

Influence of direct and residual phosphorus fertilization on growth and yield of potato in a soybean-potato cropping system

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Supplementary Table 1. Residual soil fertility and apparent phosphorus balance in soybean-potato cropping system 2008-09

Treatments to soybean	Treatments to potato	Applied P (kg/ha) [D]	Total P input (kg/ha) [Initial soil P+D=E]	Total uptake (kg/ha) [F]	Available P after harvest (kg/ha) [A]	Total P output (kg/ha) [A+F=G]	Apparent P balance (kg/ha) [E-G]
Control	0% P	0.00	18.01	14.13	13.19	27.32	-9.31
	50% P	12.93	30.91	14.51	13.76	28.27	2.64
	100% P	25.86	43.81	14.86	14.37	29.23	14.58
PSB+VAM	0% P	0.00	17.67	18.29	13.75	32.04	-14.37
	50% P	12.93	30.57	18.77	16.03	34.8	-4.23
	100% P	25.86	43.47	19.06	16.28	35.34	8.13
50% P as RP	0% P	16.12	34.21	18.44	15.69	34.13	0.08
	50% P	29.02	47.11	18.32	17.45	35.77	11.34
	100% P	41.92	60.01	19.23	17.65	36.88	23.13
50% P as RP +PSB+VAM	0% P	16.12	34.45	20.26	16.74	37	-2.55
	50% P	29.02	47.35	22.94	18.52	41.46	5.89
	100% P	41.92	60.25	23.03	19.28	42.31	17.94
50% P as DAP	0% P	16.12	33.89	18.46	17.92	36.38	-2.49
	50% P	29.02	46.79	22.07	18.11	40.18	6.61
	100% P	41.92	59.69	19.55	18.09	37.64	22.05
50% P as DAP + PSB+VAM	0% P	16.12	33.69	24.94	16.91	41.85	-8.16
	50% P	29.02	46.59	22.61	18.13	40.74	5.85
	100% P	41.92	59.49	23.62	18.53	42.15	17.34
100% P as RP	0% P	32.25	50.41	22.45	15.93	40.02	10.39
	50% P	45.15	63.31	22.14	17.57	40.5	22.81
	100% P	58.05	76.21	23.09	17.11	40.39	33.82

100% P as RP + PSB+VAM	0% P	32.25	49.84	22.01	19.14	41.15	8.69
	50% P	45.15	62.74	23.39	19.09	42.48	20.26
	100% P	58.05	75.64	23.55	19.69	43.24	32.4
100% P as DAP	0% P	32.25	50.32	21.86	18.95	40.81	9.51
	50% P	45.15	63.22	22.92	19.41	42.33	20.89
	100% P	58.05	76.12	22.25	19.33	41.58	34.54
100% P as DAP+PSB+VAM	0% P	32.25	50.35	23.16	17.29	40.45	9.90
	50% P	45.15	63.25	23.38	19.69	43.07	20.18
	100% P	58.05	76.15	24.27	19.11	43.38	32.77

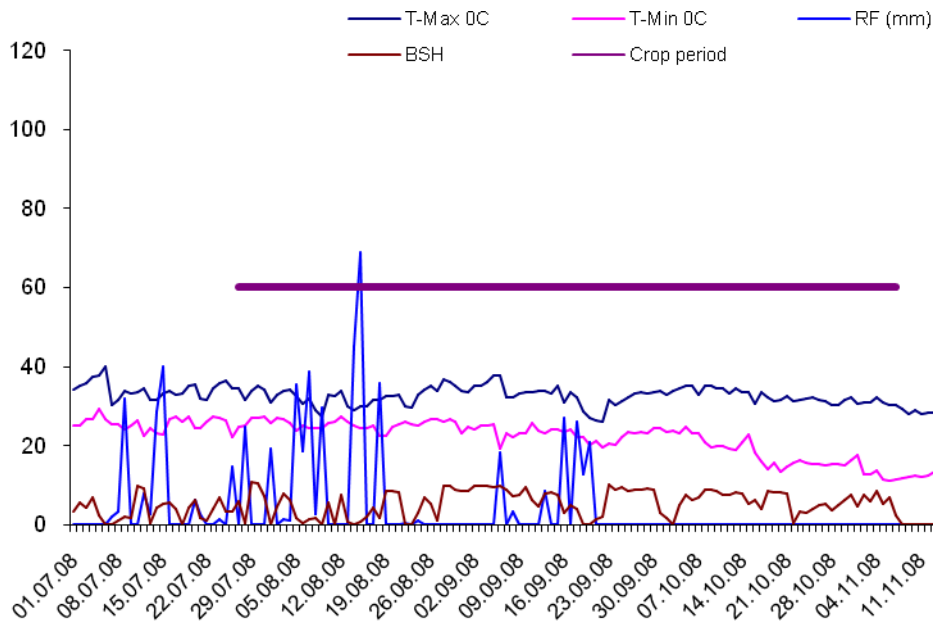
PSB: Phosphate solubilizing bacteria VAM: Vesicular arbuscular mycorrhizae RP: Rock phosphate DAP: Diammonium phosphate

Supplementary Table 2. Residual soil fertility and apparent phosphorus balance in soybean-potato cropping system 2009-10

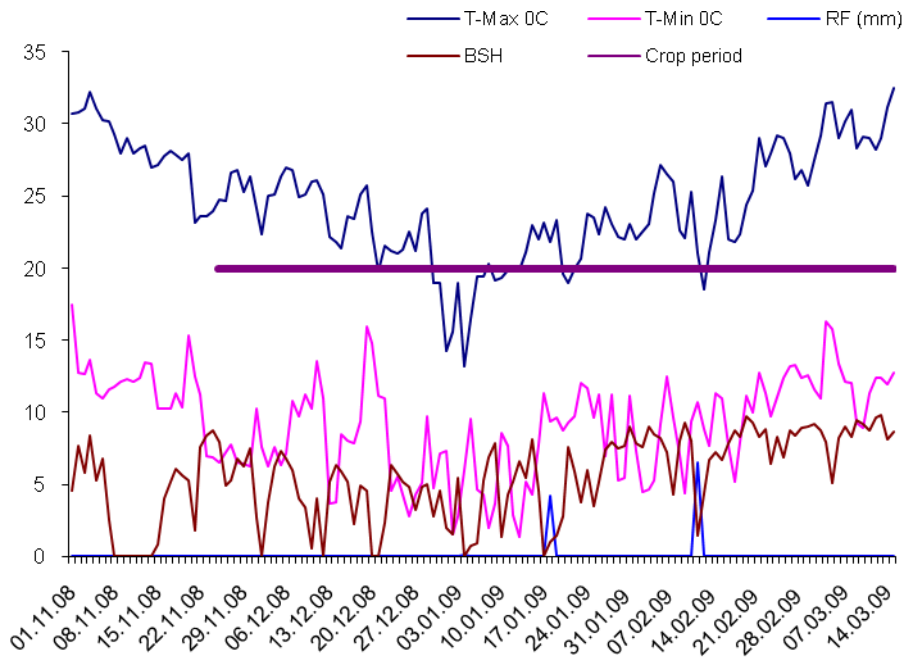
Treatments to soybean	Treatments to potato	Applied P (kg/ha) [D]	Total P input (kg/ha) [Initial soil P+D=E]	Total uptake (kg/ha) [F]	Available P after harvest (kg/ha) [A]	Total P output (kg/ha) [A+F=G]	Apparent P balance (kg/ha) [E-G]
Control	0% P	0.00	16.54	12.91	14.33	27.24	-10.7
	50% P	12.93	29.44	13.11	13.67	26.78	2.66
	100% P	25.86	42.34	13.85	13.58	27.43	14.91
PSB+VAM	0% P	0.00	21.65	17.74	15.86	33.6	-11.95
	50% P	12.93	34.55	18.22	16.64	34.86	-0.31
	100% P	25.86	47.45	18.58	14.86	33.44	14.01
50% P as RP	0% P	16.12	37.77	16.61	14.79	31.4	6.37
	50% P	29.02	50.67	16.84	14.93	31.77	18.9
	100% P	41.92	63.57	17.76	13.09	30.85	32.72
50% P as RP +PSB+VAM	0% P	16.12	36.01	22.8	14.8	37.6	-1.59
	50% P	29.02	48.91	25.53	14.58	40.11	8.8
	100% P	41.92	61.81	25.91	14.4	40.31	21.5
50% P as DAP	0% P	16.12	34.79	20.3	16.67	36.97	-2.18
	50% P	29.02	47.69	23.58	15.67	39.25	8.44
	100% P	41.92	60.59	21.24	15.91	37.15	23.44
50% P as DAP + PSB+VAM	0% P	16.12	34.79	24.83	17.73	42.56	-7.77
	50% P	29.02	47.69	24.71	18.11	42.82	4.87
	100% P	41.92	60.59	26.1	16.93	43.03	17.56
100% P as RP	0% P	32.25	52.41	22.53	17.49	40.02	12.39
	50% P	45.15	65.31	23.37	17.13	40.5	24.81
	100% P	58.05	78.21	23.48	16.91	40.39	37.82
100% P as RP + PSB+VAM	0% P	32.25	53.16	23.24	18.91	42.15	11.01

	50% P	45.15	66.06	23.44	16.25	37.69	26.37
	100% P	58.05	78.96	23.95	17.03	40.98	37.98
100% P as DAP	0% P	32.25	50.92	20.19	16.67	36.86	14.06
	50% P	45.15	63.82	21.81	17.28	39.09	24.73
	100% P	58.05	76.72	20.71	18.05	38.76	37.96
100% P as DAP+PSB+VAM	0% P	32.25	51.66	24.31	17.41	41.72	9.94
	50% P	45.15	64.56	23.86	18.01	41.87	22.69
	100% P	58.05	77.46	25.22	19.31	44.53	32.93

PSB: Phosphate solubilizing bacteria VAM: Vesicular arbuscular mycorrhizae RP: Rock phosphate DAP: Diammonium phosphate

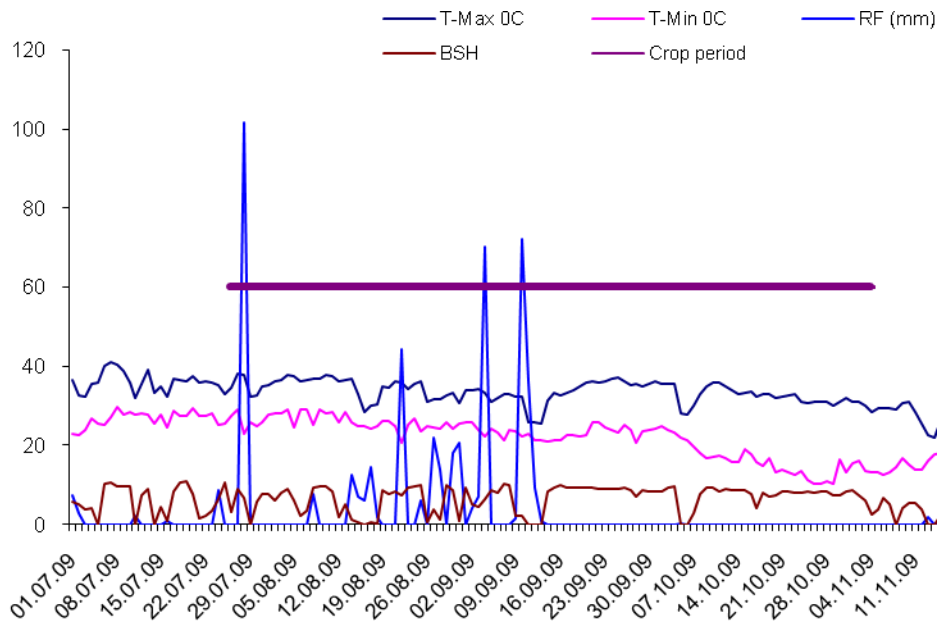


Soybean crop growing period 2008

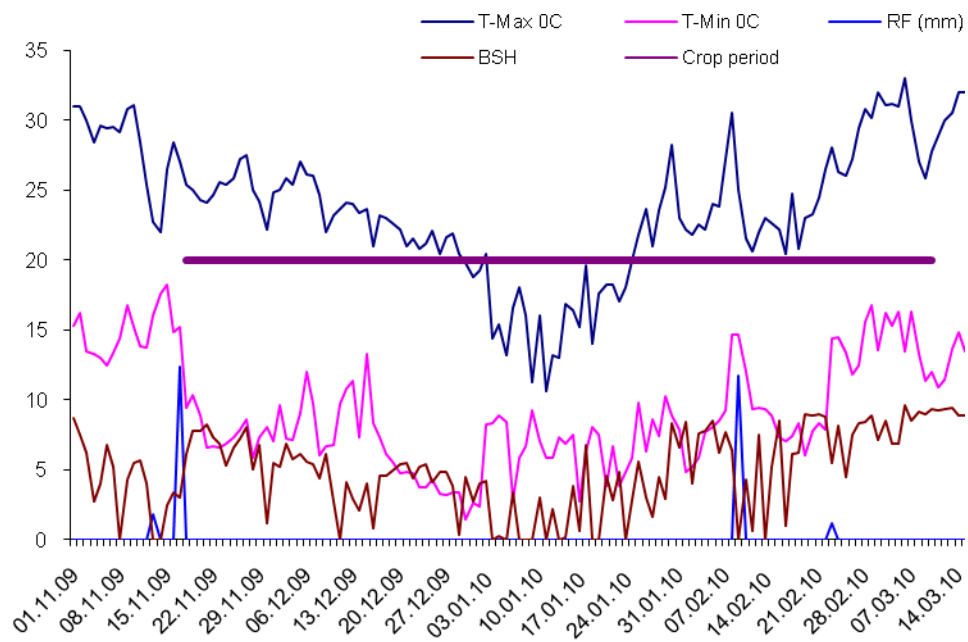


Potato crop growing period 2008-09

Supplementary Figure 1. Weather conditions during the crop growing period in 2008-09



Soybean crop growing period 2009



Potato crop growing period 2009-10

Supplementary Figure 2. Weather conditions during the crop growing period in 2009-10