

Fertility Plans For Pulses

Fertility is important for pulses and using removal rates is a balanced approach. Removal rates for pulses have just been updated by Dr. Jeff Schoenau and are presented in Table 1. Please note the faba bean removal rates for phosphorus have been adjusted and are now similar to peas. However, the higher yield potential of faba beans means more phosphorus in total is needed by the crop, as reflected in the Total Uptake per acre column.

Requirements for pulse crops in terms of phosphorus are usually higher than the safe rates allowed to be seed placed (Table 2). Therefore, alternative placement of phosphorus should be considered including side banding, mid-row banding (with some seed-placed), or top up amounts in crops prior to pulses. Saskatchewan and Manitoba recommendations for maximum amount of seed-placed fertilizer do differ, but they both suggest pulses are fairly sensitive to seed placed fertilizer. Soil and environmental conditions will influence these rates and it is always better to err on the side of caution and minimize the potential impact on the emergence of the crop.

Table 1. Uptake and Removal Rates for Pulse Crops, in pounds P₂O₅ per acre (lb/bu)

Crop	Yield (bu/ac)	Removal (in grain) (lb P ₂ O ₅ /ac)	Removal (in grain) in lb P ₂ O ₅ /bu (ave)	Total Uptake (lb P ₂ O ₅ /ac)	Total Uptake (lb P ₂ O ₅ /bu)
Peas	50	31 - 38	0.62 – 0.76 (0.7)	38-46	0.76 – 0.92
Lentils	30	17 – 20	0.57 – 0.67 (0.6)	22 - 27	0.73 – 0.90
Soybeans	30	21 – 26	0.7 -0.87 (0.8)	24 – 30	0.8 – 1.0
Faba Beans	85	57 - 66	0.67 – 0.78 (0.7)	60 – 72	0.7 – 0.85

Source: [Phosphorus Fertilization in Crop Production](#), Saskatchewan Ministry of Agriculture

Table 2. Safe Rates of Seed Placed MAP (lb P₂O₅/ ac)

	SK Agriculture Recommendations	MB Agriculture Recommendations
Peas	15	20
Lentils	20	-
Soybeans	20	10
Faba Beans	40	20
Chickpeas	20	-
Dry Beans	30 (pinto)	10
Rates based on the following:	Knife openers with 1" spread and 9" row spacing; SBU = 11%	Disc or knife openers with 1" spread and 6-7" row spacing; SBU = 15%

More information available:

[Phosphorus Management for Pulses](#)

[Phosphorus Response in Faba Beans \(Research Summary\)](#)

[Seedrow Starter Fertilizer for Pulses \(Research Summary\)](#)