An Efficient Algae-to-Biofuel Process

An innovative cell rupture process enabled by patented DYNO-MILL® grinding technology available from Glen Mills, Inc. breaks apart yeast bacteria, fungi, algae and other microorganisms in order to permit the easy and efficient extraction of high energy-containing protein, enzymes and other lipid-bearing intracellular components. According to the company:

- The relatively easy cultivation of algae can be located at a laboratory, central processing facility, or directly at a point of use location.
- Algae slurry is simply pumped into the grinding chamber of the shear DYNO-MILL horizontal grinding system that is fitted with a shaft assembly and loaded with media beads.
- During the low-temperature grinding operation, media beads located within the grinding chamber rotate with differing levels of kinetic force to shear, impact and rupture the cell walls.
- The efficient operation routinely achieves cell rupture rates approaching 100 percent.
- A dynamic separator or screen then filters out and discharges and collects the resulting suspension of broken cells, while retaining the beads within the mill.
- The quiet, completely enclosed DYNO-MILL system features a wide range of cell rupture parameter controls that are used to optimize cell size output during the single-pass process.
- A variety of DYNO-MILL models, sizes and configurations are available to

accommodate laboratory research, field processing, and commercial production applications.
- Sample tests and contract lab time can be arranged and rental units are available for user laboratory testing and evaluation by contacting Glen Mills Inc.
- Intermediate and larger-size production units are available to address pilot-plant scale-up and production processing output requirements.

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