

## عنوان مقاله:

Manures behave similar to superphosphate in phosphorus accumulation in long-term field soils

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## خلاصه مقاله:

Repeated application of manures to agricultural soils could cause the accumulation of phosphorus (P) in soils. However, it is unclear if manure P can behave similar to P in soluble fertilizers in accumulation Olsen-P (0.5 mol L<sup>-1</sup> NaHCO<sub>3</sub> at pH 8.5) in soils. A long-term wheat-maize rotation experiment was conducted to investigate the effects of repeated application of manures on P accumulation in soils. The results showed that excessive or residual P in soils led to increase of Olsen-P in soils, which could be predicted accurately by initial concentration of Olsen-P in soils, P fertilization rate, crop yield, soil pH and cultivation time. The effects of application of K fertilizers or maize straw to soils or replacement of maize with soybean in wheat cropping systems were not significant on soil Olsen-P accumulation. The accumulation rates of soil Olsen-P were governed by P application rates of soluble P fertilizers and/or manures. Similar trend of Olsen-P accumulation was found in soils with soluble P fertilizers only or plus manures P, which supplied evidence that behaviour of manure P in long-term field soils is similar to inorganic P fertilizers and are helpful for the best management of soil P in agricultural production and environment protection.

## کلمات کلیدی:

Phosphorus, Accumulation, Long-term, soil

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