

# Calcium: importance, signs of deficiency/excess, and sources

## Calcium: Importance, Signs of Deficiency/Excess, and Sources

### Importance of Calcium as a Nutrient for Cannabis Growth:

Calcium is an essential nutrient for cannabis plants as it plays a crucial role in various physiological processes. It is considered a macronutrient, required in relatively large quantities compared to micronutrients. Calcium is involved in the formation and stability of cell walls, cell division, enzyme activation, and the regulation of nutrient uptake. It also aids in the transport and storage of other nutrients within the plant. Calcium is particularly essential during the flowering and fruiting stages of cannabis growth, as it promotes healthy bud development and overall plant strength.

### Identifying Signs of Calcium Deficiency and Excess in Cannabis Plants:

It is important to diagnose calcium-related issues in cannabis plants to maintain their overall health and productivity. Here are the signs to look out for:

#### 1. Calcium Deficiency:

- New growth appears pale and yellowish, leading to overall stunted growth.
- Necrotic spots appear on young leaves, which may progress to become brownish or black spots.
- Leaves exhibit curling or crinkling, and the tips may become distorted or necrotic.
- Weak stems that are easily prone to breaking or bending.
- Poor root development.
- Reduced bud production and lower yields.

#### 2. Calcium Excess:

- Leaf tips and margins show signs of burning or necrosis, which may appear as yellow or brown spots.
- Leaves may curl or show signs of wilting, even when soil moisture levels are adequate.
- Poor nutrient absorption due to imbalances caused by excessive calcium.
- Reduced growth and stunted plant development.

### Sources of Calcium for Cannabis Plants:

To ensure adequate calcium supply to cannabis plants, it is vital to incorporate it into the nutrient schedule. Here are some sources of calcium:

1. Dolomitic Lime: Dolomite lime is a naturally occurring mineral that contains calcium carbonate and magnesium carbonate. It helps to raise soil pH and provides a slow-release form of calcium for cannabis plants.

2. Gypsum: Gypsum is a calcium sulfate compound that can be used to increase calcium levels in the soil. It also helps improve soil structure and water drainage.

3. Eggshells: Crushed eggshells are an organic source of calcium. They can be added to the soil

or compost to release calcium slowly over time.

4. Calcium Nitrate: Calcium nitrate is a water-soluble fertilizer that is readily available to cannabis plants. It can be mixed with water and applied as a foliar spray or incorporated into the nutrient solution.

5. Bone Meal: Bone meal is a natural source of calcium and other essential nutrients. It is usually added to the soil or used as a top-dressing during cannabis cultivation.

#### Role and Functions of Calcium as a Macronutrient for Cannabis Plants:

Besides promoting proper cell wall formation and strengthening plant structures, calcium performs other crucial functions in cannabis plants. These include:

1. Nutrient Uptake: Calcium aids in the absorption and transport of other essential nutrients, such as nitrogen, phosphorus, and potassium, throughout the plant.

2. Enzyme Activation: Many enzymes involved in plant growth and development require calcium as a cofactor for their optimal activity.

3. pH Regulation: Calcium helps stabilize soil pH, ensuring the availability and uptake of other vital nutrients.

4. Disease and Pest Resistance: Sufficient calcium levels improve plant resistance against diseases and pests by strengthening cell walls and enhancing defense mechanisms.

#### Creating a Customized Nutrient Schedule with Adequate Calcium:

Developing a nutrient schedule that includes adequate calcium is essential for optimal cannabis growth. Here are some guidelines to consider:

1. Start with a balanced base nutrient solution that provides a suitable ratio of macronutrients and micronutrients, including calcium.

2. Adjust the nutrient solution's pH to the desired range, usually around 5.8-6.5, to ensure optimal nutrient availability, including calcium.

3. Monitor the plants closely for signs of calcium deficiency or excess and make necessary adjustments to the nutrient schedule accordingly.

4. Supplement the base nutrient solution with additional calcium sources, such as calcium nitrate or dolomitic lime, as required.

5. Consider the calcium requirements of different cannabis strains and growing mediums, as they may vary. Experimentation and observation will help determine the ideal calcium dosage for your specific situation.

#### Conclusion:

Understanding the importance, signs of deficiency/excess, and sources of calcium is crucial for ensuring the optimal growth and development of cannabis plants. By comprehending the role

and functions of calcium as a macronutrient, participants will be able to identify and address calcium-related issues effectively. Additionally, participants can create a customized nutrient schedule that provides adequate calcium for different strains and growing mediums, ensuring healthy and robust cannabis cultivation.