


PHOSPHORUS

CYCLE

 **COMPONENTS**


 **ADDITIONS TO SOIL**

 **LOSSES FROM SOIL**

 **CROP HARVEST**

 **ANIMAL MANURES & BIOSOLIDS**

 **PLANT RESIDUES**

 **ATMOSPHERIC DEPOSITION**

 **FERTILIZERS**

 **PRIMARY MINERALS**
(apatite)

 **RUNOFF & EROSION**

 **ORGANIC PHOSPHORUS**


- Microbial
- Plant Residue
- Humus

Immobilization

Mineralization

 **LEACHING**
(minor)

Plant Uptake

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- Soil Solution
 - Phosphorus
 - HPO_4^{-2}
 - $\text{H}_2\text{PO}_4^{-1}$

Weathering

Adsorption

Desorption

Dissolution

Precipitation

 **MINERAL SURFACES**

- Clays
- Fe
- Al oxides
- Carbonates

 **SECONDARY COMPONENTS**
(CaP, FeP, MnP, AiP)

