-Based Lubricants (NABL) Center ♦ \$150,000

The University of Northern Iowa's National Ag-Based Lubricants (NABL) Center's brand-new 25,000 square foot facility, part of Cedar Valley TechWorks, houses one of the most comprehensive biolubricant testing labs in the United States. The Center offers more than 100 specific product testing methodologies per ASTM, AOCS, or other standardized specifications, to testing clients and research partners. The NABL Center has brought in more than \$5M in federal equipment funding to the University since its inception. NABL research in FY2011 focuses on expanding the successful use of biobased lubricants in applications currently restricted to petroleum or synthetic oils. Through research involving modified vegetable oils, derivative products with superior lubricity, cold temperature performance, and increased oxidative stability will be identified, and used to create formulations suitable for even the most demanding applications. In addition, NABL will continue to serve as a cornerstone for Iowa's developing biobased products industry.

Area 1 – Support Iowa's Biobased Products Industry

NABL will continue to participate in ASTM Laboratory Crosschecks, and other proficiency testing programs to ensure the laboratory's accuracy and contribute to improved test standardization for biobased products. Involvement and participation in industry organizations such as ASTM (American Society for Testing and Materials), NFPA (National Fluid Power Society), NLGI (National Lubricating Greases Institute), and AOCS (American Oil Chemists Society) is on-going and helps to make certain that biobased products are tested and evaluated on standards appropriate for vegetable oils. This will help to ensure that Iowa's biobased products meet the necessary performance certifications before entering the marketplace.

Area 2 – Fundamental Research of Vegetable Oil Based Products:

This research targets new methods of improving the inherent characteristics and fundamental properties of vegetable oils, such as esterification, estolides, genetic crop modifications, and the creative use of non-traditional additives.

Area 3 – Study Vegetable Oil Derivatives for Improved Stability and Cold Temperature Properties

This research activity specifically targets the investigation and testing of advanced vegetable oil derivatives and other oil modifications improving oxidative stability and cold temperature performance for use in advanced lubricant formulations, targeting high-performance applications currently limited to petroleum or synthetic products.

Area 4 – Industrial Oil Crops

NABL will investigate the opportunity to use non-food industrial crop oils in order to produce oils that illustrate strong cold temperature performance or other desirable characteristics.

Matching Funds: Federal funding from U.S. Department of Energy, and fees from NABL Center testing

Results/Metrics: NABL will provide fee-based testing services to at least 10 biofuels and/or biolubricant industry clients during FY11. NABL will complete at least three ASTM Crosscheck programs. NABL will participate in at least two scientific or industry organizations during 2011. NABL laboratories will complete test regimens on at least 10 unique vegetable oils of interest.