

# State-Of-The-Art Paint Protection System

By Jim Ruen, Contributing Editor

You can stop rust and corrosion before it starts, keep paint jobs looking new for years, and bring back the shine on older equipment, says Jim Deardorff, developer of the Farm Clean & Shine paint protection process. It's a treatment that Deardorff says costs 5¢ on the dollar compared to repainting.

"Antique farm equipment collectors are getting away from repainting and prefer to keep the original look. Farm Clean & Shine will bring back the color and protect it," says Deardorff, Superior Coatings Co. "Applied to new equipment, it waterproofs the factory coating and extends its protective life indefinitely with retreatment. Properly maintained, that factory paint job should last 100 years."

The reason paint jobs don't normally last that long is a combination of soluble salts causing corrosion and defects in virtually all paint and protective coatings. Called capillary structures, they let in the salts and moisture. These microscopic defects are produced by resin coating, solvent evaporation, or a combination of both during the coating process, explains Deardorff.

"After farm equipment is put into service, sunlight and weather conditions cause the capillary structures to expand," he says. "This increases the potential for moisture and water soluble chemicals to migrate through the coating and produce rust. The product we use fills the capillary defects. It contains silicon nanoparticles that coat the paint."

If abrasion, chemical contact, or simply years of use have caused loss of paint and rust or corrosion, Deardorff's system starts with a Picklex 20 pre-treatment.

"It is a nanocoating material that changes the molecular composition of rust and stops it in its tracks," says Deardorff. "It converts

rust into a sound, stable surface and will provide protection for up to 5 years."

Deardorff describes it as a no paint solution to excessive corrosion damage and a rust preventative. "I've had a piece of bare metal in the back of my truck for 10 years," he says. "Every 6 months I brush on the Picklex, and there is no rust yet."

The next step is to do a thorough pre-cleaning with a soluble salt detergent called Chlorrid.

"NASA and the U.S. Navy have done extensive testing on soluble salts and found that levels as low as 10 parts per million can produce irreversible corrosion damage," says Deardorff. "Soluble salt cleaners remove salts from manufactured surfaces to safe levels."

Once clean of soluble salts, a protective coating of the silicone product Permanon can be applied without special equipment or worker protection. The silicon in it is a major component of glass and is used to produce modern computer chips.

"Permanon restores the original finish and produces a surface that is smoother, easier to clean and stays clean longer," says Deardorff. "It instantly bonds with the painted surface by electrostatic attraction, seeking out damage points and refilling voids. Excess material simply rinses away, preventing build-up of coating materials or trapping dirt and grime between recoat layers."

For the best protection, Deardorff recommends another application of the Chlorrid followed by a second application of Permanon. Once treated, removing dirt and grime is easier, notes Deardorff. "The surface virtually takes on the properties of hardened glass, and dirt cannot bond to it," he adds. "In many cases, normal garden hose pressure is all that is required for cleaning."

He points out that regularly spraying off equipment is also the best way to judge when it's time to retreat with Farm Clean & Shine.



Photos show a Deere 3020 tractor and a Case self-propelled spreader that were treated with Farm Clean & Shine.



Jim Deardorff recommends applying Permaon with a spray gun like this Finex model. After treatment, water beads up as shown at right.

He explains that the size and shape of water droplets on a surface illustrates the level of water resistance of the paint.

"Water on a silicone-treated surface will bead up, forming large, well defined droplets," says Deardorff. "When they no longer bead up, it is time to retreat with the Chlorrid and Permaon."

The Farm Clean & Shine products are available from Superior Coatings and other retailers. Deardorff sells the Picklex 20 for \$179 per gal. The concentrate, when mixed with distilled water, is equivalent to 4 to 6 gal. of paint, enough to cover 2,000 sq. ft. of surface. The Chlorrid is priced at \$30 per

gal., enough to cover 1,000 to 2,000 sq. ft. The concentrated Permaon sells for \$120 for 2 quarts, sufficient to cover up to 2,500 sq. ft. when mixed into solution.

"Two quarts of Permaon is enough to treat a combine or 2 to 3 tractors at a cost of 5¢ per sq. ft.," says Deardorff. "It also comes in a smaller package for \$25, providing enough coverage for one tractor."

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## Project Pairs Rare Sheep Breeds With "Fiber Artists"

Have you ever knitted a hat with yarn spun from the wool of a Clun Forest sheep? Or woven a rug with Karakul wool? It's now easier than ever to find interesting fibers to work with, thanks to the Livestock Conservancy's "Shave 'Em to Save 'Em" (SE2SE) project, started in 2019. Besides helping hobbyists and artists find interesting wool to work with, it also benefits producers working to save rare and heritage breeds.

"We have to give them a job," says Deborah Niemann-Boehle about 22 breeds of sheep on the Livestock Conservancy's priority list. Increasing demand for their wool makes it more sustainable for producers to increase their flocks.

Fiber artists/hobbyists pay \$15 to sign up and get a "passport". Artists have access to a directory of rare breed fiber providers, and whenever they purchase raw wool, roving or yarn, they receive a stamp. After creating clothing or art from the fiber, the artist posts a photo on Facebook or Ravelry, a website for fiber artists. When they complete 5 projects using different breed fibers they earn a prize, and there are prizes for 5, 10 and 15 completed projects.

The three-year grant project recently finished its first year.

"Fifteen people already finished 15 breeds," Niemann-Boehle says, noting that 1,650 fiber artists signed up. There are more than 500 fiber providers, though many of them only have a few sheep.

The campaign has made a big difference,

says Amy Manko, owner of The Ross Farm (www.therosfarm.com), a fifth-generation Pennsylvania Century Farm on the National Register of Historic Places. She was already successfully marketing fiber products from her large flock of 150 sheep with 11 rare breeds.

"The first year of SE2SE, my online sales were up 650 percent and my live sales doubled," she says. She hands out SE2SE brochures and promotes the program at shows and events she attends. Besides posting photos on social media, many of her customers personally show her what they have made from the fleeces, roving, yarn and kits she sells.

The project also benefits small flock owners who didn't do anything with wool in the past and now have a way to market it. Part of SE2SE's goal is to teach them how to skirt (clean) fleece to meet buyer's expectations.

"I always encourage people to figure out what the cost is to produce for the basis of pricing," Manko says. "We have to be business people and know how to price and market our products."

Based on prices listed on Etsy in August 2018, Niemann-Boehle wrote a blog about price ranges.

For example, raw fleeces of heritage breed sheep typically net from \$10 to \$25/lb. Washed fleeces can be worth \$35 to \$64/lb. Roving averages \$27 to \$64/lb. Yarn averaging \$80.32/lb. reflects how prices increase with more processing. Rare and top

quality fibers earn even more.

"All wools are different and special in their own way, and we want fiber artists to know they are out there," says Niemann-Boehle, coordinator of SE2SE. Besides clothing, some are ideal for rugs, tapestry and felting.

"One of the big surprises is artists are finding wool that they think is as good as Merino, which has been commonly available," she says. "Clun Forest, for example is on the endangered list and is very popular because it is really soft for hats and scarves."

Crafters also appreciate having a selection of naturally-colored wool — which in the past producers often discarded because they were told it was worthless.

Breeds on SE2SE's list include: Florida Cracker, Gulf Coast, Hog Island, Santa Cruz, Black Welsh Mountain, Clun Forest, Cotswold, Dorset Horn, Jacob-American, Karakul-American, Leicester Longwool, Lincoln, Navajo-Churro, Romeldale/CVM, Barbados Blackbelly, Oxford, Shropshire, St. Croix, Tunis, Wiltshire Horn, Shetland and Southdown.

U.S. producers who own those breeds and are interested, can sign up to be part of SE2SE for a \$10 fee. Conservancy members are enrolled automatically with their \$45 annual membership fee.

"The grant for the program is for 3 years (through December 2021), but we are hoping to get another grant to keep it going or to make it self-sustaining," Niemann-Boehle



A new Livestock Conservancy project helps hobbyists and artists find interesting wool to work with, and also benefits producers working to save rare and heritage breeds.

says.

For more information, contact her or check out the Livestock Conservancy's rare wool website.

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