tage of variable-rate fertilization. They help make the job easier, but conventional systems can be used to fertilize different parts of a field with different rates and get many of the benefits. Site-specific management will become more common in the next few years as economic and environmental concerns continue to be an important force in management decisions.

The time and expense of site-specific management make it essential that it be a part of a long-term strategy. The farmer, landowner, dealer, and other advisers must make the commitment to follow the plan. All of their interests will best be served with a long-term plan.

Business Opportunity

Helping farmers and landowners work out long-term fertility management strategies can be a business opportunity for fertilizer dealers or crop consultants. It is usually part of their business to help work out fertilizer recommendations, but not always on a long-term basis. Projecting the costs and returns over a period of years –both in terms of agronomics and economics–is helpful in strengthening customer commitment and loyalty to the dealer. It is important to emphasize the value to customers of a long-term plan. They can use it to project expenses and income over time and work out the most acceptable program for building soil tests in fields needing improvement.

Environmental Benefits

Farmers, landowners, fertilizer dealers, and everyone else involved in fertilizer management decisions must consider the environmental impact of their recommendations and actions. There is an unfortunate perception that the environment can best be served by cutting back on fertilizer use. **That is not necessarily true!** When soil test levels are not adequate to support optimum crop growth and yields, soil losses are likely to be higher. Optimum P and K levels help to improve N use efficiency, reducing potential for nitrate movement into surface and groundwater. Higher yields from optimum fertility allow more options for removing less productive, more erosive fields from production and yet maintaining the same overall crop output.

Summary

Long-term management strategies for soil fertility are important for protecting the interests of both landowners and tenants. Building and maintaining soil test levels high enough to ensure optimum productivity will produce highest yields and greatest profits over time. Amortizing buildup costs as a capital investment over a period of 3 to 5 years can help justify the economics, because the benefits of the buildup will continue to accrue beyond that amortization period. Developing a long-term fertility management strategy helps maintain customer loyalty.

Long-term plans for optimum fertility also protect the environment through better N use efficiency, better soil tilth and improved erosion control. Sound fertility management pays big dividends to the farmer, the landowner, the dealer, and the environment. ■

New Publication Examines Spring Wheat Cropping Systems

GROWERS of spring wheat will find extensive information to help refine their crop input decisions in a new publication just released by the North Dakota State University Extension Service. Dr. Ed Vasey, Extension soils specialist, served as senior editor of the publication, titled *A Closer Look at the Spring Wheat Cropping System for More Efficient Yield (MEY) and Sustainability,* EB no. 58.

The guide is about 100 pages, with 48 illustrations in color. The 30 major headings in the publication range from developmental stages of the wheat plant to summaries for increasing profits in various yield ranges. There are also lists of additional resource readings and computer software support items.

The bulletin is available from Extension Distribution Center, NDSU, Box 5655, Fargo, ND 58105; cost is $5.00 plus $2.00 shipping and handling. ■