

Wisconsin BioAg Gateway

PROJECT INTRODUCTION: The Wisconsin BioAg Gateway is a specialized R&D and commercialization business park located inside of Tax Increment Finance District (TID) #24 (SE Madison). This park is 100% oriented towards capitalizing on city, state, and regional Bio-Agriculture (BioAg) assets that combine agriculture products with manufacturing expertise in the biotech arena. The centerpiece, and vital to the success of BioAg Gateway, is the Midwest BioLink Incubator (MBI).

GATEWAY COMPONENTS: All components of the BioAg Gateway are immediately adjacent to each other as well as the physical locations of the State of Wisconsin Agriculture Department and Hygiene Laboratory. There are four main components to the Wisconsin BioAg Gateway Campus (outside of these state partners):

- The 27-acre **BioAg Business Park**—Developable state of the art BioAg business campus.
- The 200-acre **Wisconsin Ag Showcase/Field Demonstration**—Working lands highlighting Ag Crops, future best practices, and field-testing of new crops.
- The **Wisconsin Agriculture Discovery Center**—Interactive demonstration facility for Wisconsin agriculture diversity, future opportunities, services for processing, training, education, and sources for agricultural entrepreneurs and end users.
- The **Midwest Biolink Incubator (MBI)**
 - **Controlled Environment Agriculture (CEA) Facility**—Planet LLC to contribute technologies and intellectual properties for state-of-the-art biosecure CEA.
 - **Advanced Commercialization Greenhouse**—High productivity, climate independent, accelerated development, biosecure, customized 24/7 manufacturing operation greenhouses.
 - **Wisconsin BioAg Institute**—Broad based guidance, administration and direction from industry, investment, and research experts.

In 2006, the City of Madison purchased the lands of the BioAg Business Park. This 27-acre platted parcel is ready for development with infrastructure and utilities already in place. Acreage on site has been identified for the future locations of MBI and the State-funded Ag Discovery Center. Graduates and tenants of the incubator and synergistic biotech industry cluster companies (BioAg refineries, processors, small and large existing BioAg companies) can locate in the balance of the campus land. Adjacent to the business park is the 200-acre field demonstration Ag Showcase area. These lands, which are currently under a 20-year lease by a private partner, Agricol, will be used for field-testing display and research. Portions of these lands will be subleased to BioAg companies. There are two buildings at the entrance to the BioAg Gateway Campus, 2810 and 2820 Walton Commons West, that are also suitable for BioAg related companies, one of which has existing wet lab space with complete casework.

Based on its components, the proposed Wisconsin BioAg Gateway Campus has the ability to 1) serve as an incremental “cradle-to-grave” program for BioAg technology entrepreneurs and companies while 2) providing the statewide benefits to entrepreneurs working in the BioAg arena. Wisconsin BioAg Gateway will serve as an economic development and commercialization center. MBI will be an R&D facility, to prototype and test production in a biosecure environment. MBI will also develop, implement and service new plant manufacturing systems with controlled environment facility and services. MBI will employ a recycling and reduced resources program, reducing energy consumption and not involve fertilizer due to biosecure environments. It will also lower variable costs, product costs, and provide for faster ramp-up times.

LOCAL CEA AND GREENHOUSE MARKET DYNAMIC: There are over 200 biotech companies in the State of Wisconsin, many located in the Capitol Region. In order for the state and city to position themselves in this emerging BioAg market, we are going to need to provide the technology and resources for entrepreneurs. This campus and MBI will move technology out of the lab and into the commercial (patentable) market. It will also move low-technology agriculture products into the BioAg arena. The best way to attract and expand biotechnology advancements in the BioAg arena is to encourage start-ups, create incubators, and fill the technology gap with targeted resources.

The Biotron facility at the UW Madison is a 40-year old R&D facility with approximately 50 CEA rooms and 25 greenhouses with augmented lighting. The use of these facilities is shared among the many departments at the University. They customarily operate between 70-90% occupancy and have very limited availability for off-campus users, particularly since one must lease large spaces (approximately three separate or distinct testing areas) for controlled studies. Due to its university ownership and state function, off campus users (private companies) receive the lowest priority when space for research becomes available. Due to the June 2007 award of \$125 million in federal research dollars for the Great Lakes BioEnergy Research Center, it is estimated that the Biotron will be 100% occupied once the center opens. Due to their age, limited vacancy, high-energy consumption, and the new competition for the limited vacant space, there is a great possibility that the MBI will have relationships with and serve the University scientific community. It is also anticipated that private research being conducted at MBI could greatly benefit from expertise at the UW, particularly the College of Agriculture and Life Sciences (CALS) staff.

The City of Madison will benefit greatly from the Wisconsin BioAg Gateway Campus in the form of new jobs, industry cluster leadership, higher income jobs, increased tax base, and national and international presence.

INCUBATOR: The MBI will be a unique controlled environment facility that provides a biosecure setting for the development, test, and validation of high efficiency growth and production of plants modified to produce human, animal, and industrial proteins and commercial bio-agricultural manufacturing systems and protocols. Unlike many other hi-tech incubators, BioAg technologies can bring products and ideas to market in a matter of a couple of years rather than decades. Sometimes, it can be just months. New partnerships, products, and businesses will be born, “incubated” and graduated into formal markets. ***BioAg market areas of great potential are concentrated in the development of plant-made pharmaceuticals (PMP), plant-made industrial products (PMIP), and high-yield crops.***

***Perspective:** Imagine growing the active ingredients for a cancer drug in lettuce and a cervical cancer vaccine in corn. Imagine growing spider silk in tobacco that would be three times as strong and one-third the weight of Kevlar. These projects are all happening right now!! PMP, PIMP and high-yield crops are more commonly known as products called therapeutic and medicinal applications (derived antibodies, enzymes, vaccines, structural proteins, anti-disease agents), vitamins, nutraceuticals (botanical oils, dietary and nutritional supplements), bio-plastics, bio-fibers (seatbelts, fishing lines, clothing, construction materials), plant metabolites (fragrances, flavors), high-yield crops, and bio-fuels.*

MARKET AREA POTENTIALS FOR PROSPECTIVE MBI AND CAMPUS TENANTS

- PMP--\$125 Billion by 2012
- PMIP--\$280 Billion by 2010
- Nutraceuticals--\$125 Billion by 2009
- Natural Products/Plant Metabolites—estimates not available at this time
- Bio-Fibers--\$1 Billion by 2010
- High-Value Crop Production--\$3.5 Billion (also eliminates the risk of recent *E. Coli* outbreaks and allows for year round production capacity)

DRAFT

DRAFT

DRAFT

- BioFuels. Biofuels are potential markets but it is anticipated the new Great Lakes Bioenergy Center will be the center for this research.

The vision for the MBI is to help develop a new category of Wisconsin industry focused on plant-made products in controlled agricultural manufacturing facilities. Current estimates indicate that within eight to ten years, Wisconsin's share of the projected \$40-60B market would result in 100-700 new regional jobs with new industry expenditures of \$30M to \$100M. The estimates of total economic activity resulting from the MBI range from \$50M to \$150M within ten years, and may be conservative. We believe that this activity will occur whether MBI exists or not; however, the MBI would help focus and sustain a large segment of this activity in Wisconsin. As part of this activity, several hundred good paying jobs are anticipated, with a return of tens of millions of dollars in tax revenues projected.

DRAFT

DRAFT

DRAFT