

High-shear mixer brings a taste of Greece to the table

▶ Keeping oil and vinegar together provides for consistent, on-specification batches.

Father and son business partners, Milton and Aristides Steliaros of Greek Village, located in Commack, NY, sell Greek food products such as Milton's Greek Salad Dressing and Milton's Balsamic Vinaigrette Salad Dressing. Both recipes were developed by Milton, a Long Island chef who emigrated from the Greek island of Chios in the 1950s. The current popularity of the dressings demanded large increases in production.

However, the surge in production brought about

considerable challenges. As larger and more batches were being produced in their four-speed single planetary mixer, a greater degree of separation was observed in the finished product—the vinegar component would separate from the oil and settle at the bottom of the bottles. In addition, the frequent batch-to-batch inconsistencies led to unpredictability in the packaging division where one bottle had more oil and another had more vinegar.

In particular, the balsamic vinaigrette dressing was difficult to prepare on the planetary mixer as the highest speed setting, ideal for concocting the emulsion, made the batch splash and spill over the coverless bowl. The dressing would not “thicken” as much as desired. Looking for a bet-

ter way to manufacture their salad dressings, Aristides Steliaros decided to try a high-shear mixer produced by Charles Ross & Son Company.

A high-shear mixer is composed of a high-speed rotor mounted at close clearances to a fixed stator. Because it can break up agglomerates of particles, the high-shear mixer can be used for making sauces, purées and flavorings.

The Ross model HSM-100LSK high-shear mixer proved to be the most appropriate design for Greek Village's requirements. Milton and Aristides were both pleased at how quickly and easily the mixer was able to create their balsamic vinaigrette and Greek salad dressings. With a speed range of 500 to 10,000 rpm, the rotor turns within the slotted stator and draws materials from the surrounding batch. The product enters from below the rotor, is accelerated and then expelled radially, at high velocity, through the openings in the stator. With each pass through the rotor/stator, the product is subjected to mechanical and hydraulic shear that reduces droplet/particle size quickly.

The ingredients of the salad dressing are combined in a vessel, and the mixer is run at maximum speed for one and a half minutes. Though batch flow is vigorous, most of the turbulence takes place below the rotor/stator assembly. The emulsions prepared in the mixer are more homogenous, smoother and flow better. The biggest and most observable improvement is the elimination of vinegar-oil separation in the finished product.

Use of the high-shear mixer also resulted to a major recipe development—Milton's salad dressings now contain less oil. “We were able to cut down on both raw ingredient cost and calories,” says Aristides. “The Ross mixer has given us the capability to produce consistently high-quality dressings.” ❖

For more information:

Chris Ross, 631-234-0500, cross@mixers.com.



▶ Ross high-shear mixer creates improved salad dressings for Greek Village. Source: Ross.