

Economic Analysis

A simple economic analysis of the amendment costs was performed to get a sense of benefit to applying additional N to wheat. The goal would be to see increased yield and quality so that the farmer would be able to justify the cost of the amendment as well receive a higher return on the crop. The most expensive amendment was Chilean Nitrate. However, since it is readily available it actually cost less per unit of plant available nitrogen (PAN) than the other amendments. To apply 20 lbs of PAN the lowest cost was \$90.6 per acre. Would a farmer make back the initial investment of the fertilizer plus additional income on increased yields and quality? Commercial mills often pay a \$5 per ton premium for every ½ percent protein over the base of 12% CP. A current price for organic wheat is \$450 per ton. From this first year of research there was a minimum yield increase of 15% when additional N was applied to wheat as compared to the control. There was also as much as 4% CP concentration increase in wheat when topdressed with organic N sources. This could translate into a \$30 premium per ton on protein. If a farm has an average yield of 2 ton per acre for winter wheat this would be a \$60 premium. However, given this scenario it is assumed that the farm met the 12% minimum CP level for the mill. In the experiment only the probooster treatment met and exceeded the 12% minimum CP level. Therefore topdressing may also help the farmer from receiving dockages at the mill. In terms of yields an extra 15 to 20% yield will supply additional income as well. Another season of data will help confirm economic benefits and pitfalls to applying additional N to wheat.

Table 1. Cost of organic N amendments.

Amendment	Cost per ton	Cost per lb of N	Cost per lb PAN*	Cost per acre (20 lbs N acre)
Cheep Cheep (poultry manure)	\$478	\$5.98	\$12.00	\$240
Pro-Booster (blend organics and Chilean Nitrate)	\$959	\$4.79	\$14.40	\$288
Chilean Nitrate	\$1450	\$4.53	\$4.53	\$90.6

*PAN, plant available nitrogen