

#### 4.1.6 Nutrients

In addition to the substances that plants produce themselves during photosynthesis, various macro- and micro-elements are required in order for the plant to grow properly. Signs of nutritional deficiencies include slow or stagnated growth, weak stems, small pale leaves, premature defoliation, limited or no flowering, vulnerability to disease and pests, and the appearance of yellow spots on the leaves. Any plant that does not have a healthy appearance must be reviewed to check for pests and diseases, and the issue should be resolved using an appropriate treatment. Fertilising plants which are in poor health only exacerbates the problem.

Nitrogen takes nitrate form and is important for the green parts of plants. Phosphorus plays a crucial role in root formation, and potassium is needed for the production of leaves, flowers and fruits. These are macronutrients. Plants also need micronutrients in order to develop properly, such as trace elements of iron, manganese, calcium, magnesium and copper. These play an important role in plant photosynthesis and respiration. Signs of nutrient deficiencies include:

- Slow or no growth
- Weak stalks
- Small, pale leaves
- Premature loss of leaves
- Limited or no flowering
- Vulnerability to disease and pests
- The appearance of yellow spots on the leaves

Signs that the plant is receiving too much fertiliser include:

- The leaves are withered or damaged
- The appearance of white clusters in the substrate
- Weak, thin growth in the winter and unusually bulky, compact growth in the summer
- The appearance of brown spots on the leaf surface
- The leaves turn brown and dry at the edges

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