

THE EFFECT OF POTASH FERTILIZATION ON CROP YIELDS

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Fields which tested very low and low in exchangeable potassium were selected from samples analyzed by the lab in the fall of 1966. The tables below compare the results obtained for the various treatments.

RESULTS YIELD RESPONSE TO POTASH FERTILIZATION *
(Bushels/acre)

Farmer	Soil Type	Check Yield	YIELD INCREASE			K test lb/acre	
			11-48-0	10-30-10	11-48-0 + 0-0-60		
<u>Barley</u>							
Arnold	GbLS	28.25	- 0.76	+14.44	+10.09	48	Fallow
Harrison 2	CrVL	48.22	+22.72	+24.98	+22.02	79	Fallow
Rediger	CrVL	42.38	+13.00	+ 8.35	+16.01	75	Fallow
Youzwa	CrVL	28.86	+15.30	+ 6.95	+22.03	45	Stubble
Gentner	CrVL	25.34	+ 3.65	+ 5.33	+ 6.58	57	Stubble
Kozun	CrVL	28.80	- 1.81	+11.20	+10.25	36	Fallow
AVERAGE		33.64	+ 8.68	+11.88	+14.50		

* 11-48-0 and 10-30-10 applied at rate of P₂O₅ recommended by soil test. 0-0-60 broadcast at 100 lb/acre.

		11-48-0	11-48-0		
		+	+		
		33.5-0-0	33.5-0-0		
			+		
			0-0-60		
<u>Barley</u>					
Skogsrud	SbFL	25.63	+ 8.72	+26.07	223 Stubble
Harrison	CrVL	26.23	+ 3.10	+17.87	49 Stubble
Lang	WfVL	23.90	+ 9.72	+15.22	159 Stubble
AVERAGE		25.25	+ 7.18	+19.72	
<u>Wheat</u>					
Hayes	SbFL	8.89	+ 6.45	+ 4.49	282 Stubble
Foy	SbFL	23.94	+ 7.56	+ 4.56	323 Fallow
Collins	SbFL	15.58	+ 2.52	+ 2.77	70 Stubble
AVERAGE		16.14	+ 5.51	+ 3.94	

* 11-48-0 and 33.5-0-0 applied at rate recommended by soil test. 0-0-60 applied at 100 lb/acre.

CONCLUSIONS: Barley responded well to the application of potash fertilizer. The broadcast application of 0-0-60 at 100 lb/acre was generally superior to 10-30-10 placed with the seed at a rate determined by the soil test for phosphorus. However, in some cases equally as good or better responses were obtained with 10-30-10. Wheat did not respond to potash fertilization on the fields tested.

The extension of field work in the potash deficient areas to include fields with higher exchangeable potassium levels (particularly for barley) is recommended. Further work on the response pattern of other crops and the residual carry-over of broadcast application of 0-0-60 is required.