Just as planting time arrives, another surge in energy prices is threatening to raise your nitrogen costs. But this time, farmers have more know how than ever to conserve nitrogen expense:

1. New on-farm nitrogen research trials in Iowa in 2001 confirm that you can pare back N below the old "yield goal" recommendations with no loss in profitability.

2. This report brings you fresh data from 9 years of field trials in 14 locations, showing how you can save about $25 per acre of purchased N by accelerating conversion of crop residue and releasing nutrients for the following year's crop. Most N research today is focused on predicting N needs, and applying the optimum amount. But we're aiming at replacing 100 units of costly N by using biological life to "grow more of your own" N.

Before the age of commercial N, corn typically followed legume forages like alfalfa or clover. Microbes quickly converted those legume residues into humus, which readily mineralized back to nitrate and exchangeable ammonium as corn roots called for it.

But corn residue is tougher to break down. With today's high

Enhancing biological life in your soil reduces need for applied nitrogen per bu. of corn yield

![Graph showing Units of N per bu. of actual corn yield](chart.png)

Data Of optimum N in conventional fertility and tillage systems is from multi-year University of Illinois trials.

"Bio" means biological enhancement of soil life with Renewable Farming systems... encouraging residue breakdown and avoiding toxic chemicals which impair soil microbial and fungal action.