

POT EXPERIMENTS WITH SULPHUR

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Wheat, barley, rapeseed and alfalfa were grown on 5 soils containing varying amounts of extractable $\text{SO}_4^{=}$. All the pots were fertilized with N, P, K at 100 $\mu\text{g/g}$ of soil. To one-half of the pots 25 $\mu\text{g/g}$ of sulphur was added as $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. The remaining pots received no sulphur. The plants were harvested after 30 days and dry weights and total sulphur content determined. Additional cuts of alfalfa were obtained at 60, 90 and 120 days.

. Dry weight of plant material from pots fertilized with 25 $\mu\text{g/g}$ S compared to pots with no S added.

	L-Sy		Sy		Wv		O		Me	
	-S	+S	-S	+S	-S	+S	-S	+S	-S	+S
Rapeseed	3.31	5.49	3.22	5.61	4.70	5.89	6.45	6.72	3.60	4.80
Barley	3.23	3.65	2.89	3.62	3.70	3.45	4.06	3.75	2.86	3.26
Wheat	2.07	2.23	2.35	2.33	3.14	2.49	2.79	2.87	1.66	1.50
Alfalfa (Total 3 cuts)	3.29	8.65	3.24	8.91	6.96	9.93	8.39	13.28	4.09	7.94
Alfalfa (4th cut*)	6.24	6.09	6.09	5.83	7.62	6.39	8.35	8.44	6.67	6.43

* 25 $\mu\text{g/g}$ of S applied to -S treatment after the 3rd cut

Rapeseed responded to sulphur additions on all but the Oxbow soil. Alfalfa grown in pots responded to sulphur fertilization on all the soils used in this experiment. Response on the higher testing soils occurred only after the second cut. Plant growth showed good correlation with NH_4OAc , NaHCO_3 and distilled water extractable $\text{SO}_4^{=}$.