

Farmer goes underground with drip irrigation system

By HEATHER SMITH THOMAS
For the Capital Press

Water is the lifeblood of agriculture in the arid West. Some crops require more water than others, and when water supplies are short it takes innovation to provide adequate moisture.

Kirk Vickery grows a variety of crops in a rotation system on his farm on the Emmett Bench in western Idaho. He has farmed in that area all his life, having grown up on a farm nearby. He currently grows mint, corn and alfalfa, and flood irrigation was inadequate for some of these crops during the hotter, drier months.

“The Emmett Irrigation District where we get our water is a continuous flow system and we are only allotted a certain amount, like three-quarters of an inch to 1 inch per acre, and it is strictly regulated,” he says.

This was one of the main reasons he decided to change to drip irrigation, to conserve water and make sure he had enough for his crops. This was a way to make the water go farther and use it more efficiently.

“Mint takes a lot of water in June and July, and that’s when corn and alfalfa need a lot of water also. We didn’t have enough water to grow the crops we wanted,” he explains.

Most of the time he had to rotate one-third of his acres to something like wheat that doesn’t take as much water during June and July. In 2013 he changed to the drip system on some of his fields so he could grow more mint.

“Onion growers have been using drip irrigation for several years, but there were only a few people using it for crops like mint. I looked at their systems to see what they had



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Kirk Vickery explains a pump station he has installed during a tour of his farm.

done,” Vickery said.

Clearwater Supply in Ontario, Ore., sold him the materials and helped with the design.

“My family and I installed it. The pumping station includes a sand media filter that cleans the water. It’s a pressurized system, but drip irrigation runs at only about 10 to 12 pounds of pressure, compared to a sprinkler system that could be anywhere from 30 to 60 pounds,” he said.

The drip system requires a much smaller pump with less horsepower and less volume, because less water is needed.

“You don’t have any evaporation loss. Our allotted water comes into this permanent drip line that we buried 8 inches. We can still do crop rotation, planting the new crop right over the drip lines,” he explains.

He has planted several different crops since he installed the permanent system. The buried line percolates water into the root zone of the plants — where it’s needed.

“The water moves up

through the soil as well as down and laterally. Most of the roots are down there, where the water is,” he said.

This is efficient, but also presents some challenges, such as germination of the crop since there is no water at the surface.

“You have to plant perennial crops or an annual crop in the spring when you have nature’s help with more ground moisture,” he says. “The other option, which we’ve done with mint, is to give it some temporary help with a sprinkler for a short time until it takes root, just to get it started.”

After the crop is established, drip irrigation works well. He has used it on mint, corn, triticale, sorghum, sudan and alfalfa. With newer tillage methods a person seldom has to disrupt the underground lines.

If anything goes wrong underground, however, you have to find and repair the problem. Not as much can go wrong with it compared to an over-ground system, except gophers.



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