



Bran Grinding *Application Story*



OVERVIEW

The Issues:

- Retaining Nutritional Value
- Increasing Flavor Quality
- Grind Multiple Grains To Precise Specifications

The Solution:

- CLM Classifier Mill

Background:

Bran is the hard outer layer of whole wheat and other cereal grains. It is present in and may be milled from any cereal grain, including rice, corn, wheat, oats, barley and millet. Bran naturally contains significant quantities of starch, protein, vitamins and dietary fiber. Because of these nutrient rich qualities, bran it is often used to enrich breads, muffins, and breakfast cereals for the benefit of those who wish to increase their dietary fiber.

Issues:

Historically, bran along with germ, have been separated from the whole grain because the combination of a long distribution cycle and the high oil content of bran caused the flour to go rancid. When bran is removed from the whole grain, however, the grain loses much of it's nutritional value. Millers have the need to quickly grind large quantities of multiple grains. The challenge is that each grain must be ground to its own precise specifications to reach a desired fineness appropriate for end use.

Grain millers are also concerned about the flavor quality of its products. Retaining good nutritional value becomes inconsequential if the flavor quality is gritty and the product is undesirable to the consumer. In the end, both the grind consistency and the flavor standard have to be optimized to achieve maximize profitability.



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Solution:

Prater's Classifier Mills (CLM) allow millers to grind multiple grains to their product specifications. Capable of grinding to a product size sub 1 % retained on 70 mesh, the CLM is perfect for grinding fibrous products with a narrow particle distribution curve like bran.

There are three stages taken when processing material through a Prater CLM. The initial grinding state is similar to what is accomplished with the M Series Fine Grinding Mills, however, a secondary inlet provides additional air for the second stage internal air classifier wheel. This additional air also adds an element of cooling to the material being processed. Oversized particles that are larger than desired are rejected by the classifier and are directed to the third state, which is a separate part of the grinding rotor. This recycled material is ground again, then redirected to the classifier, allowing only properly sized product to exit the mill.

Company Overview:

At Prater, results come first. Our products work to serve your dry processing, powder and bulk solids applications. With Prater's extensive line of equipment and systems, you will obtain the best possible results of your process time after time. Each of our high-quality products are developed to serve each industry differently, in order to provide the desired outcome of each processing application.

Each of our products carries the Prater guarantee of efficiency and durability, while designed to adapt to serve the needs of a variety of industry applications. Prater products are rugged and time-tested, providing the best results for materials processing. Whether you plan to feed, size, enlarge, weigh, or reduce your material, Prater products provide the Particle Management Solutions you seek.

Prater has been providing reliable particle management solutions since 1925. The company specializes in an extensive line of equipment and engineered systems including rotary airlocks, lump breakers, hammermills, fine grinders, classifier mills, screeners/separators, air classifiers, compactors, plant-wide automation/controls as well as toll processing services.

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