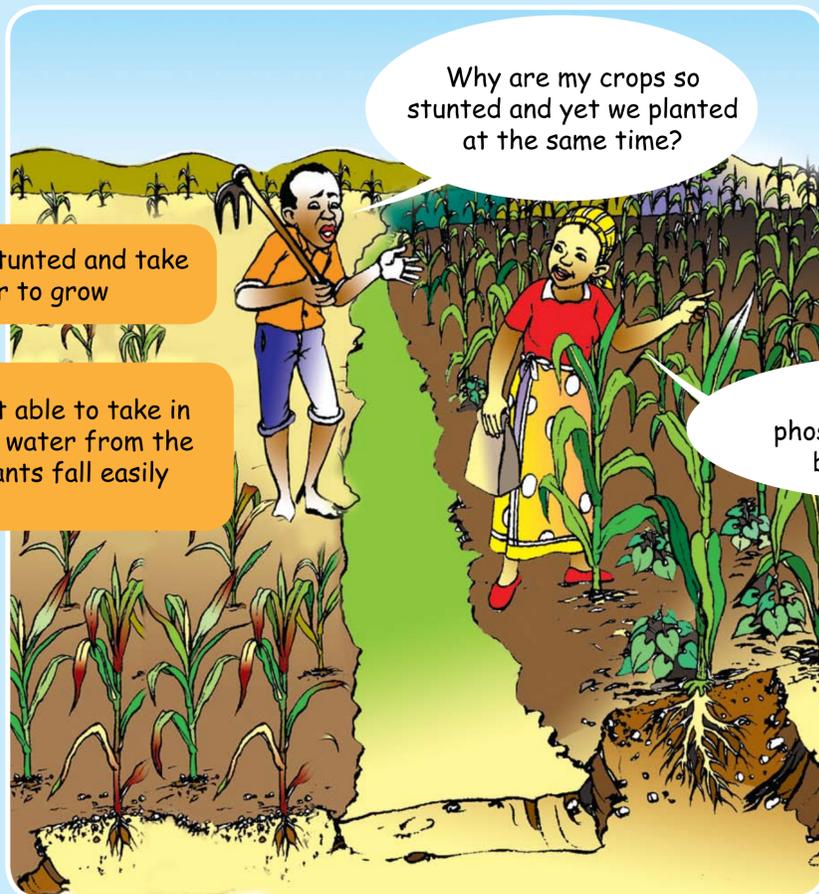


# Management of Phosphorus Deficiency, to increase your harvest

## 1. How to detect phosphorus deficiency



Maize leaves have a red/purple color



The roots are less developed, small and short

## 2. Phosphate fertilizer can make a big impact to your harvests

Compare the following crops which were planted at the same time:



Without phosphate fertilizer



With phosphate fertilizer



- Apply phosphate fertilizer at planting, close to but not touching the seed
- Plants need nitrogen but cannot get it directly from the air. Nitrogen fixing bacteria found in the soil and in the root nodules of legumes like peas and beans convert nitrogen gas into solid forms for the plants to take in. Phosphate fertilizers contribute towards this process and improve growth.

## 3. How to prevent loss of phosphorus from the soil

- Install soil conservation barriers
- After harvesting, either leave the crop residues (left-over stems and leaves) in the field or use them as animal feed and return the manure to your field

## 4. How to correct phosphorus deficiency

**Use Phosphate fertilizer:** Examples include TSP, SSP, DAP and Minjingu Rock Phosphate

- Phosphorus in TSP, SSP and DAP goes into the soil faster than phosphorus in Minjingu Rock Phosphate which is slow acting
- **In each acre, apply:**  
60 - 100 Kgs of TSP or DAP or  
80 - 160 Kgs of SSP or  
120 - 240 Kgs of Minjingu Rock Phosphate
- Mix the phosphorous fertilizer into the soil to prevent soil being washed away or into your neighbour's farm
- **Remember:** Calculate the amount of additional crop yield required to repay the cost of phosphate fertilizer. If in doubt, consult an agricultural extension staff in your area.