

Table 3. Effect of TSP application on seed yield, protein concentration and P concentration of pea in 52 trials conducted across a wide geographic area of Alberta, Canada.

Trial Code	Soil test P ^z (kg P ha ⁻¹)	Yield		Protein concentration	
		Mean (kg ha ⁻¹)	Increase	Mean (g kg ⁻¹)	TSP benefit ^x (%)
Dark Brown Soil Zone					
Barons 95	23	2614	9 *	17.4	-0.2
Strathmore 95	42	5399	-4	17.9	-0.0
Chin 96	2	2371	0	16.0	0.7
Claresholm 96	9	4637	5	19.5	2.0 *
Strathmore 96	18	5691	6	20.3	-0.1
Claresholm 97	57	3192	2	21.1	-0.2
Wilson 98	20	5177	3	19.8	0.7 *
Average	24	4154	3	18.9	0.4
Thin Black Soil Zone					
Beiseker 95	29	3872	26 ***	17.5	2.0 *
Irricana 95	11	1797	8 **	16.1	-2.6
Beiseker 96	66	4694	7	ND	ND
High River 96	17	3932	2	19.4	0.4
Irricana 96	26	4204	27 ***	ND	ND
Pincher Creek 96	9	2026	20 **	20.6	-1.4
Beiseker 97	51	4548	-4	21.0	1.6 **
High River 97	35	3919	2	19.7	0.3
Irricana 97	26	4742	5	20.6	1.3
Beiseker 98	24	4594	7	19.9	-0.5
Irricana 98	14	4489	15 ***	19.0	1.8 **
Average	28	3893	10	19.3	0.3
Black Soil Zone					
Ellerslie 95	3	4503	22 *	17.8	0.3
Olds 95	53	4357	1	21.3	0.4
Red Deer 95	18	5234	13 ***	15.8	1.1
Vegreville 95	20	4557	4	20.1	-0.3
Viking 95	ND ^y	3566	5	19.7	0.4
Ellerslie 96	4	7146	17 ***	19.6	-0.7
Olds 96	20	5801	-12 ***	ND	ND
Ponoka 96	ND	6805	7 *	20.6	-0.0
Red Deer 96	7	3193	16 **	ND	ND
Rycroft 96	ND	3090	16 *	20.2	-0.6
Ellerslie 97	16	5583	2	19.3	0.2
Olds 97	32	6837	7	19.2	-0.7
Red Deer 97	7	7019	12 ***	18.5	-1.6 ***
Vegreville 97	36	4179	2	18.9	-0.2
Devon 98	22	4302	6	19.7	-0.2
Ellerslie 98	56	5284	1	19.6	-0.1
Red Deer 98	11	3547	16 ***	20.0	1.2
Vegreville 98	ND	3472	9 *	19.9	1.1
Average	22	4915	8	19.4	0.0

^z Modified Kelowna method (Ashworth and Mrazek, 1995).

^y Not determined.

^x TSP benefit = average yield increase of all TSP-amended treatments relative to non-P-fertilized control; statistical significance (*P<0.1, **P<0.05, ***P<0.01) based on contrasts.

Table 3. (cont'd) Effect of TSP application on seed yield, protein concentration and P concentration of pea in 52 trials conducted across a wide geographic area of Alberta, Canada.

Trial Code	Soil test P ^z (kg P ha ⁻¹)	Yield		Protein concentration	
		Mean (kg ha ⁻¹)	Increase	Mean (g kg ⁻¹)	TSP benefit ^x (%)
<i>Gray Soil Zone</i>					
Barrhead 95	9	3284	-4	21.1	1.0
Beaverlodge 95	18	7839	1	18.9	1.2
Barrhead 96	13	5062	5	18.6	-1.5
Beaverlodge 96	9	2471	33 **	20.0	3.4 *
Rycroft 96	7	1535	6	18.0	1.5
Fairview 97	7	3373	13 *	20.7	-1.1
Wanham 97	7	3309	17 **	19.3	1.3
Fairview 98	22	631	-4	19.7	0.8
Average	11	3438	8	19.5	0.8
<i>Irrigated trial in Brown and Dark Brown Soil Zone</i>					
Bow Island 95	50	6938	5	19.0	-0.5
Lethbridge 95	37	3013	11 *	15.9	-1.2
Bow Island 96	49	6331	-1	19.5	0.8
Lethbridge 96	31	5098	14	18.9	1.0
Bow Island 97	46	4986	-1	19.4	-0.1
Lethbridge 97	82	4512	-7	17.4	-2.3
Bow Island 98	55	3884	-1	20.3	0.3
Lethbridge 98	55	5263	0	17.7	-3.3 ***
Average	51	5003	2	18.5	-0.7
All Sites	27	4383	7	19.2	0.2

^z Modified Kelowna method (Ashworth and Mrazek, 1995).

^y Not determined.

^x TSP benefit = average yield increase of all TSP-amended treatments relative to non-P-fertilized control; statistical significance (*P<0.1, **P<0.05, ***P<0.01) based on contrasts.