Controlling Machinery Costs

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As producers know, crop production costs continue to rise. Therefore, net returns next year may not turn out to be as high as current commodity prices might suggest. One issue is the active cropland rental market, with many landlords looking to raise rents in order to capture their share of the high crop prices. Purdue University economist Mike Boehlje uses the term "margin compression" to describe what might happen next year if increased crop production costs outpace commodity price increases. Aside from rents, machinery and labor make up around half to two-thirds of the cost of growing hay.

The latest farm expense data for forage production is the 2006 crop enterprise data in the FINBIN database[1] which shows that machinery and labor expenses for producing alfalfa hay on Minnesota farms rose 4% in 2006. Based on April USDA National Agricultural Statistics Service surveys, it looks as if the trend is continuing into 2007 as producers in the market for new machinery have encountered purchase prices that are up approximately 4-5% over 2006.

A new publication, Machinery Cost Estimates, from the University of Minnesota Extension provides updated estimates of farm machinery per acre costs (www.apec.umn.edu/faculty/wlazarus/interests-farmmachinery.html). There are both use-related and time-related cost figures for all types of equipment, from tractors and tillage tools to balers and forage harvesters. The following provides definitions of both use-related and time-related cost figures:

- **Use-related costs** – incurred by owners only when a piece of equipment is being used (e.g. fuel, lubrication, labor, and repairs).
- **Time-related costs** (overhead costs) – incurred by owners whether or not a piece of equipment is in use (e.g. interest, insurance, property taxes, housing and depreciation).

Controlling machinery costs is always a challenge, but there are an increasing number of spreadsheet-based decision-making tools available from regional university extension services for estimating costs and evaluating alternatives. The website listed above includes links to machinery resources at other universities in the region which may also be useful. In addition, publications such as Machinery Cost Estimates provide a good starting point for information gathering. Farm machinery is becoming more specialized and technical, and costs can vary more from farm to farm than in the past. This variation makes it more important than ever to accurately calculate incurred costs.

Researchers at Iowa State University (ISU) recently completed a study of machinery sharing arrangements. Very few research studies have been published about producers actually sharing ownership of machinery in a formal arrangement because of the obvious interpersonal and financial complexities involved. However, some producers are making sharing arrangements work. An upcoming publication from ISU will describe how some of these arrangements have worked and what should be considered prior to a shared machinery arrangement.

One problem with the DIRTI-5 cost estimation formulas used in the Minnesota publication, and similar publications from other extension services, is that it is not clear how closely the estimated costs are to the actual total farm machinery expenses incurred. Therefore, Kansas State University researchers have developed a decision-making tool that begins with default per acre cost estimates, such as those in the Minnesota publication, then adjusts the per acre costs until the total matches the total in the producer's farm records.

If this level of detail is of interest, take a moment to visit the Kansas State AgManager website at www.agmanager.info/farmmgt/machinery/default.asp and download "Tool for evaluating the total cost of owning and operating machinery by field operation."

[1] FINBIN is a historical database of financial information from farms in the Minnesota State College University (MnSCU) farm business management program and the Southwest Minnesota Farm Business Association. FINBIN is maintained by the University of Minnesota's Center for Farm Financial Management. The CFFM's website, www.finbin.umn.edu/, allows summary reports to be generated from the database for benchmarking purposes.