

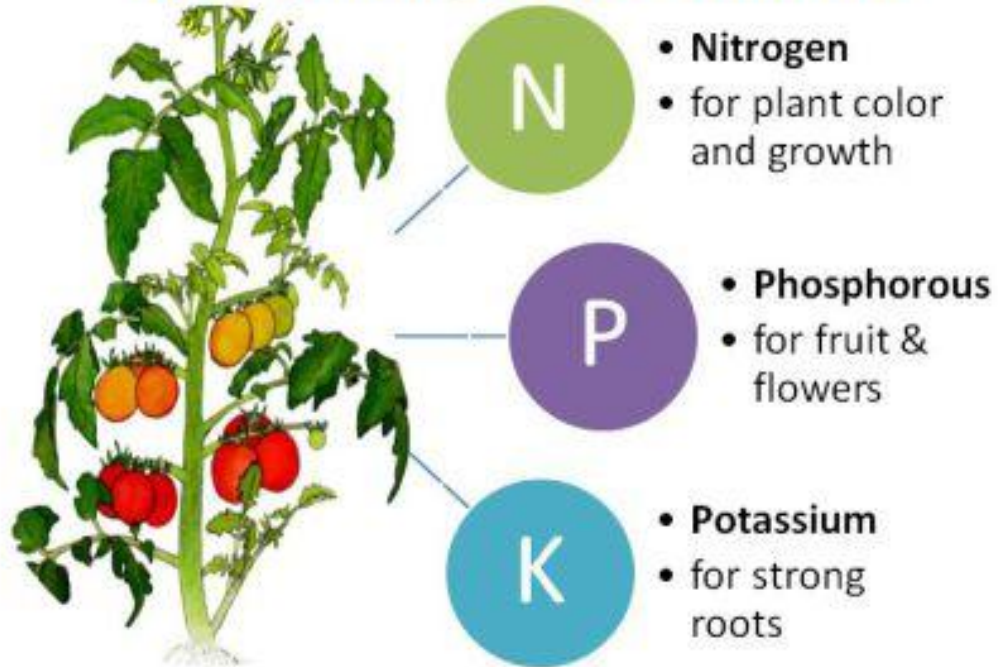
# Food and fertilizers

made by A.E.Nursultan



# Plant nutrients

## Understanding Fertilizer Numbers



## NEED OF MICROELEMENTS

### Why include Micronutrients to your crop program?

- Plants need more than just the Macronutrients (NPK) and secondary elements (Ca, Mg & S) to survive in a healthy state.
- Micronutrients act in the most of VITAL chemical reactions of plants.
- Micronutrients: Fe, Zn, Mn, Cu, B, Mo, Si, Co ...
- If there is a little deficiency of any microelement, it may affect to the yield and quality of the crops.
- Microelements are a **“restrictive factor”**



## Micronutrients are required throughout the growth cycle

### Growth Stage



Germination and establishment



Vegetative Growth



Flowering and reproduction



Maturity and senescence

## Micronutrients essential to support growth processes

Fe, Zn, Mn

Fe, Zn, Mn, Cu, B

Fe, B

Cu, Mo, B

# Plants are supplied with nutrients from:



# aerial deposition



NITROGEN IN THE AIR

Microbes “fix”  
nitrogen in nodules  
on the roots of the  
pulse crop.



A wide-angle landscape photograph showing a farmer in a field. The farmer is carrying a large bale of hay. In the middle ground, a red tractor is pulling a trailer loaded with hay bales. The field is filled with golden-brown grass and scattered hay bales. In the background, there are rolling hills and a range of mountains with patches of snow under a clear blue sky.

**10Q for your attention.**