Fertilizer Comparisons in Palouse Winter Wheat

Hubbard Agricultural Science. Rosalia, WA

Experiment Info:	
Planted:	10/19/2016
Harvest:	08/04/2017
Yield Goal:	100
Target Fert.:	120-20-0-1Zn
Variety:	Jet
Population:	90 lb
Row Width:	7.5
Prev. Crop:	peas
Plot Size:	8 x 30 ft
Replications:	5
Topdress:	04/05/2017

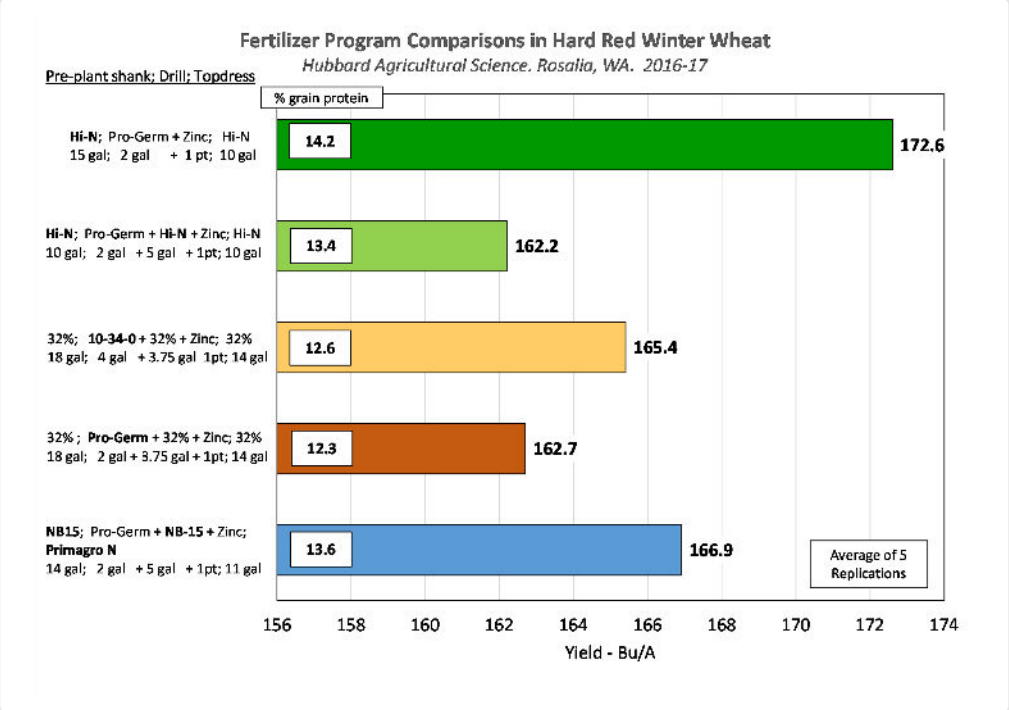
Soil Test Values (ppm):	
pH:	6.1
CEC:	16.7
%OM:	4
Bray P1:	
Bicarb P:	57
K:	972
S:	12
%K:	18.7
%Mg:	12.8
%Ca:	67.8
%H:	
Zn:	2
Mn:	34
B:	0.45

Objective:

Compare fertilizer programs in high production winter wheat.

The Palouse is a regioun of the Pacific Northwest in Eastern Washington and Oregon and Western Idaho with deep rich soil with high production potential. Small grains are a major crop, and an experiment was designed to evaluate different fertilizer treatments for effects on yield and grain protein of winter wheat.

A common method of application of liquid fertilizers is injection through fertilizer tubes on tillage shanks prior to planting. Liquid fertilizers are additionally added with the drill at seeding and then a balance of nitrogen at topdress. The plan was to apply 75 lb/A of nitrogen in the fall and then topdress 25 lb/A. But the area received above average rainfall through the winter, and it was decided to apply 50 lb/A at topdress. The treatments and yields appear in the following graph. You will notice the tremendous yields obtained at this site. Ideal moisture and growing conditions enabled excellent production.



Conclusions:

• The highest yield and protein were obtained with the standard AgroLiquid application (top bar). It was surprising that such a high % grain protein was obtained with only 25 gal/A of High NRG-N (72.5 actual lb-N/A).

• As has been seen in other areas, it appears that inclusion of High NRG-N in the drill application reduced yield. It is recommended that the nitrogen that was planned for the drill application be applied at preplant.

• Replacing 10-34-0 with Pro-Germinator in the conventional treatment resulted in a yield that was similar. However, this shows that in order to obtain best yield, the Pro-Germinator works best with other AgroLiquid.

• The experimental formulation of NB-15 was applied in the fall, and then topdressed with PRIMAGRO N, as the PRIMAGRO N was not yet available at the fall applications. The yield was good, but lower than that of High NRG-N.

• The conventional yield was lower than the standard AgroLiquid by an average of 7.2 Bu/A.