

References

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► Making The Most Of GPS Guidance Technology On Your Farm

Presented by Dr. Terry W. Griffin

Assistant Professor, University of Arkansas - Division of Agriculture

Precision agriculture technologies can be categorized into two groups, those technologies that require less management requirements than the status quo and those that require additional management requirements than the status quo. Technologies such as automated guidance and lightbars have reduced the management and operator skill required to perform field operations and can be thought of as embodied-knowledge technologies (Griffin et al., 2004). Technologies such as using yield monitor, soil test, and other sensor data for analysis requires additional management abilities and can be thought of as information-intensive.

Of all the precision agricultural technologies, GPS navigation technologies such as automated guidance and lightbars have had the greatest level of adoption and clearest profitability potential. GPS guidance has allowed farmers to make the most efficient use of their equipment and to raise their production management to the highest levels ever documented. The benefits of GPS guidance technologies have been quantified with respect to substituting for larger equipment complements. The whole-farm benefits of adopting GPS guidance to an existing farm including profitability from machinery management and agronomics, quality of life, and changes to acreage capacity of the given equipment set.

Although GPS guidance has had a faster level of adoption than information-intensive technologies, site-specific sensors that can measure spatial variability of yield, soils, and other environmental factors are becoming more useful for farm management decision making. Sensors such as those measuring electrical conductivity have been successfully used to characterize soil properties to include in the analysis of on-farm field-scale experiments that many farmers, consultants, and researchers perform.

The benefits of sequentially adopting embodied-knowledge and information-intensive precision agriculture technologies will be examined and described such that the most can be made of precision agriculture data.

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