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Treatment applications of Crystal Green formulations in-furrow to canola, field pea, spring barley and oat. Values for NPK were as follows: 15/85S is 10-48-0-2Mg, 25/75S is 10-46-3Mg, 27/73 StPo is 6-28-5-6Ca-4Mg-7S, and 38/62S is 12-37-0-5Mg.

Treatment		Application Method	S (%)	P ₂ O ₅ (%)	Percentage of Phosphorus from Each Source				
Canola									
					MAP	15/85S	25/75S	25/75 StPo	T90
1	No P	None	100	0	0	0	0	0	100
2	GSP -S	Broadcast	0	100	100	0	0	0	0
3	GSP + S	Broadcast	100	100	100	0	0	0	100
6	15/85S	Band	0	100	0	100	0	0	0
7	25/75S	Band	0	100	0	0	100	0	0
8	25/75S + S	Band	100	100	0	0	100	0	100
9	25/75 stop	Band	100	100	0	0	0	100	0
Field Pea									
					DAP	CG	15/85S	25/75S	38/62S
1	No P	None		0	0	0	0	0	0
2	GSP	Band		100	100	0	0	0	0
3	17/83B	Band		100	83	17	0	0	0
5	27/73B	Band		100	73	27	0	0	0
6	38/62B	Band		100	62	38	0	0	0
7	17/83S	Band		100	0	0	100	0	0
8	27/73S	Band		100	0	0	0	100	0
9	38/62S	Band		100	0	0	0	0	100
10	27/73S	Band		75	0	0	0	100	0
11	27/73S	Band		50	0	0	0	100	0
12	27/73S	Band		25	0	0	0	100	0
Spring Barley									
					MAP	CG	25/75S	38/62S	
1	No P	None		0	0	0	0	0	
2	GSP	Band		100	100	0	0	0	
3	15/85B	Band		100	85	15	0	0	
5	25/75B	Band		100	75	25	0	0	
6	38/62B	Band		100	62	38	0	0	
7	15/85S	Band		100	0	0	0	0	
8	25/75S	Band		100	0	0	100	0	
9	38/62S	Band		100	0	0	0	0	100
10	15/85S	Band		75	0	0	0	0	0
11	15/85S	Band		50	0	0	0	0	0
12	15/85S	Band		25	0	0	0	0	0
Oat									
					MAP	CG	15/85S	25/75S	38/62S
1	No P	None		0	0	0	0	0	0
2	GSP	Band		100	100	0	0	0	0
3	15/85B	Band		100	85	15	0	0	0
5	25/75B	Band		100	75	25	0	0	0
6	38/62B	Band		100	62	38	0	0	0
7	15/85S	Band		100	0	0	100	0	0
8	25/75S	Band		100	0	0	0	100	0
9	38/62S	Band		100	0	0	0	0	100
10	25/75S	Band		75	0	0	0	100	0
11	25/75S	Band		50	0	0	0	100	0
12	25/75S	Band		25	0	0	0	100	0



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Crystal Green is a fertilizer of continuous release made by Ostara. This fertilizer acts by releasing nitrogen, phosphorus and magnesium upon expel of root exudated citrates. Since fertilizer dissemination is modulated by components released from roots, run-off and leaching is minimized. The extent of its benefits in different crops is yet unknown. Thus, Crystal Green was tested in oilseed, pulse and cereal crops in order to observe which formulation improves yield in each of these crop types.

Barley emergence count ($P=0.9850$), moisture content (%), test weight in kg hL-1 and Avery lb bu-1 ($P=0.4179$ and $P=0.3824$ respectively) and yield ($P=0.6201$) were the same among treatments compared to the control (Figure 1).

Harvested weight (g) per plot in canola was heavier in GSP+S, 15/85S, 25/75S and 25/75 StPo treatments whereas lighter harvest weight was obtained in the No P treatment (control) ($P=0.0493$). Moisture percentage content in oilseed canola was statistically the same among treatments but yield (kg/ha) was significant under an alpha value of 0.10 ($P=0.0730$). As such, the control treatment (no P) yielded less than canola stands in GSP + S, 25/75S and 25/75 StPo treatments (Figure 2).

Emergence in field pea stands differed across treatments ($P=0.0324$). There were more emerged plant stands per plot in the control treatment (No P) compared to GSP, 15/85B, 25/75B (100, 75 and 25%), 38/62B, 15/86S, 25/75S and 38/62S. In contrast, yield (bu ac-1) was statistically the same among treatments ($P=0.5039$) (Figure 3).

Harvested weight in oat (g) ($P=0.4971$), moisture content (%) ($P=0.5097$), test weight (kg/hL and Avery lb/bu) ($P=0.7977$ and $P=0.6937$) and yield (kg/ha and bu/ac) ($P=0.5196$) were statistically the same among treatments (Figure 4).

It is likely weather played an important role and dry conditions paired with extreme temperatures may have exposed plants to stress that ultimately compromised yield. From our data so far, we can conclude that there is no potential benefit in adding Crystal Green in furrow in field pea, barley and oat as there is no impact on yield, particularly if weather conditions such as extended drought and heat are present.

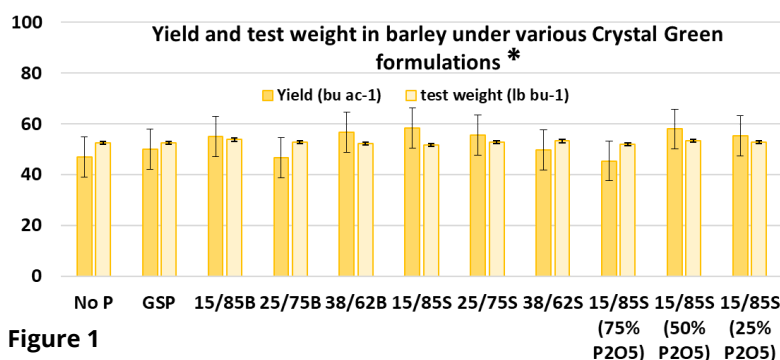


Figure 1

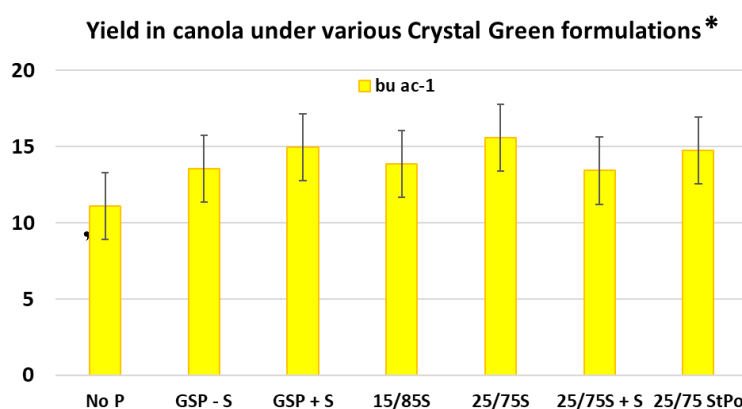


Figure 2

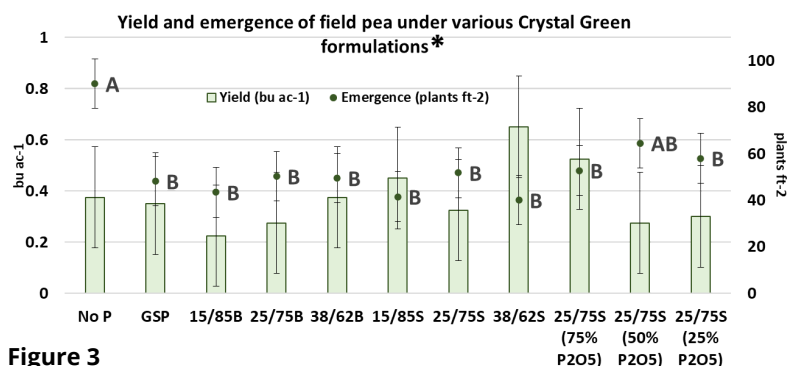


Figure 3

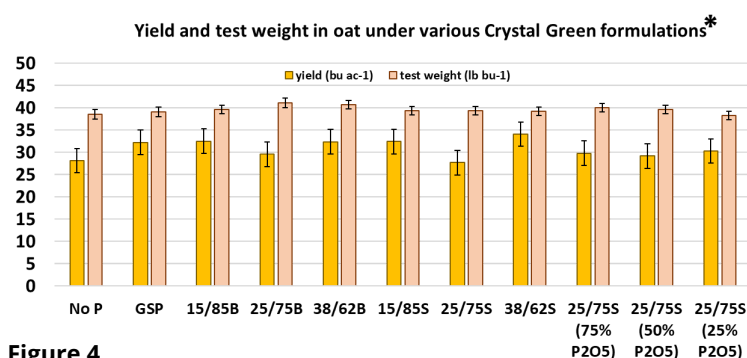


Figure 4

*Values with no letters determine no statistical difference across treatments