



It started with a farm plan

Matthew Rhodes, Cranberry Grower | Edgewood Bogs | Carver, Massachusetts

When Matt Rhodes purchased Edgewood Bogs in 2005, fruit prices were down. He knew that meant the time was ripe to renovate his bogs. By planting hybrid varieties and restructuring the bogs into shapes that are more efficient to manage, Rhodes could increase production, while conserving important natural resources.

He got in touch with the USDA Natural Resources Conservation Service (NRCS) office in West Wareham, Massachusetts and the Plymouth County Conservation District (PCCD) for help.

“Since we farm in a wetland environment, we’re always trying to conserve whether it’s water or the surrounding environment.”

“It started with a farm plan, just an overall picture of what we had here, where we could expand, what would be the best way to add on to the bogs,” explains Rhodes. “Because the pricing was still low on fruit we didn’t have a whole lot of money but we used the program funding to start to renovate the bogs.”

Rhodes received technical and financial assistance from NRCS through the Environmental Quality Incentives Program (EQIP). EQIP is a voluntary program that helps agricultural producers and forest land owners to improve and protect soil, water, air, plants and wildlife habitat.

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PCCD’s farm planners helped Rhodes develop a comprehensive, customized farm plan that defined his land use and suggested best management practices for his property in a simple, easy to understand manner.

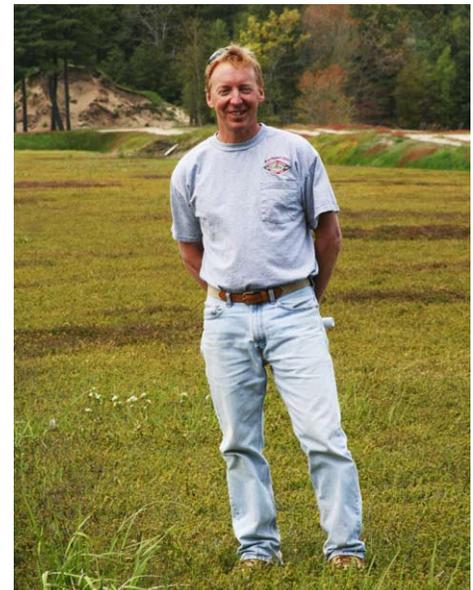
“We did everything from state-of-the-art spacing on the sprinkler heads and pop-up sprinklers, to automation, new pumps and tailwater recovery. We had one of the first farm plans for tailwater recovery in the state.”

Tailwater recovery is the capture and reuse of irrigation water.

“Since we farm in a wetland environment, we’re always trying to conserve, whether it’s water or the surrounding environment,” says Rhodes. “Through NRCS, the Cape Cod Cranberry Growers Association and UMass Extension, growers have been educated about natural resources and how to make improvements.”

The cranberry is a Native American wetland fruit that grows on trailing vines like a strawberry. The vines thrive on the special combination of soils and water properties found in wetlands. Cranberries grow in beds layered with sand, peat and gravel. These beds, commonly known as bogs or marshes, were originally formed as a result of glacial deposits.

Cranberries can be either dry harvested or wet harvested. Dry harvesting uses walk-behind machines to comb the berries off the vines into burlap bags. Berries are then removed from the bogs by either bog vehicles or helicopters. Dry harvested cranberries are used to supply the fresh fruit market. These cranberries are most often used for cooking and baking.



Matt Rhodes has increased production while conserving natural resources by making management of his Carver, Mass. cranberry bogs more efficient.

In wet harvesting, the bogs are flooded. Cranberries have pockets of air inside so they float. Water reels are used to stir up the water in the bogs, dislodging the fruit from the vine. Wooden or plastic “booms” are used to round up the berries, which are then lifted by conveyor or pumped into a truck to take them to the receiving station for cleaning. More than 90 percent of the crop is wet harvested. Wet harvested cranberries are used for juices, sauces, sweetened dried cranberries, or as an ingredient in other processed foods.

“The more uniform the bogs are, the easier it is to get a good application pattern down,” says Rhodes. “The sprinklers are laid out more evenly. When we go to harvest, the picking machines are only going straight up and down; there’s no extra cornering.”



More uniform bogs make ground applications and harvesting more efficient because cornering with equipment is easier.

“Cornering is one of the hardest things to do, whether you’re making ground applications or harvesting or applying fertilizer with a helicopter. So the longer and straighter the bogs are, the quicker and more efficient everything is.”

“We do a lot of dry harvest and it’s especially hard to make corners with a dry harvester, so once the machines are going straight, they just stay straight for a long time,” says Rhodes who farms more than 400 acres in Rochester, Plymouth, Carver, Hanson and Wareham.

Because NRCS funds automation equipment, water can be conserved on frost nights, when sprinklers are run to warm the bogs up. The system can be programmed to shut itself on and off instead of growers just turning the pump on at night when it’s cold then waiting until the next morning to shut it off.

With the help of NRCS, Rhodes also built a bypass canal around his entire property. The canal ties in to a pumping station that pumps the water a half mile back up underground through a pipe system that is completely enclosed now. All the water used by the operation is recirculated.

Rhodes’s bogs are all laser-leveled to minimize water usage. Less water is required to flood a bog during harvest and since they’re built with a one foot

differential, once one bog is flooded, the same water can be applied to the next bog and continue down the line, creating efficiencies.

“Although we have a large reservoir that we can draw for harvest, during the season we typically just keep recirculating the water, using it over and over again,” says Rhodes.

Southeastern Massachusetts is the heart of the Bay State’s cranberry growing region. Urbanization is probably one of the top challenges in this coastal area just south of Boston. Summer cottages have become year-round residences for Boston commuters.

“We work very hard at neighbor issues. We notify every single neighbor on everything we do. We set up a phone tree to notify neighbors when we were fertilize or spray,” explains Rhodes. “It’s so densely populated, there’s no way to prevent people from walking the property. So we continue to notify people so they feel better about what we’re doing.”

“We want to protect the water. It’s the biggest key resource,” says Rhodes. “You have to protect the quality and volume of the water that’s necessary to grow cranberries. Since this area is developed, there’s competition for water because everyone uses it.”

Sand resources are also important to cranberry growers. Cranberry operations require a lot of sand to rebuild existing bogs and plant new bogs.

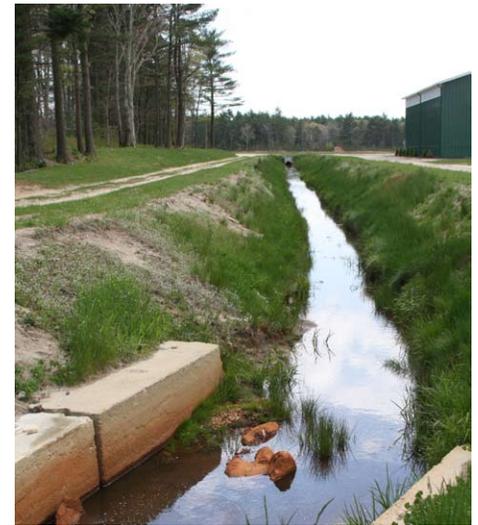
Massachusetts cranberry growers also flood their bogs in the winter to protect the cranberry vines from the frigid temperatures and drying winds. The cold temperatures turn the floodwater into ice, allowing cranberry growers to access their bogs with equipment to spread sand, which stimulates vine growth.

Rhodes points out that sand is very expensive. Since it’s used for septic systems and by asphalt plants, development drives the cost of sand up. Once a grower runs out of sand, he or she has to buy a parcel of land with sand on it or buy from someone who processes sand. Trucking in sand is extremely expensive.

“Open space is important to the public and to us,” says Rhodes. “We support a lot of open space. For every acre of cranberry bog, at least three acres of support land are maintained.”

Rhodes can’t say enough about the technical advice he gets from NRCS. “That’s part of our farm plan and you can’t put a price tag on it. It’s huge to know that I can pick up the phone and call NRCS. It’s a great resource.”

“The West Wareham [Field Office] staff have been very helpful, very supportive and provided a lot of guidance. I feel like I can go there and ask questions and they’re going to tell me straight up. If they don’t know the answer, they get the answer. I’d say I’m in touch with the NRCS office at least twice a week. It’s always been a good experience.”



The by-pass canal built with NRCS assistance routes water around Rhodes’ entire property. All the water used is recirculated.



soil



water



animals



plants



air