

# Machine makes hygiene products for pennies per gallon

Progressive Dairyman Editor Karen Lee

A hygiene technology that has been in use for more than 30 years in the water treatment industry, but never applied to agriculture, was introduced to the dairy industry earlier this year at World Ag Expo in Tulare, California. Zurex PharmAgra unveiled the ECAlogix System, which makes it possible for dairies to create a large amount of base disinfectant for pennies per gallon directly on the farm. According to Michael Pawlak, director of agricultural operations for Zurex PharmAgra, large-herd dairymen can produce their own products at a payback that is just phenomenal.

"One customer is now paying 30 cents per gallon for pre-dip compared to \$5 to \$6 per gallon before," Pawlak says.

After hearing these numbers at the Tulare show in February, Darin Strauss decided to implement the system on his 900-cow dairy in Sheboygan Falls, Wisconsin. Pleased with the performance, he plans to put it into practice on a second dairy of similar size in the next few weeks.

"The payback is incredible," Strauss says. "We'll have payback for the cost of the machine in 16 months from pre-dip alone."

"The cost savings is amazing," he adds, "but it has to perform on the cow."

Since using this disinfectant as a pre-dip, the dairy has maintained somatic cell counts at 70,000. His mastitis case rate is also the same at less than .5 percent of the herd in the hospital string.

"The milkers tell me they love how clean the cows' teats are," Strauss says, noting it performs just as well as competitive pre-dip products.

## How it works

Up to 300 pounds of purified salt (sodium chloride) is added to water in a brine tank. The electrochemical activation (ECA) process begins when brine from this tank moves through an electrolytic cell, generating a large amount of extremely active germicidal agent.

A single-cell system has the capacity to produce approximately 275 gallons of an 8,000-part-per-million (PPM) free-available chlorine (FAC) solution, or ECAcept Concentrate as the company calls it, per day. This concentrate solution is an oxychloride combination that has been laboratory-tested and proven to be more effective than common chlorine bleach, yet safe when applied to skin tissue.

In general, 50 pounds of salt is used for every batch of solution created. Therefore, it takes just \$5 for a bag of salt combined with well water to create 275 gallons worth of a concentrate product.

The FAC solution is diluted down to one part to nine parts water for a basic pre-dip. A pre-milking additive agent is added to the diluted solution to provide added cleaning and germ-killing capacity for pre-milking purposes.

## Multiple applications

The concentrate can be used for cleaning, sanitizing and disinfecting

just about anything on the farm. It can be applied to pre-milking and post-milking teat hygiene, hoof treatment, cleaning equipment, cleaning walls and calf hutches, CIP cleaning, laundry and water treatment.

At this time, Strauss is using it solely for pre-dip but says he is

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looking to implement it in footbaths and washing down drop hoses in the near future.

"We're still growing and learning on it," Strauss says.

He adds that using it in footbaths, laundering clothes and cleaning drop hoses does not amount to huge farm savings, but would be a nice extra benefit.

"We're not at the stage to use it as a post-dip, but that would be the next big savings to gain from it," Strauss says.

According to Pawlak, the majority of on-farm uses can be done with just the concentrate. The company does have additives available for pre-dip, post-dip and footbaths.

Another customer was able to reduce its usage of copper sulfate by more than 50 percent once it incorporated these products.

The additive puts the copper into suspension so less is wasted and the concentrate serves as an added germicidal for hoof care. Less copper sulfate is an environmental benefit, as well as an added cost savings, the manufacturers say.

#### Additional savings

Pawlak says the use of this system dramatically reduces the purchase of chemicals, chemical transportation, packaging costs and

chemical storage on-site.

If hygiene and cleaning products are delivered in a 55-gallon drum, it can cost more than \$50 for the container alone and another \$50 for transportation, neither of which add value to the end product, he says.

Prior to his position with Zurex PharmAgra, Pawlak ran the chemical division of a well-known hygiene product company and noticed a shift in the industry. He says, "With dairies getting bigger it meant a changing dynamic in how to provide them product produced on-site instead of shipping large amounts of water in a product."

As a dairyman, Strauss sees this first-hand. "Pre-dip costs keep rising and a lot of it is due to transportation," he says. By manufacturing the products on-site, he no longer has to pay for the cost of hauling a product that is primarily water.

"We save so much in transportation," Strauss says. "We receive additives from a standard shipping company. We buy the salt and add well water. Additives are put on at the end and you have pre-dip."

Another benefit from having the machine on-site is that product is manufactured as needed, eliminating the need to store a large supply of chemicals.

Pawlak says the machine itself

#### YOUR RESULTS

Would you benefit from this type of hygiene product machine? The following checklist can be used to determine if this new technology might be a fit for your operation.

1. Do you have 1,000 cows or more?
2. Are animal hygiene products used on your dairy?
3. Do you use footbaths?
4. Is bleach or another cleaning agent used regularly on your farm?
5. Would you like to save money on those products?
6. Do you want to stop paying to transport the water in sanitation products you use?
7. Are you interested in reducing stored chemicals?
8. Do you have an open space with access to water and electricity?
9. Would you like to reduce the carbon footprint and increase the sustainability of your farm?

If you answered yes to seven or more of these questions, this technology may be one for you to consider.

costs \$80,000, but he works with farmers to make it cash-flow positive right from the start.

In addition to the single-cell unit mentioned here, the company also sells a dual-cell unit that can manufacture 550 gallons of concentrate. Depending on the number of applications a farm finds for the product, the single cell

can satisfy the needs of a 1,000- to 5,000-cow dairy and the dual cell would be best suited for more than 5,000 cows. **PD**

For more information, go to [www.ecalogix.com](http://www.ecalogix.com) or [www.zurexpharmagra.com](http://www.zurexpharmagra.com) or contact Zurex PharmAgra at (608) 203-9090.

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