

R024-A: Sugar Beet Tailings to Advanced Ethanol
Submitted by BioMass Solution
Principal Investigator: Jacek Chmielewski
Request for \$500,000; Total Project Costs \$1,000,000

Technical Advisor Comments

- One reviewer recommended fund, two recommended funding may be considered.
- The 50% match comes from the applicant (\$250,000 – cash, \$250,000 – in-kind).
- All 3 reviewers felt that the proposal did not provide adequate information to demonstrate awareness of current research.
- 1 reviewer felt that the objectives were achievable. 2 reviewers were less confident.
- One reviewer suggested that funding be provided for FEL-1 tasks first, with subsequent funding released only if FEL-1 tasks find the project feasible.
- All three reviewers felt that the methodology was appropriate.
- All three reviewers felt that the contribution of the proposed work would likely be significant.
- All three reviewers felt that the background of the project team was adequate.
- Two reviewers felt that the project management plan was adequate. One reviewer felt that the plan needs to include breaks amongst the various FEL steps to determine whether or not further work is necessary.
- One reviewer commented, “The applicants appear diligent and committed to establishing a bioethanol biorefinery in Grand Forks that will utilize a sugar beet waste product and proprietary pre-processing technology that is specifically adapted to the sugar beet waste tailings...”
- One reviewer commented, “...The overall project sounds great, but it’s difficult to say right now with much certainty how feasible the approach is...”
- One reviewer felt that the applicant had addressed many concerns. However, the reviewer felt there were still a few issues:
 - Organic acids will still be present and will inhibit yeast metabolism.
 - If automation is available that will save labor is available, corn ethanol plants would have implemented the technologies.
 - Testing should be completed regarding the UV light photoelectrocatalytic process as beet wasts are organic and may not work the same as those primarily mineral in nature.
 - Results of the cattle feeding trials are underway and the results are needed to assign an accurate value to the byproduct.

Technical Advisor Recommendations

Fund. This project would be a definitive step towards the construction of a beet ethanol plant in North Dakota. An agreement with American Crystal Sugar is in place, and the plant would allow them an opportunity to create revenue from a waste product. The benefits of the project, if successful, outweigh the risks.

Suggested Contingencies If Funded

- Funding be provided for FEL-1 tasks first, with subsequent funding released if FEL-1 tasks find the project feasible.