HOBO® by Onset®

Use Case:
Frost Protection

Problem:

Concerned about temperature variations that could lead to damaging frost conditions at his farm, a grower contacted Onset looking for a cost-effective solution that could monitor multiple points across his property at the same time. Frost is a major contributor to crop loss annually, and traditional efforts to monitor and mitigate the impacts are typically time-consuming and costly.

The grower had noticed what seemed to be distinct temperature variations at his farm's three cranberry bogs – especially in early spring, when cranberry buds are vulnerable to low temperatures, and in late fall, when colder temperatures return, around the time the berries are harvested. As a result, he was seeking a monitoring system that would alert him to critical conditions at multiple points across the growing area, so he could irrigate the particular bog or bogs that needed to be protected from frost, precisely when needed – and, in order to save on water costs, irrigate only when necessary.

Solution:

Onset's advanced wireless mesh network, the HOBOnet Field Monitoring system, connected to a cellular HOBO RX station, provided the solution the grower was seeking. The wireless HOBOnet sensors can communicate up to 1,500 feet between "hops," which enabled the grower to extend the monitoring network to his farthest bog, and around terrain features.

The HOBO RX cellular station automatically transmits temperature and weather data from across the entire growing area to Onset's HOBOlink cloud platform. With regular data updates, the grower can now monitor conditions from the comfort of his home. He also has the additional assurance of receiving automatic text and email alerts from the system if an alarm condition is reached (based on his settings), so he can respond immediately.

Read results on reverse

Results:

Since installing the HOBOnet system, the grower has verified that temperature variations across his farm do in fact occur; just one of his bogs can be subjected to the threat of frost, while at the same time the others are not. He confirmed that temperatures generally do run colder at his most distant bog, where in the past he had lost 50 barrels of cranberries to frost. He is now confident that such losses will not occur again in the future, as he relies on the HOBOnet system's automatic email/text notifications to alert him when conditions reach user-set thresholds. And he enjoys the added cost savings of reduced water usage at his farm, now that he irrigates to protect the berries from frost only when and where required.

> *HOBOnet is a flawless bog-wide wireless monitoring system that encompasses dew points, relative humidity, wind speed and direction, soil moisture, and temperature of the cranberry vines – all done remotely from my phone. And after three years, it remains bulletproof in the salt air.*
>
> *– Pete H., cranberry farmer*

Products Used

Product	How it was used
HOBO RX3000 Station	To monitor general weather parameters, including temp/RH, barometric pressure, rainfall, light, wind
HOBOnet temp/RH and soil moisture sensors	To monitor temp/RH at bogs and calculate dew points, and monitor soil moisture
HOBOnet wind speed & direction sensor	To monitor wind at the coldest area of bog to better predict potential frost formation

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