- Damage and die off growing points.
- Yellowish leaf edges.

# Magnesium:

- Leaves to show effects first: Old plant
- In dicots: Yellowing of older leaves that starts from the edges inwards. The mid rib may remain
- green while the edges are yellowed or whitish and dying (I don't know what this deficiency looks like in monocots like Vallisneria, but it should involve death of the older leaves.)
- Yellow spots.

# Iron:

- Leaves to show effects first: New plant
- Reduced chlorophyll in new growth. Leaves and stem are about the same shade. Growing tips of Ceratophyllum become pinkish and then white. Egeria densa tips become greenish yellow to yellow with the leaves small and clasped close to the stem. The new leaves of swords are smaller with patches or broad streaks extending lengthwise that are paler than the rest of the leaf (in mild deficiency). In more severe deficiency in most plants chlorophyll is lacking completely in the new growth which soon dies.
- Leaves Turn Yellow.
- Greenish nerves enclosing yellow leaf tissue.
- First seen in fast growing plants.

### Manganese:

• Dead yellowish tissue between leaf nerves.

#### **Boron:**

- Leaves to show effects first: New plant
- Very similar to calcium deficiency. New growth is distorted and smaller, and then the growing tips of both roots and shoots die. In mild deficiency in Crypts, the leaves are cupped and the roots are shorter and distorted.
- Dead shoot tips, new side shoots also die.

#### **Copper:**

• Dead leaf tips and withered edges.

# Zinc:

- Leaves to show effects first: Old plant
- Yellowish areas between nerves, Starting at leaf tip and edges.

#### Molybdenum:

- Leaves to show effects first: Old plant
- Yellow spots between leaf nerves, then brownish areas along edges.
- Inhibited flowering.