# Statement of Objectives

Objectives for this project include:

Since 1949, UMass Cranberry Station has been providing MA growers with a keeping quality forecast (KQF). Preliminary KQF issued in early April to guide growers with “late water” decision and final KQF issued in early June to alert growers of unfavorable weather parameters that could affect fruit quality negatively. KQF is a point system. In the years/cropping seasons, final KQF is “Very Poor” (0-2 out of 16 possible points) to “Poor” (3-4 out of 16 possible points), conventional growers' resort to higher than usual number of fungicides to produce marketable produce. In the years with “Good to Excellent” (>7 out of 16 possible points) KQF the growers could use less fungicides. From 2001 to 2021, 10 out of the 20 years had “Poor” to “Very poor” keeping quality, which is indicative of changing climate patterns. The current project will focus on the following objectives

1) Compare the “predicted outcome” with the “actual outcome” of KQF by analyzing the historical data from over 30 grower bogs.

2) Study the relevance of KQF (or individual parameters of the KQF) for current cranberry cultivation.

# Planned Activities

To meet the objectives, Evan plans to:

* Conduct a literature review.
* Work with historical weather, cranberry keeping quality forecasts and bog data (yield and fruit quality) to import it into R and perform statistical analyses.

# Criteria for Evaluation

At the end of the semester, Evan will

* Create a report of major findings, which will include a brief background section, a summary of methods, and a description of the results.
* Evan will create a brief PowerPoint to be presented to Mike Nelson, Leela Uppala, and other interested cranberry bog personnel.
* Evan will create reproducible analysis code using R.

# Additional Comments