

Excerpts from.....

Farm Conservation Plan Outlining the Implementation of Best Management Practices for Cranberries Production

A Product of Plymouth County Conservation District and the USDA NRCS Wareham Field Office

NATURAL RESOURCES OVERVIEW

SOIL:

The cranberry bog soils vary within the Berryland soil types from deep organic soils to shallow coarse sandy soils. Surrounding the bog system is moderately well drained to poorly drained sandy loam and organic soils. As well, several wetland areas are adjacent to or in close proximity of the bog system.

WATER:

The water used to irrigate, chemigate and flood comes from Muddy Pond. The Pond is approximately 66 acres. There are two bogs on this property that make use of this water. There is currently no tailwater recovery system in place.

AIR:

No known air quality concerns.

PLANTS:

Cranberries are the sole crop currently produced on the property.

ANIMALS:

Owner has witnessed various types of wildlife on the property. Animals seen are deer, skunk, raccoon, and muskrat. There are also various birds seen around the property including a large variety of water birds as the property abuts Muddy Pond on the south side.

WATER MANAGEMENT

General Information

A water management system is a planned water delivery system, which when broken down into various components, will uniformly distribute water to maintain; adequate soil moisture for optimum plant growth, and provide adequate floodwater for cranberry culture without causing excessive water loss, erosion or reduced water capacity.

Water management includes the management of the water supply for irrigation, harvest, winter flood, and late holding water. As a general rule, each acre of cranberries will use five to ten feet of water to meet all production, harvesting and flooding needs. There are two main ways to distribute water onto the bogs –through sprinkler systems and through flooding.

SPRINKLER SYSTEMS

Sprinkler irrigation supplements soil moisture, protects the buds from spring frosts and the berries from fall frosts and cools the plants during intense summer heat. There are two vital operations performed by sprinklers on cranberry bogs –Irrigation and Frost Protection.

Irrigation

During the growing season cranberries can require 0.20-0.25 inches of water per acre per day during the hottest, driest and windiest weather. The standard recommendation is for vines to receive an inch of water per week from either rain, capillary action from groundwater, irrigation or some combination of these. Best Management Practices recommend irrigating in the early morning, so as not to extend the time the plants are naturally wet. This practice also minimizes loss from evaporation, run-off and drift, which can amount to 30 percent of water that comes out of the nozzle.

Frost protection

Frost protection applies water to prevent damage to buds and berries when they are sensitive to temperatures below Freezing. During the spring and in the fall, during cold periods, frost protection is a necessity. It is necessary to apply at least 0.10 inch of water per acre per hour to provide basic frost protection. This will protect the plants to about 24 degrees F under calm conditions.

FLOODING

Flooding is so important in cranberry cultivation that, bogs, where flooding is not possible, cranberries are no longer considered profitable. Flooding is a management tool to protect the plants from the cold, drying winds of winter, to harvest and remove fallen leaves and to control pests.

Winter flood

Cranberry vines may be injured or killed by severe winter weather. Protecting the vines with a winter flood prevents this injury, winter kill. The winter flood may be applied as early as December 1 and remains on the bog as long as winter kill conditions are present or forecasted. Generally, growers hold the flood no later than March 15.

Late water

Late water floods have been used since the 1940's and have been used to protect the bog from spring frost and to provide some pest control. In modern cranberry production, holding late water refers to the practice of withdrawing the winter flood in March then re-flooding the bog in later April for one month.

Harvest flood

Approximately 90 percent of the crop are harvested this way. Flood harvesting occurs after the berries are well colored and the floodwaters have lost their summer heat. The bogs are flooded with up to one foot of water. In order to conserve water, harvest will be managed so water is reused to harvest as many sections of bog as possible before water is released from the system.