



# Fertilizer Comparisons on Winter Wheat (2 yr avg)

Fehringer Agricultural Consulting. Billings, MT 2016, 2017

## Experiment Info:

Planted:	10/18/2016
Harvest:	08/06/2017
Yield Goal:	100
Target Fert.:	125-30-0
Variety:	'Keldin'
Population:	
Row Width:	7"
Prev. Crop:	wheat
Plot Size:	4' x 70'
Replications:	4

## Soil Test Values (ppm):

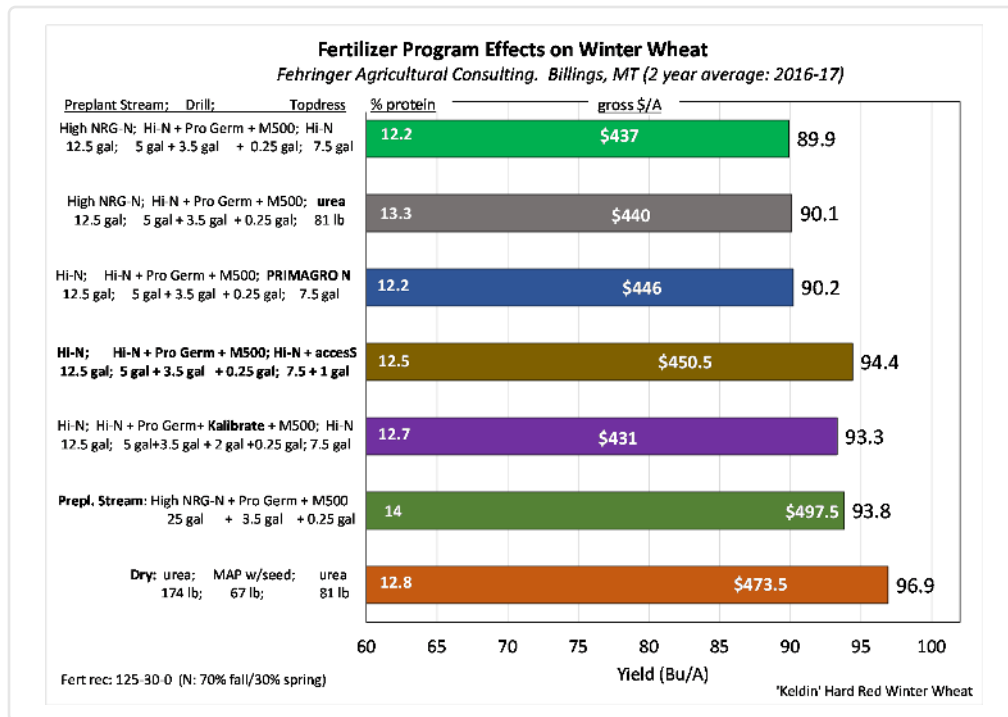
pH:	7.6
CEC:	29.5
%OM:	2.1
Bray P1:	
Bicarb P:	9
K:	402
S:	38
%K:	3
%Mg:	26
%Ca:	70
%H:	
Zn:	0.6
Mn:	1.4
B:	

## Objective:

Winter wheat yields can vary from year to year in Montana based on availability of moisture from seeding through harvest. In addition to yield, growers receive per bushel adjustments based on grain quality measures of per cent protein and test weight. This experiment was conducted to evaluate various nutrient sources and timings for effect on yield, quality and gross returns per acres. This report shows the average of two years of these treatments from this location.

For winter wheat, an appreciable portion of the nitrogen program is put down in the fall not only to promote fall growth but also spring growth as winter moisture is low enough as to not worry about nitrate loss.

In this experiment, there is a standard AgroLiquid program (all bold), with comparisons to additives and substitutions. Of note, there is a listing for a topdress application of PRIMAGRO N, which was only introduced shortly before application. In 2016, the experimental formulation was applied, that did not contain biologicals.



## Conclusions:

- The standard AgroLiquid treatment benefitted from accesS in the Topdress. This was also seen with Spring Wheat.
- Yields from Topdress with High NRG-N, urea and PRIMAGRO N were all similar, although protein was higher with urea.
- Addition of Kalibrate through the drill did not result in increased yield. Soil K was high but % base saturation was low.
- Application of the total AgroLiquid program all at Preplant (stream) resulted in the highest average gross return and the highest grain protein. This was a consistent surprise. It may be risky to apply all of the N preplant with no Topdress, but obviously can be successful in areas lacking significant snow and rain. One thing that should be further tested is to apply all of the fall N at Preplant and none in the drill. This technique was successful in spring wheat, but was not tested here.
- Highest average yield for the two years was the total dry treatment. This was unfortunate from the Liquid end, although several treatments were close. However, the dry had 125 lb/A of actual N per acre vs. about 75 lb/A for the AgroLiquid.