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What's New In Weed Science?  
Moderator: Carlos Reyes, Monsanto

## **All GPS Receivers Are Not Created Equal**

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GPS, we all know what it is, right? The acronym stands for Geoprocessing Software, I mean Geoid Positioning Style, er, uh Global Positioning System, that's it. Let's face it; the acronym has been around for quite some time. Choices abound as to what brand of GPS receiver to purchase. Just as there are different companies that make GPS systems, there are different grades of GPS receivers to choose from, as well. I will present the three different grades of GPS receivers and the different functionality offered by each grade.

**Navigational Grade:** This kind of GPS receiver is readily available in many stores. It is the least expensive of the other grades and ranges in price from one hundred fifty to five hundred dollars. This kind of GPS unit is used for navigation and can collect x-y coordinates. Usually you only can collect point data. This grade of receiver is not recommended if you want to incorporate the GPS data collected into GIS/mapping software as the finished product. Horizontal accuracy that can be achieved on this grade of GPS unit ranges in the five-meter area, if you are running in real time.

**Mapping/GIS Grade** (specifically Trimble brand): This type of receiver is more expensive than the navigational grade receivers but in return offers better horizontal accuracy and increased functionality. This grade of GPS unit ranges in price from four hundred ninety five to twelve thousand dollars. A Mapping/GIS grade receiver has data dictionary capability. This means that detailed information about a feature can be entered directly into the GPS receiver, thus skipping the tedious task of data-entry back in the office. Data collection for points, lines and areas can be accomplished using this grade of GPS system. Horizontal accuracy ranges from sub-meter to five meters, when running in real-time or after correcting the data using a base station. Mapping/GIS grade receivers allow for external sensor interface input from equipment such as water quality instrumentation, laser rangefinders, bar-code wands, etc. An example of this grade of receiver is the brand new Trimble GeoExplorer CE system that offers a Windows CE platform, color touch screen and horizontal sub-meter accuracy in a handheld GPS unit.

**Survey Grade:** This grade of GPS receiver is extremely accurate (around two centimeters or better in regards to horizontal accuracy) and with that said, costs more than the other grade of receivers. Survey grade GPS systems range in price from third five thousand to seventy five thousand dollars (that's right, I said thousand, not hundred).

Just as there are many grades of receivers available there are many applications, which require different functionality and accuracy. So with that said, the choosing will be up to you, the end-user. Consider price, horizontal accuracy and functionality before making that GPS purchase. Ask your GPS vendor for an on-site demonstration.