



GPS Guidance Systems – Tips for purchasing a system

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As precision agriculture increases in popularity and availability, the use of guidance systems is increasing as well. There are at least ten different guidance systems available on the market and the process to figure which one to use can be challenging and overwhelming.

As with any purchase there are a lot of options available to the user. Because of these options, there are some simple questions that need to be asked before purchasing a guidance system.

1. *Why do I want a guidance system?*

Guidance systems can be a tremendous benefit to an agricultural operation. This question should be addressed because there are a lot of different reasons why guidance systems are becoming popular.

2. *What production practices am I currently conducting?*

For a guidance system to be a productive tool, it needs to fit into the current operational practices. To purchase a system and determine that it will only be used in something new to the operation may mean a longer learning curve due to learning two new operations at once.

3. *What production activities will the guidance system be used in: planting, spraying, spreading fertilizer/lime, harvesting, scouting or mapping?*

If the farming operation already conducts several practices where a guidance system may be of benefit, then purchasing a system will be more advantageous or economical. The use of guidance systems to plant with row crops such as corn has not been fully researched fully and is not recommended at this time.

4. *What type and how many implements or vehicles will the system be used in?*

This is important due to the portability of the guidance system and the system features. The mounting of the GPS and guidance display may be a factor in which system is best for the operation. Some display units are manufactured for inside the cab only where

others can be used inside or out. The way the display units are mounted will also determine where they can be placed. When moving from one vehicle to another the amount of cabling may also be a factor to consider. Cables can be tied together to ease with installation, and as always the more something is done the more efficient it becomes as well. The manufacturers have configured the ports so that only one cable fits into a specific port.

5. Do I have a computer?

A lot of the guidance systems now have the option of a data logger where information from the application record can be downloaded to a computer. This information can be part of the spray record or planting pattern to overlay yield data in the future. When evaluating the guidance systems, make sure the operating system of the home/business is compatible with the guidance software version. A card reader may be needed to take the information from the data card to the computer.

6. Am I comfortable with downloading and using the information from a data card?

This process of downloading material from data cards becomes easier with practice. The software companies have made this step as simple to follow as possible.

7. What can I do with the guidance system other than guidance?

A way to make a guidance system most beneficial is to find other uses other than guidance. When the GPS receiver is not being used for guidance, it may be used for scouting, mapping or other operations where a record of time and space is needed.

8. How will the guidance system improve my agricultural operation?

Hopefully the time spent using the system will pay back in ways such as economical and physical savings.

9. What type of guidance display do I want?

This will depend mainly depend on the user's preference. There are other considerations such as speed, use of bifocals, GPS receiver or type of vehicle used. The faster the application speed the greater tendency is to look at the horizon rather than focus at something close. There may be some interference between the lines on bifocals if the driver needs to look down at the guidance system then looking through one part of the lens. The different mounting options of the display units may aid when using bifocals.

10. What if I already have a GPS receiver?

Having a GPS receiver may save considerable amount of money when adding a guidance system. Make sure the GPS receiver has 5 Hz output to ensure enough data is being sent for correct operation for the majority of the guidance systems. Check the GPS receiver to see if it is sending the correct data string to the guidance system. Some guidance systems are optimized to use a certain data string. Some guidance displays will only run with certain GPS receivers, the dealer/manufacturer will have that information available.

11. What if I already have a yield monitor or hand-held computer?

The yield monitor console or small computer (personal digital assistant, PDA) may be used as a data collection system and as a visual display of where the application of material was placed. This could be a good addition to the spray record. Software is available for the yield monitor console or hand-held computer to aid in these tasks.

12. What source of differential signal is available and stable enough to use with guidance?

There are three main sources of differential signal available to use with guidance. The United States Coast Guard Beacon Signal is limited to major bodies of water and rivers. As the distance increases from the beacon tower to the mobile antenna, the signal may be degraded or interrupted by weather. There are fee-based sources of a differential signal. The newest source of differential signal is WAAS. The Federal Aviation Administration is implementing wide-Area Augmentation System for air flight travel, but precision agricultural applicators have the opportunity to use this free source of differential signal.

13. What type of customer support is provided after the purchase of a system.

Customer support can be in the form of trouble-shooting a problem, set-up questions, software support and maintenance and repair. These topics may not seem like major issues until a need arises. Is on-site support more important than phone support? Some companies may offer an extended service plan. Evaluate the plans closely to see if it would be beneficial to your farming operation.

14. How easy is the system to set-up and operate?

What type of menu configuration does the system have? Some of the systems use abbreviations and others use text message.

15. What is included in the cost of the guidance system?

This is an important question to ask. If a card reader is needed, is it included in the price or do you need to purchase one separately? Other items such as GPS receiver type, mounting brackets or software may be needed for the correct operation of the guidance system.

If more answers are needed before the purchase of a system, contact the persons below:

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