

Ag Opportunities

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Major Factors for Horticulture Irrigation are Water and Time

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There are a number of things to consider when making decisions on irrigating horticulture crops, but the most important is determining water needs based on the mature crops, says Bob Schultheis, a University of Missouri Extension natural resource engineering specialist in Webster County.

"It's not what water they require when they're little but what they will require when they're big," Schultheis said. "A lot of people are growing gardens or perhaps a small orchard, and an irrigation system must be planned understanding the water needs of fully mature plants."

Limiting factors are the size of the water supply and time available each day to irrigate. If your water supply is limited, drip irrigation is an effective alternative to irrigating with sprinklers, Schultheis said.

"Drip irrigation is one way that provides a more efficient way of using limited amounts of water and also precisely putting it where the plants need it," he said. "That can cut down the amount of weeds, reduce runoff and in many cases we can fertilize through the system as well. So you can continue to work in the field while the irrigation system is running."

If you're thinking of using a private house well with a submersible pump for irrigation, you may need to make some modifications to the well.

"When they add that extra load to the system by irrigating, it will probably require them to increase the size of the pressure tank on their house," Schultheis said. "Otherwise, the submersible pump will cycle on and off too often, and that will burn out the pump."

It's also important that the pipes out to the field are the right size for the job. The larger the pipe, the less pressure loss in the system. "If you are going out hundreds of feet, it is pretty important to have a large pipe," Schultheis said. "You want to make sure that pipe doesn't have more than about one pound of pressure loss for every 100 feet of pipe."

You also need to take elevation into account. A pound of pressure is lost for every 2.3 feet increase in elevation. "That elevation difference will impact what size pump you need and how far you can push the water," he said.

Schultheis notes there has been a lot of interest in putting rain barrels at the corners of houses to capture roof water for irrigation, but there are some drawbacks to that. First, as the 2012 drought taught us, there's no guarantee you'll get enough rain. Second, if it does rain, an

ordinary barrel won't be enough.

"It takes 27,154 gallons to put an inch of water on one acre, and most plants require 1-1.5 inches of water per week," Schultheis said. "A 55-gallon rain barrel at the corner of the house is not going to provide the capacity to do that."

Schultheis says an inch of rain on a 1,500-square-foot roof will provide nearly 1,000 gallons of water. You definitely want to capture that water, he said, but you need a container big enough to hold it all.

For more information about irrigation, go to extension.missouri.edu/webster/irrigation.

NOTE: Unless we get more rain this winter, expect the growing season of 2013 to have issues with water and irrigation. So start looking and planning now on how you are going to water your livestock and crops.

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