

## IN ADDITION TO SOLVING NUTRIENT DEFICIENCIES, THE STOLLER GROUP SPECIALIZES IN THE FOLLOWING:

- ✓ Crop Health Therapy.
- ✓ Growing crops in soil that is very salty.
- ✓ Correction of fruit disorders.
- ✓ Correction of post harvest storage problems.
- ✓ Increasing disease resistance in plants.
- ✓ Increasing insect resistance in plants.
- ✓ Weather proofing crops against drought.
- ✓ Movement of sugar from the leaves to grain or storage tissue.
- ✓ Stop plants from “early dying”.

RICE

# Nutrient Deficiency Identification Guide



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## MICRONUTRIENTS



### Zinc

New leaves bearing a green-whitish chlorosis, on each side of the main vein, and extending towards the tip. Older leaves bear longitudinal rust colored spots. There is reduction in growth and leaf formation, short internodes and a late ripening.



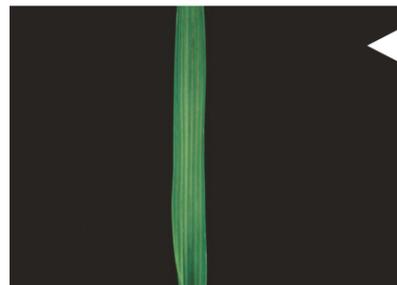
### Boron

Plants bear a small growth. New leaves and buds, under a more severe deficiency, appear more whitish and may die.



### Copper

New leaves bear a green-bluish color, developing a chlorosis at the tips and progressing down on each side of the main vein. These leaves curl up and the tips necrose. There is also an inhibited growth.



### Manganese

Begins with an internervous chlorosis of new leaves followed by the appearance of small grey spots which necrose. The new leaves are short and narrow.



### Iron

New leaves bear an internervous chlorosis which may progress and turn into a complete yellow leaf.

### Molybdenum

There is little incidence of a visual manifestation of molybdenum deficiency. However, low nutrient levels in tissues affect the plant absorption of nitrogen. Older leaves may have necrotic spots.

## MACRONUTRIENTS



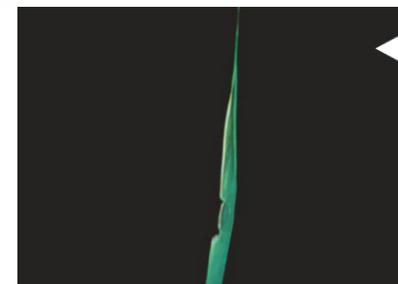
### Nitrogen

Old leaves become yellow, from the tip down to the base, and then they drying up. Plants bear a slow growth, low leaf formation and thin stalks.



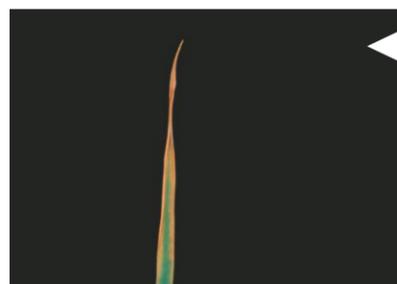
### Potassium

A white chlorosis begins at the tip of old leaves progressing at the borders and followed by a necrosis of these sites on the leaf which then curl upwards. The plants become stunted.



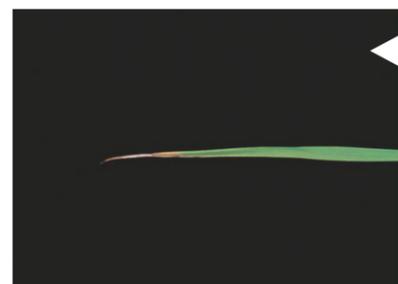
### Calcium

New leaves have yellowing borders. Small wrinkling of the leaf border may occur. The leaf tips usually bear a brown color and are distinctly more curled up, giving a drought-like appearance. There is a root growth restriction.



### Phosphorus

Older leaves bear bronze-like color at the tips turning into a yellow-orange color from the tip down to the base of the leaf, then drying up all the way to the stem. New leaves bear a darker green color. Leaf formation is reduced and the stems are thin.



### Magnesium

Older leaves bear a yellow-brownish interveinal chlorosis. At a more severe stage, these leaves curl up inwardly quite similar to a strong water stress.



### Sulfur

The deficiency symptoms are similar to the ones found in nitrogen deficiency (a uniform yellowing of the interveinal area), but, in the case of a sulfur deficiency, the symptoms appear first on new leaves. Plant growth is slowed down.