

Fristam FCM Excels in Mixing Eco-Friendly Insecticide



FCM Colloid Mixer

Next-Gen Colloid Mill

A major consumer products company, known for household brands across North America, was working with a contract packager to develop a new environmentally friendly insecticide. The active formulation featured cedar oil, an essential oil derived from cedar trees and long recognized for its natural pest-repellent properties, offering a sustainable alternative to traditional chemical options.

While the formula had promise, the production team faced a serious challenge: the mixture, similar in viscosity to milk, contained suspended solids and had a tendency to separate before and during packaging. Once filled, containers showed inconsistent appearance and performance, an issue that was not acceptable.

The company had previously used a competitor's colloid mill for similar products but found it difficult to clean and unable to adjust easily without taking the equipment apart. They needed something more efficient, and far more flexible.

Enter the Fristam FCM Colloid Mixer.

Fristam proposed an on-site trial at the Midwest packaging facility to see how the FCM would handle the new formula. Initially, the insecticide was fed into the FCM using a traditional rubber lobe pump, then discharged with a secondary pump. Multiple samples were collected across different speeds and settings for later lab analysis.

But then came a surprise: the inlet gauge on the FCM registered vacuum, indicating that the unit could draw product from the tote all on its own. The team removed the feed pump entirely, and sure enough, the FCM continued pulling product and maintained over 40 gallons per minute, without skipping a beat. Best of all, samples taken with and without the feed pump showed equally strong emulsification results.

Lab testing later confirmed it: the FCM had successfully emulsified the formulation, evenly distributing the solids and eliminating settling during storage. The customer was impressed with how easy the FCM was to dial in and operate.

Shortly after the trial, they placed an order for their own Fristam FCM Colloid Mixer for full production. They are also exploring the option to simplify their line even further by eliminating the

feed pump completely, relying on the FCM's suction capability.

This trial proved that the Fristam FCM Colloid Mixer isn't just a great fit for nutraceuticals or emulsions, it's a flexible, CIP-capable solution for tough mixing challenges across industries. Whether it's nano-emulsions or eco-friendly insecticides, Fristam delivers powerful performance with real-world production benefits.

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