

Managing High Fertilizer Prices on Pastures

By John A. Lory and Rob Kallenbach

High nitrogen prices have farmers reconsidering nitrogen management on forages. High nitrogen prices make the costs of over-application that much more costly. On the other side of the ledger, hay and beef prices also have increased so the costs of under-application have also increased.

Farmers are well served by re-assessing nitrogen fertilizer management decisions. The value of good management has never been higher because of the combination of high fertilizer and commodity prices.

The core rules for making nitrogen fertilizer pay in forage systems have not changed:

Fertilize when the plant has a capacity to respond.

Maximize forage utilization.

Fertilizer only pays if it increases the amount and/or quality of beef, milk or hay sold from your farm. High fertilizer prices favor farmers who harvest high quality hay and maximize forage utilization on pastures.

Fertilizer prices have been steadily increasing since 2002. National Agricultural Statistics show fertilizer nitrogen price has essentially doubled in the past five years. This spring prices are projected to be 30% greater than last year. The increase in fertilizer price has been partially offset by an increase in the value of gain for feeder cattle. Since 2002 the value of gain on steers has increased 50% and this trend will continue with high grain costs.

The following scenario helps put the value of fertilizer in perspective on a pasture. Assume an operation applies 120 pounds of nitrogen per acre resulting in about three tons of forage production. A moderately efficient operation may produce 225 pounds of gain per acre on this pasture. In 2002, cost of the nitrogen fertilizer price per pound of gain was \$0.16. By 2007, higher fertilizer prices had doubled the cost to \$0.32 per pound of gain. To look at in from a different perspective, in 2002 nitrogen fertilizer costs represented 31% of the total value of gain per acre. In 2007, higher fertilizer prices had increased that to 42%.

The higher fertilizer costs make forage utilization and management more critical than ever. For instance, increasing gain per acre from 225 to 275 pounds through improved forage management would reduce fertilizer costs as a percentage of the value of gain per acre to 34%, a value marginally higher than in 2002 despite higher fertilizer prices.

High fertilizer prices force farmers to make smart fertilizer decisions to make fertilizer pay on forages. Farmers that apply fertilizer only when they need increased production and farmers that maximize utilization of forage will maximize fertilizer value.

Management options to increase return on fertilizer dollars include:

Adopt management practices that increase forage utilization in pastures such as management intensive grazing.

Note that management intensive grazing increases the nitrogen value of manure returned to the pasture by grazing animals. We estimate you can decrease recommended nitrogen rates 20% for the same yield goal on management intensive pastures.

Only fertilize when you need increased forage production.

Cool season grasses respond to spring fertilizer but do you need that extra production? Unless you harvest excess spring production as hay, carefully consider spring fertilizer rates.

Consider alternate sources of nitrogen.

Legumes remain an excellent source of nitrogen for pastures.

Manure may be a more economical source of fertilizer nutrients. Remember that manure nitrogen is typically 50 to 60% available when it is surface applied but 100% of manure phosphorus and potassium is available to the crop.

High fertilizer prices rewards good management decisions on fertilizer and forage management. Now more than ever it pays to be smart about fertilizer on forages!

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