

A Decision Tool to Compare the Profitability of Utilizing Poultry Litter or Commercial Fertilizer to Meet Soil Test Recommendations

Brian Jones

Crop & Soil Environmental Science Extension Agent, Augusta County

Poultry litter is widely used as a nutrient source for grain and forage crops in Virginia. In the last few years commercial fertilizer input prices have been somewhat volatile, and reached record high prices in 2008. While moderating a bit in the last year, more producers have turned to poultry litter as a potential source of nutrients for all or some of their crop's needs. In fact in many areas of the state poultry litter has transitioned from a liability to a valuable asset, and prices for litter have reflected this change in demand.

A decision tool has been developed to assist producers in deciding on the most efficient method to allocate their fertilizer dollars. This tool requires Microsoft Excel. With a few simple steps, a producer or crop advisor can determine and compare the cost of two options to meet their crop nutrient requirements: Option 1. To utilize poultry litter with or without commercial fertilizer inputs; Option 2. To utilize only commercial fertilizer inputs.

Steps 1, 2 and 3 require input on when and how the litter will be applied, and what type of poultry litter is being used. If a litter analysis is known it can be entered in step 4, otherwise a "book value" will be assigned. Step 5 requires the soil test recommendations be input for the crop to be grown. This information is available from a soil test report. The current price for nutrients (on a dollar per pound basis) should be entered in step 6. These prices can be determined by calling the local fertilizer dealer. Steps 7, 8 and 9 require input on the origin of the litter (purchased or on-hand), the cost of the litter (as applied) and the application rate. In step 7, if the litter is sold, the selling price will be subtracted from the fertilizer cost in option 2. This program is especially useful for the poultry litter seller in determining if it is more feasible to apply their own nutrients or to sell and purchase commercial fertilizer inputs.

The costs of the two options are calculated and displayed in steps 10 and 11. By default, the decision tool assumes that all soil test nutrient recommendations are met. The user may decide to fine-tune these assumptions by entering the application method (broadcast, starter, pop-up, side-dress or custom blend), fertilizer source, and application cost per acre to meet the needs of the crop. This option will allow the user to compare the cost of different blends and application methods.

This decision tool is not meant to take precedence over a certified nutrient management plan, but should be used to help growers and consultants compare and contrast different fertilizer strategies.