Final Project Report
FNE98-198
June 1, 2000

An Alternative to Flooding for the Winter Protection of Cranberries.

For the second winter in a row it has been my goal to find out if cranberry vines covered with snow during the cold and windy parts of a Maine winter will fair as well as, if not better than, vines covered with water (and eventually ice). As I did last year, I used snow instead of 'liquid' water to cover the cranberry vines during this past Maine winter. This past winter I examined the results of three snow-covered plots verses three water/ice-covered plots. I looked at bud viability, temperature (air, ice and snow) and vine/leaf winter injury.

I used the same plots and methods in covering them that I did last year. I had three snow covered plots, three water covered plots and two plots that were left alone i.e. controlled by 'mother nature'. As last year, each plot measured six feet by six feet. Due to the warm weather in November 1999 and the first half of December 1999 the ice on the frozen plot only measured half an inch to an inch on a daily basis. Thus the water would freeze over during the night, yet melt during the day. The man-made snow that was covering the snow plots was difficult to maintain as a blanket of snow over the plots due to the warm weather.

Carleton Hoffses, hired labor, set-up the plots, collected data and maintained snow and water levels. Bert D. Look, hired labor, ran the snow maker and helped maintain snow and water levels. These are the same two men that worked on this project last year.

Since the plots were already measured out from last year, Carleton Hoffses and Bert D. Look on November 2, 1999 replaced the old flags with new flags. They also remeasured the eight plots to verify that they were six by six feet. On November 15, 1999 the bog was flooded. Man-made snow was placed over the three snow covered plots. On a daily basis Carleton and Bert D. maintained a snow depth of two to three inches on the snow-covered plots. It was difficult to maintain a consistent depth due to the warm air temperature. Because of the warm temperature in November, first part of

December and the first part of January 2000 I had to reapply man-made snow more often than I did last year. Again due to the warm weather between five and twelve vines poked through the water/ice covered plots and were exposed to the air for about two weeks in the middle part of December. During the months of January, February and March 2000 I continued to make man-made snow to cover the snow covered plots. This was labor intensive, time consuming and expensive.

Charles Armstrong will be sending in his report of the Cranberry Bud Health Assessment that he will do on the experimental plots to the Northeast Region SARE office. As what happen last year, this winter was again a mild one. Warmer temperatures and below normal snowfall resulted in me having to once again make more man-made snow. I feel that there will be more damage to the buds this year due to the heavy cold winds that were common through out this past winter. There was a lot more heavy cold wind this winter than last year. Thus the buds that were on the 'mother nature' plots should show more bud damage due to the heavy cold wind.

but they didn't not much anyway

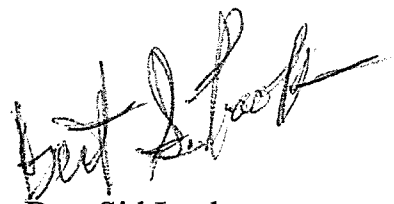
I spent more time and money on the cranberry bog test plots this past winter putting on man-made snow than I thought I would need to when I flooded the bog last November. Having a warm Maine winter causes the man-made snow to break down and loses its ability as a practical covering. I still feel that using snow, as a covering during the winter months when water isn't available still might be an alternative for cranberry farmers in Maine.

At this time there has been is a sufficient amount of rainfall this past spring that has increased the water supply to help flood my bogs. I feel that this sufficient amount of water will lead me to consider to only using water to cover my bog come this fall. The expense and man-hours it took to cover the test plots with man-made snow makes using man-made snow too costly. Yet, if there was a sufficient amount of snowfall and a lack of water to cover my bog I feel confidant in covering my bog with snow as a protective covering.

During the past year I have been in contact with other cranberry growers in my area. I've spoken to fellow growers at the Downeast Cranberry Growers Association. I have shared with them the results of last year's experiment. I explained to them that due to the lack of rainfall and the warm air

temperatures that Maine experienced last winter that the results of the snow covered test plots weren't as good as I had expected. An article written by Charles Armstrong appeared last fall 1999 in *Cranberries* magazine that explained and reviewed the results of using snow as apposed to water when it came to covering a cranberry bog over the winter.

I am enclosing with this report a copy of the climatological observations that were done by the University of Maine's Experimental Blueberry Farm, which is located eight miles from my test plot. Charles Armstrong will send a copy of the article he wrote for *Cranberries* magazine along with his bud sample report.



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June 1, 2000