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THE CROP ADVISER'S ROLE IN WATER QUALITY TRADING

A new approach to the improvement of water quality is emerging. Trading programs for pollutant reduction present a challenging opportunity for crop advisers.

Trading provides a flexible market-based means of achieving mandated reductions in pollutant loadings. It focuses on loadings most critical to water quality, often targeting nutrients. Excess loadings of nitrogen and phosphorus to streams and rivers are often considered responsible for impairing water quality. Examples of such programs are found in the Great Miami River watershed in Ohio, the Boise River watershed in Idaho, and the South Nation River watershed in Ontario, Canada. They are being considered in many other areas, including Pennsylvania and Wisconsin.

Trading seeks to improve water quality. What is traded is not a right to pollute, but a credit. Credits are based on estimates of loading reductions that result from adoption of specific new management practices. Water quality models, specific to each watershed, provide these estimates.

The crop adviser's key role is to check the water quality models. The models must be technically and agronomically sound. They must ensure credible, verifiable reductions in nutrient loadings. They must not compromise the goal of resource-efficient crop production. The role requires expertise in crop management, soil fertility, and plant nutrition. It requires knowledge of science-based assessment tools that accurately identify crop needs and potential loss risks.

Nutrient loadings are not to be confused with nutrient application rates. Simple reductions in rates applied do not equate to reductions in loading. Loadings can only be reduced in critical areas where source and transport are active. Sources include fields or areas within fields where nutrients are applied in excess of crop need or where soil is eroding. Transport requires a pathway—surface runoff, surface drains, tile drains, etc.—from the field to local waters. Nutrient input reductions that jeopardize long-term soil productivity need to be avoided.

Not all water quality problems are directly related to nutrients. Improvement goals can include aesthetic quality of waterways or biological indicators like fish or amphibian populations. Local stakeholder groups are important in selecting the kinds of practices that help reach their goals. By participating, crop advisers can demonstrate responsible care for their environment.

Many organizations are getting involved. A recent publication from the Conservation Technology Information Center, titled *Agricultural Community Water Quality Trading Guide: Getting Paid for Stewardship*, provides more information.

Trading programs could enhance the flow of public funds to support sustainable crop production. The technical challenges they present comprise opportunity for progressive crop advisers.

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