

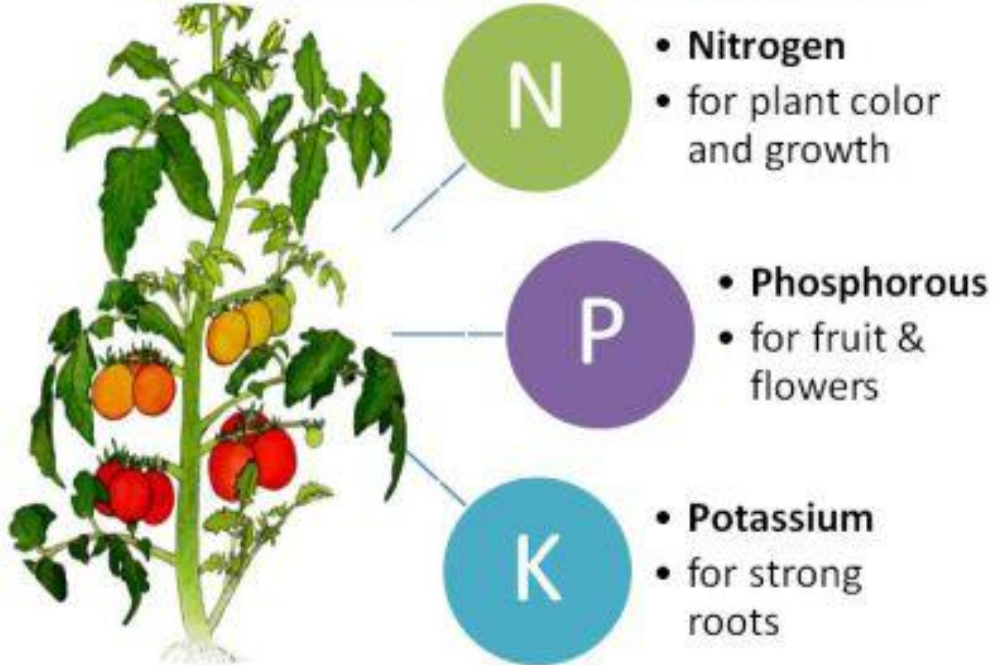
Food and fertilizers

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 on the left, carrying a large bale of hay. In the center, 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.