THE OHIO STATE UNIVERSITY EXTENSION

Extension FactSheet

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Low-Cost Crop-Management Considerations

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In order to optimize production, it is necessary to critically evaluate all agronomic inputs for crop production. The low-cost crop-management considerations explained here are important to economic success in producing agronomic crops.

Stick To the Basics.

Avoid the temptation to buy unproven products. Consider reducing the total acres in crops and becoming more efficient in production on each acre. It is very possible that the profit from fewer acres well managed would be greater than a larger acreage that is poorly managed. Evaluate soils and fields according to ownership or leasing arrangement, drainage, fertility, location, size, and overall production potential. Profit is determined by efficiency per unit of production, not on total volume of production.

Do What You Know How To Do but "DO IT BETTER."

Get help to find the weak points in your production program and attempt to correct or strengthen them. Be realistic in developing a production program relating to anticipated yield. If historically a field has never produced more than 120 bushels of corn per acre, it is not realistic to develop a production program for 200 bushels.

Consider Crop Rotation.

The benefits of rotating crops are numerous. Fewer weeds, diseases, and insects often result from a rotation, thus less herbicide, fungicide, and insecticide may be needed. Corn and soybean yields in Ohio have consistently been 5 to 15 percent greater when rotated. Be prepared to perform production tasks on time when they should and can be performed. Adapt your production system to one without the need for tillage.

Consider Seed Costs and Performance.

Seed cost differences between varieties are minimal, but performance differences may be large. Factors to be considered include yield potential, maturity, lodging, disease and insect resistance, seedling vigor, and stress tolerance. Varieties should be selected that can tolerate stress conditions that exist in a field. Crop-variety performance-trial results are available at county Extension offices and should be consulted when making variety selections. Seed treatments should be used to aid in establishment of healthy, adequate plant stands.

Use a soil analysis and develop a soil fertility program.

Fertilize low-fertility fields first and then fields with high fertility. Fields high in phosphorus and potassium may not require additional nutrients for a year or more. Emphasize potassium fertility for soybean fields and phosphorous fertility for grass crops. Apply only those nutrients that are determined to be limiting yield. As yet, many micronutrients are not recommended for most Ohio soils.

To determine nitrogen requirements, consider yield goals, previous crop and nitrogen remaining from previous crop, soil drainage, and application practices. Set realistic yield goals based on previous history and the relative productivity of your field. Use manure if available because it contains appreciable amounts of nitrogen, phosphorus, and potassium.

On soils with less than adequate drainage, consider sidedress application of most of the nitrogen to reduce the potential for nitrogen loss due to denitrification. To ensure vigorous, early growth, be sure to add some starter nitrogen. Minimize surface volatilization losses of urea in reduced tillage by either surface banding or injecting to reduce contact of urea with surface litter.

Plant Early, If Possible.

Corn planting should be as early in April as soil conditions permit and, if possible, complete the planting by May 10. Adjust the seeding rate based on soil productivity and available soil water-holding capacity.

Plant soybeans as early as possible after April 25 as soil conditions permit; if possible, complete planting by May 15. Planting in narrow rows (7 inches) will increase yields and reduce competition from weeds. Reduce the seeding rates of Roundup Ready varieties by 50 percent. Select varieties with good tolerance and/or resistance to Phytophthora root rot.

Control Weeds.

Plan weed-control programs based on weed history, crop rotation, and soil type. While weed control is necessary for profitable crop production, absolute weed control is not required to maximize profits.

Refer to *Weed Control Guide for Ohio Field Crops* for weed-control recommendations and for controlling problem weeds. Refer to the *Ohio Agronomy Guide* for recommendations on producing agronomic crops in Ohio.

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