Screen simplifies waste treatment system

Problem
Reedsburg Foods, a midsized cannery in central Wisconsin, was expanding. The existing 2-stage screening system prior to their lagoons was undersized and they hoped to replace these screens with a single, more efficient screen. A 2-stage system was originally necessary to handle the variety and volume of solids that could be seen in their waste stream. Early in the season when canning peas, the long pea vines, stems, pods and other fibrous material tended to “hang up” in this system. Later in the season when canning corn, the excessive starch build-up on this stainless steel equipment was a particular problem.

Solution
One Rotoshear® unit, Model HRS60120 x .020”, was installed to handle their current and future expected wastewater flow. Only minor modifications were needed to the existing screening area. The area is now less cluttered and the new screen is more accessible than the old system was. Their old conveyor is now used to convey the minimum 8-10 tons per day of captured waste solids into a local dairy farmer’s truck for use as cattle feed.

Results
Less clean-up time is now required in the screen area and there are fewer problems with downstream pumps and equipment. Even though spare parts for the Rotoshear® screen are kept on hand, none have been replaced during their first two process seasons.

Long, stringy, and fibrous materials easily pass through the open tub-style headbox of the Rotoshear® unit and are capably handled by its cylinder. Sprays are cycled “on” 5 minutes out of each half-hour.

The spray systems are key to preventing starch build-up problems when corn is processed. With Rotoshear® spray bars running at a reduced pressure both the inside and outside of the wedgewire cylinder are kept clean.

A cleaning agent is required only once per day during the plant’s normal sanitation shift. Reedsburg Foods is pleased with the performance of the screen and has demonstrated this with the purchase of another screen for their newest plant.
Design Data

Application: Total plant effluent, vegetable canner
Equipment: One (1) Rotoshear® screen, Model HRS60120 x .020” (0.5 mm)
Flow Rate: 1,400 GPM (318 M³/H) current 2,800 GPM (636 M³/H) future
Solids Loading: Variable