



Wintergreen Resort

SNOWMAKING

Wintergreen is renowned for its great skiing conditions, thanks to one of the world's most sophisticated snowmaking systems. Installed during the 2002-2003 winter season and continuously upgraded, this state-of-the-art Techno Aplin (TA) computerized snowmaking system allows Wintergreen to consistently offer the Mid-Atlantic's best skiing and snowboarding surfaces.

Wintergreen is the only ski area in the United States to have 100 percent of its terrain covered by automated snowmaking. This complex system involves approximately 40,000 linear feet of pipeline, more than 400 snowguns and 45 weather stations. The result is gold-standard snowsports surfaces, with a uniformity of depth and consistency of snow quality from the top of the slopes to the bottom.

Fun Facts:

- Theoretically with optimal conditions, Wintergreen Resort's snowmaking system could cover a football field with over 50 feet of snow in just 24 hours.
- Wintergreen's computerized snowmaking system makes twice as much snow twice as fast as the resort's previous system.

How is snow made?

Wintergreen Resort makes snow from the same two ingredients as Mother Nature – air and water. The difference is that Wintergreen has a 100 percent computerized system that controls the ratio of water to air given current temperature and humidity, timing, and the placement of the snow.

This state-of-the-art system includes a network of more than 400 powerful snowguns, underground hydrants and weather sensors that control the precise mixture of air and water required for the best quality snow. The sensors, which are located on the edge of the slopes, continuously monitor humidity and temperature while sending signals to computer-controlled hydrants that are buried under each snowgun.

How cold does it have to be to make snow?

Wintergreen's computerized TA snowmaking system calculates the "wet bulb" temperature, which is a mathematical function of the dry bulb (ambient) temperature and the level of humidity. Due to the complicated relationship between temperature and humidity, it's actually possible to make snow at temperatures above freezing. Likewise, on a humid day, it may not be possible to make snow even though the thermometer indicates that it's below freezing.

What are the components of Wintergreen's snowmaking system?

Wintergreen's TA snowmaking system includes powerful snowguns, weather sensors and computer controls. There is also a network of air, water and computer cables buried underground. Output is controlled by a central computer located in the resort's compressor control building.

The weather sensors are located along the edge of the slopes and look like white bird houses. The weather sensors' job is to continuously monitor the temperature and amount of moisture in the air. As the temperature level rises and falls throughout the day, messages are sent to the hydrant under each snowgun and adjustments are instantly made in the balance of water to air. When there is more moisture in the air or the temperature is higher, there is less water in the mix. These adjustments continue non-stop while snow is being made.

What's so special about "automated" snowmaking?

Manufactured snow is made from water and compressed air. Traditional or manual snowmaking systems require thousands of man hours every winter to adjust snowguns according to the appropriate time, place, temperature and wind condition. Even with all this effort, it's nearly impossible to manually make all the necessary adjustments required to create the optimal snow quality desired by skiers and snowboarders.

Our Techno Alpin system is a fully automated snowmaking system that can create a perfect snowstorm with the click of a button. From one computer, a snowmaker can control all the snowmaking hydrants on the system. Consequently, fully automated snow is often judged superior to Mother Nature's version due to its consistency and structure.

What are the benefits of Wintergreen's snowmaking system?

Although skiers, snowboarders and snowtubers barely notice snowmaking in progress (it's often happening at night while they sleep), they do appreciate the quality and abundance of snow produced at Wintergreen Resort. The snowmaking system has extended Wintergreen's snowsports season, and the resort is able to recover more quickly from rain or unseasonably warm periods.

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