

Many GPS Spraying on the golf course has been available for over 15 years. Satellites were launched, and Agriculture markets had some of the earliest success using GPS features. Technology has continued to improve dramatically in the last 5 years, especially in the turf-care markets. Over many years of research and improvements, GPS is now proven to increased productivity and efficiency to turf spray applications.

What is GPS spraying? It is applying spray applications on the golf course using the Global Navigation Satellite System (GNSS). The GNSS Navigation system includes a constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location.

Some of the benefits of GPS Spray technologies include:

**Individual Nozzle Control:**

The ability to turn on or off each individual nozzle using the GPS system. Once a boundary has been set in the system, the sprayer will only allow certain nozzles to run within the defined boundary. Overspray is virtually eliminated.

**Smart7 Receiver:**

The receiver of the machine attains signals from satellites to find the position of a specific sprayer. Earlier generations of receivers required 30 to 40 minutes to do all the math necessary to locate signals and make error corrections. New receivers, like the Smart7, can do this within seconds.

**Managing Spray Jobs:**

You are now able to create and customize spray jobs for individual courses on a map using the convenience of your own computer. Human error is basically removed from the equation. Superintendents can decide in the morning what jobs to spray so that they know how much chemical to mix and how long the application will take. Even new operators can complete the spray job by basically “painting” the course following the boundaries set by the computer. Less time is spent training new operators, perfecting the application rate, and reaching tight areas on the greens. Once a job is complete, a superintendent can see exactly where was sprayed, what the application rate was, and keep critical records of all spray data.

**Ninja GPS Monitor:**

This is the “brains” of the machine. It will display all information necessary during a spray operation. You can follow a boundary line, create new lines, see the applications rate and speed, or even shut off the system if the operator chooses to use the machine as a regular sprayer.

**Automatic Rate Control:**

Automatic rate control allows you to travel at a wider range of speeds while maintaining a constant rate. It takes the guesswork out of what pressure to spray with manual controls and lets the sprayer operator be more productive. The technology ensures sprayer pressure is constant, and there is proper application droplet size and coverage.

**Auto-Steer:**

By engaging auto-steer at the end of each path, this will allow the machine to do all the work along each set boundary. It will calculate the width of your boom to spray and complete full lines on each pass. Using this feature can eliminate overspray tremendously.

“By saving up to 1 hour for each daily application using GPS sprayers, superintendents can spend their time on other projects or complete their busy day earlier than ever before”

Technology continues to change and grow at a rapid pace. It lets us be more accurate and the information we gain from them helps us improve our spray application options for the future.

-Ken Rost, President of Frost Inc.



Ninja GPS installed in Frost Inc. Kubota



Boundary lines with various rates.



GPS visual of sprayer



Training Golf Course staff to use GPS