



Independence
Bio Products

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CONTACT: Brad Lambert
Independence Bio-Products
Brad.lambert@independencebioproducts.com
Tel: (614) 789-1764

Independence Bio-Products Receives Patent for Low-Cost Algae Production System

Patent covers economical heating of open ponds, key issue for commercial-scale algae production for biofuels, animal feed in virtually any climate

Dublin, Ohio – [Independence Bio-Products](#) (IBP) of Dublin, Ohio has received a patent from U.S. Patent Office covering the company's low-cost open-pond system for producing algae for biofuels and animal feeds system year-round, regardless of climate or season. IBP's system uses heat recovered from power plants and other manufacturing facilities to maintain water temperatures within precise temperature ranges that optimize algae production.

The patent for invention number 7,905,049 B2 covers methods and systems for growing algae in water with a heating source; drying the algae with a heat source; and alternatively partially covering the body of water where the algae is grown. Heat recovery systems, algae processing and covers are also included.

IBP's low-cost open-pond system was validated in an [18-month demonstration project](#) adjacent to a power plant in Shadyside, Ohio. The project used CO₂ from the power plant to feed the algae while waste heat recovered from the plant was used to ensure proper water temperatures. This newly patented system enabled IBP to grow algae year-round, even during harsh winter months. The project yielded algae solids for animal feeds and algae oil. The algae oil was tested and confirmed as a source upgrading to jet engine fuel by the [U.S. Air Force](#).

"Maintaining ideal temperatures is a key issue for growing algae in open ponds, and efforts to use electric, natural gas and propane heaters have proven expensive and inefficient," said IBP Founder and President Ron Erd. "By using heat recovered from an adjacent industrial facility, our patented process offers a cost-effective approach to producing biofuels and animal feeds along with high-value co-products such as carotenoids for nutraceuticals, not to mention the significant benefit of carbon capture with the process. Further, it allows IBP to operate in regions that algae operations have previously not considered to be viable. For example, areas that have plentiful water to operate low-cost open ponds typically experience low temperatures for part of the year."

To access heat and CO₂, IBP's patented system will be deployed adjacent to coal-fired power plants and other industrial facilities, producing significantly more feed per acre than traditional crops, Erd noted. The company is now developing a 400-acre project in Texas on reclaimed mining land. The facility is scheduled to open in 2012, with potential future expansion to more than 20,000 acres.

IBP's algae products have also been validated as a high-protein ingredient in animal feed through research at The Ohio State University and a leading global animal nutrition company. Trials on pigs and fish found that IBP's algae solids offer a cost-effective source of protein for animal feeds.

For additional information, please contact Brad Lambert at Independence Bio-Products by telephone at (614)-789-1764 or by email at brad.lambert@independencebioproducts.com.