

Renewable Energy in Agriculture

By Beth Crandall

Renewable energy is becoming more popular as a means to decrease costs and increase productiveness on agriculture operations.

Ranchers in Wyoming have created a new way to heat stock tanks and prevent the unpopular freezing of these tanks throughout the winter. No one enjoys breaking ice or spending thousands of dollars to heat tanks using conventional methods, such as propane or electricity. Geothermal heat has been used to heat greenhouses and other small buildings. A Wyoming ranching family used the idea of geothermal heat to create stock tanks. This method uses the natural heat produced from the earth to heat the water. Water is buried in a culvert approximately 10 feet below ground where the temperature is around 52 degrees, this warm water circulates to the top of the tank, warming the surface water enough to prevent it from freezing. These can be installed as a Do-It-Yourself project with the correct supplies and a backhoe. They work great with both electric or solar-powered wells.

The cost of irrigating pastures and croplands is continually on the rise. Drought and high energy bills are decreasing farmer profits, which spiked the interest in developing a more economical way to irrigate. Farmers in Oregon are using renewable energy and creating pressurized irrigation systems. They are constructing hydropower stations which are not only an efficient way to irrigate crops, but also provide electricity to power homes in the area. Farmers who have used this method of irrigating are finding that they have more productive crops that fare through drought conditions more effectively. This is also found to improve wildlife habitat.

Solar-power is becoming increasingly popular in residential and commercial areas, but what about on agriculture operations? Solar-powered wells and pumps are becoming more popular across the West. Solar-powered wells are allowing for wells to be dug deeper and are a cheaper option in the long run. Some ranchers are putting the solar panels on small trailers, making them mobile and more useful throughout their ranch. This solar-powered option is especially beneficial for farmers and ranchers who experience frequent droughts and primarily depend on wells for water. Solar panels can also be used to power electric fences and assists in rotational grazing.

Technology is the future of agriculture, it is what we as farmers and ranchers are going to depend on to keep our operations running and still make a profit. There is a lot that goes into creating and implementing renewable energy plans for agricultural operations. States such as Colorado and Oregon are a leading example of how this is best accomplished. While each state's renewable programs will vary, there are a few ways that these states have made it work. They offer incentives to agricultural producers to use renewable energy programs. These states also have a wide variety of resources available to educate producers about their options. I don't know when Utah will start implementing renewable energy programs on a large scale, but it is in our future.

Taken from Western Farmer Stockman Renewable Energy Series.