

New Bulletin Addresses Manure's Economic Value as a Commercial Fertilizer Replacement

Skyrocketing prices for commercial fertilizer and manure's support of high yields have greatly increased the demand for manure as a nutrient source and also increased its economic value in cash flow projections and transfer arrangements.

A recent University of Minnesota publication, *The "Other Fertilizer" The Economic Value Of Swine Finishing Manure*, discusses a method for determining manure value as a fertilizer replacement, reports results of a three-year on-farm study of actual manure value realized on Minnesota swine finishing farms, and also discusses issues observed with manure dry matter level influences on manure value. The basic observations on manure value reported in the bulletin apply to all livestock species and both liquid and solid forms of manure but the study and most attention is directed at liquid swine finishing manure.

Authors Bob Koehler, William F. Lazarus, and Mindy Spiehs conducted the on-farm study and developed methods for determining manure value based on fertilizer replacement that is sensitive to individual variables in each situation. Koehler is a retired UM Extension Educator at the Southwest Research and Outreach Center, Lazarus is a UM Extension Economist in the Department of Applied Economics, and Spiehs is a former extension educator at the West Central Research and Outreach Center. Their methodology and tools for making calculations are reported in the bulletin.

The major contributor to maximizing manure value is efficient use of its nutrients for crop uptake. This means avoiding application of nutrients beyond what the crop needs. This over application results in the "loss" of nutrients that could otherwise support crop production. For each acre where manure is applied over the "needed" level there is almost always an increase in application cost with no increase in value gained. Thus the net value of the manure is reduced on those acres. Also, for a given quantity of manure available at a given site, applying more than the crop needs will reduce acres covered. The potential application cost reduction from covering fewer acres is almost always more than offset by the additional cost of the commercial fertilizer required for the acres not receiving manure.

Achieving the best possible economic value for a supply of manure will also result in less environmental risk: when the nutrients are efficiently used for crop production, less is available to leave the field and pollute water bodies.

The methods used by the authors to value manure are being incorporated into a manure value calculator that will be available to producers and agricultural professionals as part of a Manure Economics Extension program from UM Extension and the Water Resources Center beginning this winter.

Support for the on-farm project's laboratory and travel expenses, as well as printing was provided by the Minnesota Pork Board.

The "Other Fertilizer" The Economic Value Of Swine Finishing Manure, M1234/2008 is available from the University of Minnesota Extension at <http://www.extension.umn.edu/distribution/cropsystems/M1234.html>. Limited numbers of hard copies are also currently available from the authors.