NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

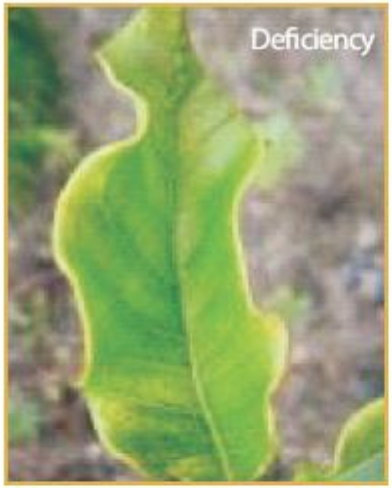
➢ Nitrogen (N)

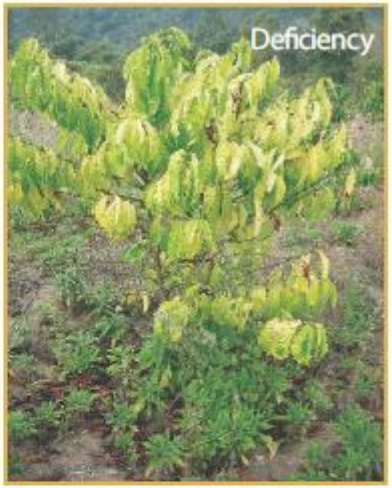
Function

- It makes leaves greener which is a sign of good health status
- It supports leave and shoot growth
- It increases the number of cherries per branch

Nitrogen deficiency

- Becomes first visible on young parts of the trees
- Leaves turn pale yellow and become thin
- Later older leaves turn yellow and are shedded (often on dense fruiting branches first)
- Leaves near the stem and in the lower part of the canopy become yellow first; other leaves are affected later
- Slow development of new leaves and shoots
- Branches could die under extreme deficiency





NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Phosphorus (P)

Function

- It supports the development of flowers and cherries
- It improves the coffee bean quality
- It supports root growth and the ability of the roots to absorb nutrients
- It reduces the risk for branches to dry out and shedding of leaves
- It supports increased pest and disease resistance

Phosphorous deficiency

- Retarded root growth
- Insufficient wood formation
- Old leaves on heavily bearing branches turn from light yellow to dark red starting at the leaf tips
- Leaves become dry, hard and are shedded

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Potassium (K)

Function

- It improves nutrient transport in the plant
- It improves the ability to bear fruits
- It increases the weight and size of the beans
- It reduces the number of floaters (low weight cherries, often containing just 1 bean)
- It increases resistance to drought and pests and diseases

Potassium deficiency

- Leaves turn dark black with crooked, necrotic stripes along the leaf margins
- Discoloring starts from the leaf tips inwards to the main vein
- Less noticeable in young leaves
- Under extreme deficiency berries and branches are shedded

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Magnesium (Mg)

Function

- It makes leaves greener which is a sign of good health status
- It produces energy for the trees

Magnesium deficiency

- Deficiency often occurs in case of excessive calcium (Ca) in the soil
- Olive-green discoloration occurs between the veins from the inside towards the leaf edges
- The main vain then turns yellow
- The olive-green colors then turn into a bronze like color, whereas the leaf veins keep their normal green color; the leaves finally resemble a fishbone structure

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

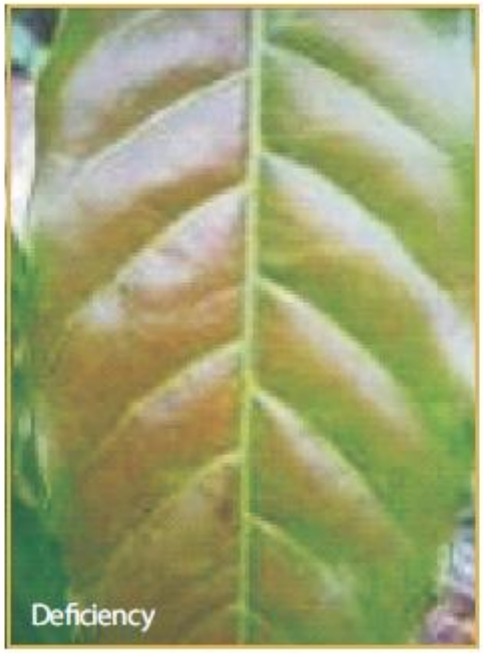
➢ Calcium (Ca)

Function

- It is necessary for root growth
- It supports tissue formation
- It helps with plant detoxification

Calcium deficiency

- Leaves turn gradually yellow from the outer edges to the middle of the leaf surface
- The part along the main vein of the leaf remains dark green
- The leave tips crook irregularly inwards
- Dieback of growing shoots occurs



NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Sulfur (S)

Function

- It makes leaves greener which is a sign of good health status
- It produces energy for the trees
- It supports better plant transpiration

Sulfur deficiency

- Young leaves and the parts near the leaf tips become yellowish silver
- Leaves become thin; both veins and leave surfaces become yellow
- The leaf edges crook downwards (easy to be torn apart)
- The whole tree will have a yellowish silver color in case of severe sulfur deficiency

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Iron (Fe)

Function

- It makes leaves greener which is a sign of good health status

Iron deficiency

- Leaves will initially develop distinct yellow or white areas between the veins of young leaves
- Severe iron deficiency can lead to spots of dead leaf tissue

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Zinc (Zn)

Function

- Necessary for the plant's metabolism

Zinc deficiency

- Leaves remain small and are deformed
- Leaves become curly and have the form of a knife blade
- Leaves turn entirely yellow or have yellow stripes along the main vein
- Shoots and growing tips develop slowly
- Short internodes especially in shoots and growing tips

NUTRIENTS DEFFICIENCY SYMPTOMS IN COFFEE

➢ Boron (Bo)

Function

- Necessary for the plant's metabolism

Boron deficiency

- Terminal shoots die
- Leaves are malformed
- Leaves show an olive green and yellow green chlorosis on the top half