

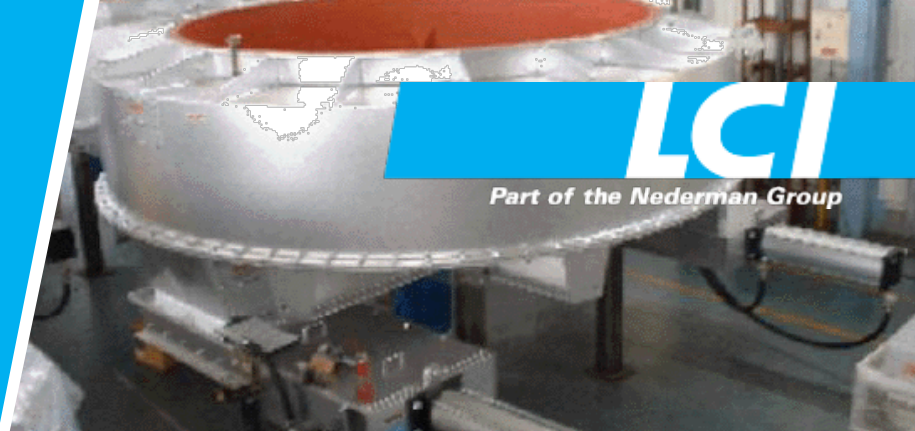
CASE STUDY

AGROCHEMICAL

COUNTRY: USA

PRODUCT: Circle Feeder

KEY BENEFIT: Increased Productivity and Improved Product Performance of Biological Insecticides



Circle Feeder Improves Productivity

Background

A Midwestern manufacturer of biological insecticides recently installed an extrusion system. The active ingredient is a bacterium that is crystallized and comes to the process from a centrifuge.

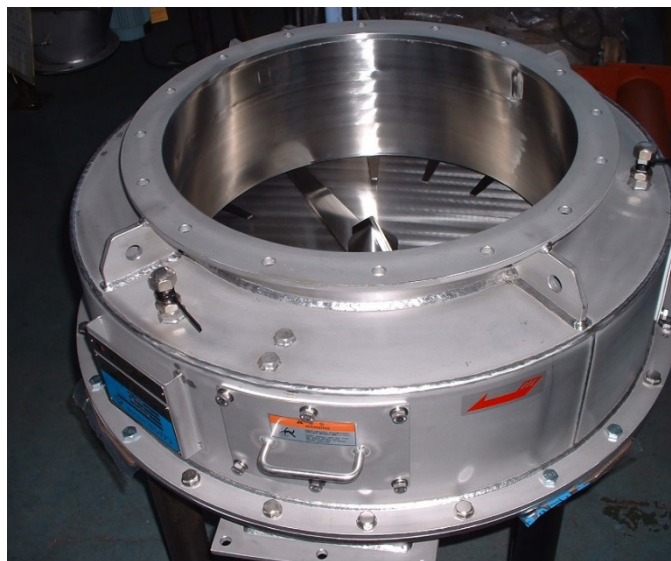
Dry ingredients are then blended with the wet centrifuge cake to obtain the proper consistency for extrusion. After extrusion, the material is dried and packaged. The challenging part of the process was to store the centrifuge cake and to meter it into the process.

Problem

Initially, a special cone type feeder with a rotating auger inside was evaluated on a lease to purchase basis. At first, the feeder gave promising results. However, after several hours of operation, a few major problems were discovered. The rotating auger inside of the cone overworked the material. This caused the release of bound water from the centrifuge cake. This in turn caused material to stick to the auger and to bridge in the cone.

Solution

Material was shipped to Charlotte, NC for testing. By the time the material arrived, it was not representative of the material in the plant. Bound water was released during transportation that turned the material from a wet cake to a slurry. Even under such unfavorable conditions, the Circle Feeder was able to discharge the material without bridging in the hopper.



Results

The same feeder that was used in the trial was shipped to the customer's site for evaluation. The Circle Feeder was an instant success. The slow shaft rotational speed couple with the large inlet hopper allowed for uniform metering of the centrifuge cake. An additional benefit that was realized during the initial trials and later proven in the plant was the fact that the even after sitting in the hopper for a 24-hour period, the material could still be discharged using the Circle Feeder. This greatly minimized cleanout time after an upset condition in the plant.

The customer purchased the Circle Feeder because its unique design allowed for continuous, uniform discharge of a centrifuge wet cake without altering the product's characteristics. This led to increased productivity and improved product performance.

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