

AG. WATER QUALITY ACT



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TECHNICAL ASSISTANCE

FUNDING ASSISTANCE

IMPORTANT CONSIDERATIONS

PRECISION AGRICULTURE

CROPS BMP #16



Field data logger - Photo courtesy of Creative Commons

Description:

A management system that is *information and technology based, is site specific* and uses one or more of the following *sources of data: soils, crops, nutrients, pests, moisture, or yield*, for optimum profitability, sustainability, and protection of the environment. The goal of precision agriculture is to optimize inputs for agricultural production according to the capability of the land. Careful consideration of productivity versus environmental impacts guides decisions in precision agriculture systems.

AWQA Minimum Requirements:

Use equipment, methods, and technology that support precision agriculture in a manner that addresses an environmental resource concern. This could include but is not limited to utilizing **Global Positioning Systems (GPS), auto-steering, light bars, grid sampling, remote sensing, and variable rate application** to reduce impacts to soil and water resources.

Recommendations:

- Develop a precision agriculture plan to define goals, identify environmentally sensitive areas, monitor inputs, evaluate yields, and optimize practices after review and analysis of collected data.
- Develop a record keeping system that contains georeferenced records relating to inputs, yield, and critical environmental factors.
- Utilize spatially referenced soil, water, yield, and other datasets to inform decisions and develop management zones on farm.
- Optimize nutrient, pesticide, and irrigation applications through variable rate application/irrigation and guidance system technology.
- Limit soil compaction by utilizing defined wheel tracks to travel within fields year after year.
- Utilize guidance system technology to plant buffer strips along contours to protect sensitive crops and reduce soil loss.
- Evaluate and revise precision agriculture plan after every growing season and address deficiencies and surpluses in the system as they are identified.

Technical References

University Publications

- [University of Kentucky Precision Agriculture \(PA\) extension publication series](#)

USDA/NRCS Publications

- [Practice Code 590 Nutrient Management](#)
- [Precision Agriculture: NRCS Support for Emerging Technologies](#). USDA NRCS. June 2007. Agronomy Technical Note No. 1.

Funding Assistance Options

State Cost Share

- See your local Conservation District to [apply](#).

Kentucky Ag. Development Fund (KADB/KAFC)

- Select from available program options [here](#).

NRCS Environmental Quality Incentives Program (EOIP)

- Select from available program options [here](#).

Important Considerations

Water Quality Benefit (☹-☹☹☹☹): ☹☹
(KEY: ☹=good, ☹☹☹☹☹=best: see [STEPL Model](#))

Wildlife Benefits

- Contact the Kentucky Department of Fish and Wildlife's [Habitat Improvement Program](#) on how to improve wildlife habitat with select BMPs (1-800-858-1549).