

the value of phosphate

PHOSPHATE (P)

Phosphorus is the third most limiting nutrient with respect to macronutrient uptake. Nitrogen and potassium are the only other essential plant food nutrients taken up in greater quantities and the potential and occurrence for phosphorus deficiency is second only to nitrogen.



Phosphorus plays a vital role in energy transfer, photosynthesis, nutrient transport, sugar metabolism, plant genetics, cell division and as a structural component of the plant.

Crops with adequate phosphorus show steady vigorous growth and earlier maturity. Earlier maturing crops are less susceptible to summer drought, disease infection, frost and harvest damage.

Plants absorb soil solution phosphorus in both the $\text{H}_2\text{PO}_4^{-1}$ and HPO_4^{-2} forms.

FACT

Phosphate is critical to early season growth under cool, moist soil conditions.

FACT

Phosphorus is present in all living cells - life would not exist without it.

FACT

Liquid and solid forms of phosphate fertilizers are equally effective.

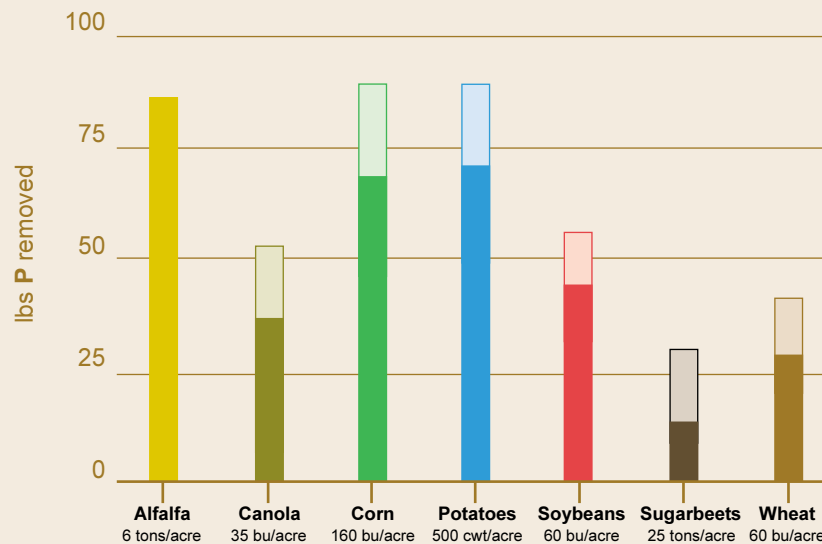


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crop removal chart



Note:

Total area of the bar indicates uptake (total nutrient taken up by the crop).
Darker areas indicate removal (nutrient removed in harvested portion of the crop).

Source: Potash and Phosphate Institute

Crop requirements for phosphate vary with yield and crop type. The amount of phosphate removed during harvest must be replaced to sustain production and prevent soil phosphate depletion.

best management practices

1. Soil test to estimate the soil's ability to supply phosphorus.
2. Place phosphate close to the seed in cool, moist soil conditions to improve uptake and encourage healthy root development.
3. Seed place or band phosphate to reduce soil contact and increase crop uptake.
4. Dual band nitrogen and phosphate to improve phosphorus uptake.

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