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New plastic liners refine ditch flow

By DAN CRUMMETT

TWO studies from New Mexico State University recently showed ways for irrigators operating out of aging ditches and canals to boost their water flow and cut losses to seepage.

Using thermoformed corrugated plastic ditch liners, the researchers relined an 8-mile decayed section of the Sandoval Ditch near Acoma, N.M., which feeds a 48-mile canal system. The results included a boost in water flow of 35% to more than 90% of potential.

The plastic liner being tested, produced by SmartDitch, was on display at the recent Irrigation Association annual International Conference and Trade Show in Phoenix, Ariz., where a 72-inch version of the relatively new product was introduced.

Cutting seepage

On-site tests showed the relined portion of the Sandoval Ditch was retaining 97% of flowing water, while laboratory experiments showed the product allows less than ½ ounce of water seepage loss in any given section of the liner.

"To calculate the average leakage rate, the liner was filled halfway with water inside the laboratory, and seepage was measured over a two-hour period," explains Zohrab Samani, NMSU researcher. "At the installation site, a flow calibration meter was used to determine the seepage. Both tests concluded near-zero leakage rates."

Tim Williams, vice president of Penda Corp., the maker of the new product, says the improvement translates into 170 million gallons of water saved down the system. Much of the concrete-lined system has broken apart over the years and in some areas, the ditch was losing 65% of water flowing through it to seepage.

Crummett is a Farm Progress executive editor.



FLOW IMPROVEMENT: SmartDitch plastic liners recover lost efficiency from broken and decaying concrete ditches and canals.