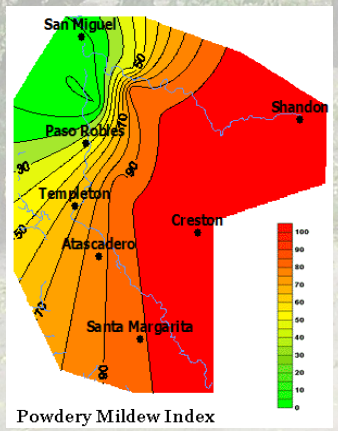
Weather Monitoring

Weather Data Collection

Having good weather data is critical to making excellent decisions which maximize the yield potential of your crops. Weather conditions change frequently across the landscape. Site-specific weather monitoring will provide the most reliable data for determining the influence of climatic conditions on your farm. Crop Production Services, in cooperation with Precision Agri-Lab, can provide the tools necessary to obtain good weather data.

Using a combination of short range radios and professional weather sensors from Adcon Telemetry, Inc., you can have site-specific weather data transmitted every 15 minutes, and available to you on the Internet with the click of a mouse. A few of the parameters that can be monitored include:

- Temperature
- Relative Humidity
- Precipitation
- Wind Speed and Direction
- Solar Radiation
- Leaf Wetness



Notification/Weather Alerts

Receive a text message or landline phone call alerting you to a weather event critical to your operation. Whether it is a potentially devastating frost event, or a high heat stress event, you can set the threshold at which you will be notified.

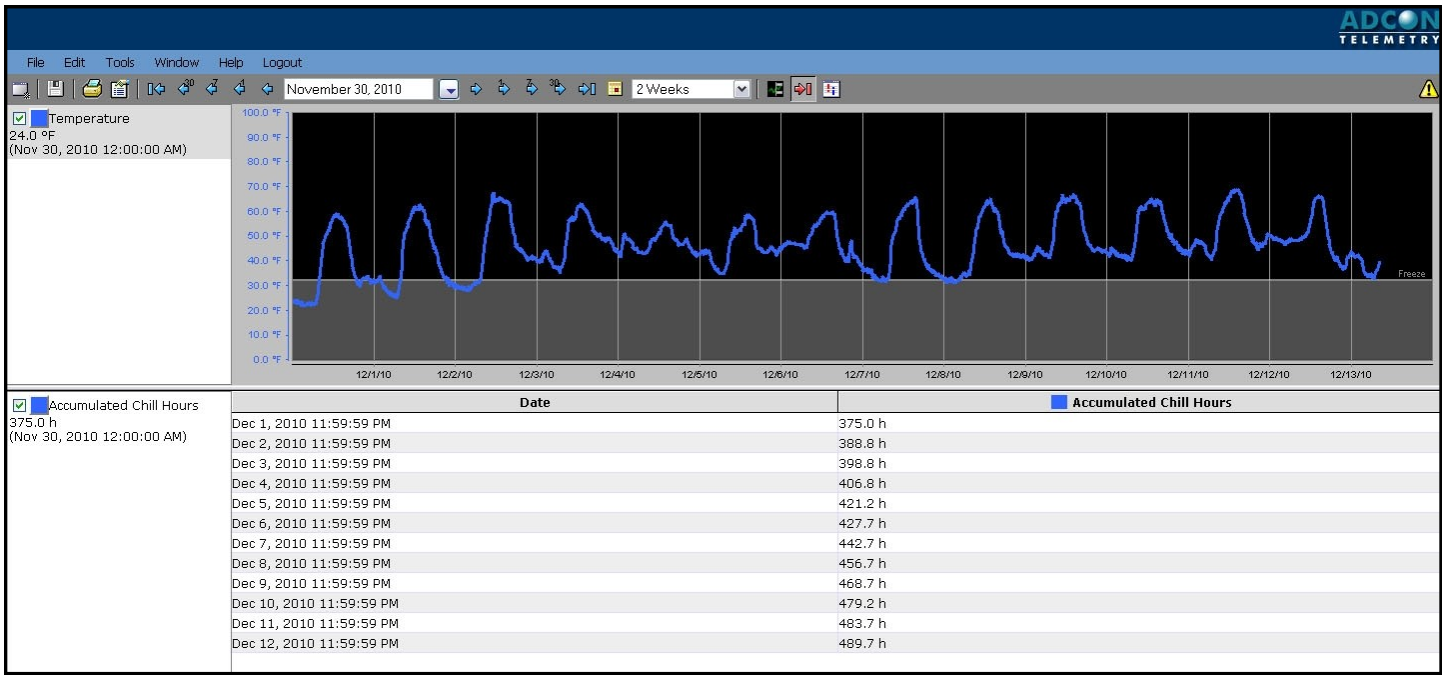
Disease Models

You already know that plant disease requires a favorable host, presence of a pathogen, and environmental conditions suitable to development of the disease. Monitoring environmental conditions allows you to utilize many of the available models to predict the risk of a plant disease epidemic. Based on this information, you can adjust the timing and frequency of your fungicide sprays.

Degree Day Models

The amount of heat required to complete a given organism's development does not vary — the combination of temperature (between thresholds) and time will always be the same. This measure of accumulated heat is known as physiological time. Physiological time is often expressed and approximated in units called degree-days (^{o}D). By monitoring temperature, insect degree days and growing degree days can be calculated and used for making management decisions related to spray timings, as well as planting and harvesting operations.

Many deciduous fruit trees need a certain amount of chilling during the dormant season. Seasonal chill hours are easily calculated and displayed.



Date	Accumulated Chill Hours
Dec 1, 2010 11:59:59 PM	375.0 h
Dec 2, 2010 11:59:59 PM	388.8 h
Dec 3, 2010 11:59:59 PM	398.8 h
Dec 4, 2010 11:59:59 PM	406.8 h
Dec 5, 2010 11:59:59 PM	421.2 h
Dec 6, 2010 11:59:59 PM	427.7 h
Dec 7, 2010 11:59:59 PM	442.7 h
Dec 8, 2010 11:59:59 PM	456.7 h
Dec 9, 2010 11:59:59 PM	468.7 h
Dec 10, 2010 11:59:59 PM	479.2 h
Dec 11, 2010 11:59:59 PM	483.7 h
Dec 12, 2010 11:59:59 PM	489.7 h

Please contact your local Nutrien Ag Solutions field representative for more information.

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