

NITROGEN FERTILIZATION OF WHEAT
SEEDED ON SUMMERFALLOW LAND

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The fields used in this study were selected from summer-fallow fields tested in the fall of 1966 which had lower than normal nitrate-nitrogen tests. Rates of fertilizer applied were based on soil test data.

RESULTS

Farmer	Soil Type	Check Yield	YIELD INCREASE TO TREATMENT (Bushels/acre)			
			Yield Increase**			
			23-23-0	11-48-0	11-48-0 + 33.5-0-0	18-46-0
*Evans 1	BrVL	19.23	+ 8.31	+ 5.29	+ 6.41	+ 5.82
Evans 2	WL	18.17	+ 8.30	+ 6.27	+ 4.39	
*Drew	RHvC	23.70	+ 0.48	- 2.29	+ 4.28	+ 3.66
Rennick 1	RHvC	13.00	+ 8.73	- 0.48	+ 4.93	
Grandfield	LcVL	8.75	- 2.91	+ 2.78	- 0.20	
*Lazaroff	KSIL	23.99	+ 5.36	+ 2.87	+ 6.57	+10.30
Cadriu 1	HmL	33.39	+15.50	+16.25	+11.54	
Cadriu 2	HmL	52.42	+ 1.67	+ 0.08	+ 6.42	
*Halstead	AFL	25.60	+ 7.36	+ 3.56	+ 4.72	+ 4.09
*Konschuh	BrVL	29.31	+ 5.54	+ 5.63	+ 5.27	+ 5.46
Ewert	WL	20.18	+ 3.22	+ 0.34	+ 4.07	
Wilkinson	ECL	29.72	+ 4.99	+ 5.78	+12.25	
AVERAGE (12)		24.79	+ 5.55	+ 3.84	+ 5.89	
*AVERAGE (5)		24.37	+ 5.41	+ 3.01	+ 5.45	+ 5.87

** 23-23-0 applied at 80 lb/acre. Rates of N and/or P₂O₅ for other treatments as recommended by the soil test for stubble seeded crops.

SUMMARY AND RECOMMENDATIONS

In most cases, higher wheat yields were obtained where additional nitrogen above that in 11-48-0 was applied. On the average 23-23-0 or the split application of 11-48-0 + 33.5-0-0 yielded about 2 bushels/acre more than the 11-48-0 treatment. On the basis of 5 trials, 18-46-0 at rates recommended by the phosphorus test was superior to 11-48-0. The average yield for 18-46-0 was similar to the higher nitrogen applications.

Based on these results it is recommended that on summer-fallow fields, with 0-24 inch nitrate-nitrogen levels of less than 45 lb/acre, that higher nitrogen ammonium phosphates such as 23-23-0, 18-46-0, 17-34-0, etc., be considered as alternatives to 11-48-0. Split application of N plus P₂O₅ should be considered for fields with very low and low soil test levels.