

Property Management

Colorado lab helps probe synergies in irrigation technology

By GARY HODGSON

NO matter how much water is available to eastern Colorado these days, there is never enough. Farmers need supplemental irrigation from the region's rivers and aquifers. Sprawling Front Range cities have their eyes on it, too.

"Water conservation and utilization are critical issues agriculture must deal with," says Charles Corey, execu-

tive director of the Irrigation Research Foundation in Yuma, Colo. More than 300 tests conducted on the foundation's 145 acres bring technology and crops together with those goals in mind.

Corey and his staff carefully plot field layout to ensure every test is uncompromised by adjacent trials. Joining Corey in one trial is David Lankford, general manager of earthtec solutions, based in Vineland, N.J. Lankford supervised the installation of the company's AviroGuard Software. The system uses soil probes to measure and transmit data to recording devices, which, in turn, can relay it to a computer or cell phone.

"This basic concept goes back to World War II technology," Lankford says. "Using the technology of our probes and the incredible amount of data they gather is only part of this system. Because of the volume of information gathered, we can now use it to identify crop needs and tendencies. What we are learning about crop needs is staggering and startling."

Lankford claims that producers can sometimes double their yields with half the water. "We are gathering data about effective root depths, optimum moisture penetration for utilization and moisture retention," he adds.

They said it

"When the evidence is all gathered, people may find what they have been taught could be wrong."

David Lankford, earthtec solutions, Vineland, N.J.



"We have always felt if farmers used organic fertilizer they would not only conserve water but save up to 60% to 70% of fertilizer lost to leaching."

Farrel Crowder, Humalfa Organic Fertilizer Co., Liff, Colo.



PHOTOS BY SUE HODGSON

IRRIGATION TRIALS: IRF Executive Director Charles Corey explains an earthtec test plot on the farm map in the IRF conference room.

Farrel Crowder, one of four owners and Colorado manager of Humalfa, observes progress of the organic fertilizer company's research plots at IRF. His company conducts composting operations at a dozen or more large feedlots throughout eastern Colorado and adjoining states. Humalfa's goal is to bring modern technologies to a product as old as agriculture itself: barnyard manure.

"Compost use can result in a reduction in fertilizer use and reduce energy costs," says Corey.

Crowder notes that "humus holds four times its weight in water. Most fertilizer is water soluble. Our organic fertilizer not only increases water retention, it has all the 13 essential nutrients a plant needs including nearly impossible-to-add micronutrients."

IRF farm show

THE Irrigation Research Foundation will host its annual farm show at the Yuma, Colo., facility on Aug. 18-19. See irf-info.com/archives/364.

For every 1% of organic material found in the top 12 inches of soil, water holding capacity is increased by 16,500 gallons per acre," he says.

Crowder and Lankford are probing how to combine their respective technologies in IRF test plots.

Corey introduced two technologies to one another to further the quest for adequate water in eastern Colorado.

Hodgson writes from Brush, Colo.

Climate change factor in NEPA regulations raises concerns among Western producers

WESTERN members of Congress have introduced legislation that would prevent the National Environmental Policy Act from being used as a vehicle to advance climate regulations.

This legislative measure comes after the White House Council on Environmental Quality, or CEQ, in February issued draft guidance that would require federal agencies to consider greenhouse gas emissions and climate change when carrying out NEPA reviews. The new NEPA rulemaking is just one of many federal administrative processes under way that could carry the risk of real potential harm for Western irrigators.

In addition to developing draft guidance on the consideration of greenhouse gases, CEQ claims that it wants to clarify the appropriateness of "Findings of No Significant Impact," or FONSI, and specifying when there is a need to monitor environmental mitigation commitments. CEQ has also attempted to clarify the use of a categorical exemption, or CE.

Many in the regulated community believe the NEPA effort is driven by a small



WATER LINES

By DAN KEPPEM

but influential group of extreme environmentalists, who want to slow down or stop major projects solely on claims that they may accelerate global warming or climate change.

Categorical exclusion

A "categorical exclusion" describes a category of actions that do not typically result in individual or cumulative significant environmental effects or impacts. When appropriately established and applied, CEs serve a beneficial purpose. They allow federal agencies to expedite the environmental review process for proposals that typically do not require more resource-intensive environmental documentation.

Applying for a new CE, for example, can potentially ease the Federal Energy Regulatory Commission permitting re-

quirements for irrigators who want to install small hydroelectric projects in existing canals and ditches. These projects have minimal environmental impacts and offer more than 50,000 opportunities to create new, clean, renewable sources of U.S. energy.

Vital tools

The use of a CE and FONSI is an important tool in operating and maintaining federal water projects in the West. Western water managers often use these time-tested NEPA mechanisms in conjunction with annual operations and maintenance activities on ditches or major rehabilitation and repair projects on existing dams.

Unfortunately, there are activist groups who use NEPA to delay and/or block efforts of some Western water users to perform the most routine (yet essential) actions.

CEQ's new rules appear to place more emphasis on monitoring and reporting requirements for NEPA-excluded activities and "front-loaded" environmental mitigation where FONSI's or exclusions

have traditionally been used.

As written, the draft White House directives would definitely impact Western agricultural water users by adding costs and uncertainty to traditionally less-expensive NEPA activities and analyses.

Draft rules can be tedious

These proposed FONSI and CE draft rules obviously did not get the same level of political and media attention generated by the greenhouse gas rules. And — admittedly — I understand that these rules are so boring and bureaucratic in nature that you might want to easily dismiss them. However, I strongly recommend that you and other Western producers keep an eye on them as they are finalized.

If unchecked, they could generate additional risks to long-term efforts to provide reliable water supplies to your operations.

Keppen is executive director of the Family Farm Alliance, a west-wide coalition of farmers, ranchers, irrigation districts and allied industries that advocates for reliable and affordable irrigation.