



United States Department of Agriculture  
Natural Resources Conservation Service

save **ENERGY** save **MONEY**

## Conservation Practices that Save: Precision Agriculture

American producers can save significant quantities of energy by implementing precision agriculture practices on their land. For example, if guidance systems were used on 10 percent of the planted acres in the U.S., fuel use would be cut by 16 million gallons, herbicide use by 2 million quarts, and insecticide use by 4 million pounds per year. Less fuel, natural gas, herbicide, and insecticide used on the farm results in financial savings for the producer.

Using a guidance system on a 1,000-acre farm with a continuous corn crop would reduce overlap from 24 inches to 2 inches, and result in savings valued at approximately \$13,000 per year. Producers find that a guidance system can pay for itself in just two to three years.

Precision agriculture, also known as “site-specific crop management,” is an information- and technology-based agricultural management system used to identify, analyze, and manage



*Louisiana farmer (center) discusses variable rate in a no-till cotton rotation system, which includes cotton, peanuts, wheat, corn, and grain sorghum. The operation uses several precision agriculture practices, such as yield monitors and infrared imaging to determine variable-rate application, as well as trials of Global Positioning System technology.*

variability within fields for optimum profitability, sustainability, and environmental protection. Fields often vary in soil types, elevations, soil chemistry, fertility, and productivity. By applying precision agriculture practices, producers are able to specify the farm input needs (including nutrient and pesticide application, tillage, and irrigation) throughout an individual field.

Free public access to the Federal Global Position System (GPS) has made it economically possible for producers to use new precision tools, techniques, and services to enhance their efforts to save energy and reduce costs. These include yield monitoring, grid soil sampling, variable-rate application of nutrients, remote-sensing applications, soil electrical conductivity (EC) monitoring, and zone soil sampling.

In addition to cutting production costs and saving energy, precision agriculture reduces environmental pollution and improves water quality by reducing nutrient runoff. Other benefits include:

- Improved crop yield;
- Reduced compaction by limiting traffic to specified travel lanes;
- Increased opportunity to operate equipment after dark;
- Labor savings through reduced implement overlap; and
- More accurate farming records.

NRCS supports conservation practices that save producers money and improve the environmental health of the Nation. For more information on energy-saving conservation practices, visit the NRCS “Save ENERGY, Save MONEY” Web site at [www.nrcs.usda.gov](http://www.nrcs.usda.gov).

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