

# Understanding different types of fertilizers

## Understanding Different Types of Fertilizers

Fertilizers play a crucial role in providing essential nutrients to plants for their optimal growth and development. When it comes to growing cannabis, it is important to have a thorough understanding of the different types of fertilizers available in order to ensure the proper nutrients are provided. In this tutorial, we will explore the various types of fertilizers, the role and functions of macronutrients and micronutrients, how to identify signs of nutrient deficiency and excess, and the appropriate nutrient sources to address these issues. By the end of this tutorial, participants will be equipped with the knowledge and skills to create a customized nutrient schedule based on different strains and growing mediums, ultimately leading to a comprehensive understanding of the importance of nutrients and fertilizers for cannabis growth.

### 1. Macronutrients:

- Nitrogen (N): Nitrogen is essential for vegetative growth, chlorophyll production, and overall plant health. It promotes lush, green foliage and strong stems. Signs of nitrogen deficiency include yellowing of leaves and stunted growth.
- Phosphorus (P): Phosphorus is crucial for root development, flowering, and fruiting. It aids in energy transfer and supports overall plant vigor. Symptoms of phosphorus deficiency include dark green or purplish leaves and slow growth.
- Potassium (K): Potassium is involved in various physiological processes, including cell division, water regulation, and overall plant strength. It helps improve disease resistance and flower quality. Signs of potassium deficiency include yellowing, leaf curling, and weak stems.

### 2. Micronutrients:

- Iron (Fe): Iron is necessary for chlorophyll synthesis and overall plant energy production. Lack of iron can lead to yellowing of leaves, particularly in newer growth.
- Calcium (Ca): Calcium is vital for cell wall development and nutrient absorption. Insufficient calcium may result in stunted growth, leaf curling, and tip burn.
- Magnesium (Mg): Magnesium is a key component of chlorophyll and is essential for photosynthesis. Magnesium deficiency is often marked by yellowing between the veins of leaves.

### 3. Organic Fertilizers:

- Compost: Compost is a natural, nutrient-rich material made from decomposed organic matter. It provides a slow-release of nutrients and improves soil structure.
- Manure: Animal manure, such as cow or poultry manure, is an excellent source of organic matter and nutrients. It enhances soil fertility and microbial activity.
- Fish Emulsion: Fish emulsion is a liquid fertilizer made from fish waste. It is high in nitrogen and can be a valuable source of nutrients for cannabis plants.

### 4. Synthetic Fertilizers:

- Complete Fertilizers: These fertilizers contain a balanced ratio of macronutrients and micronutrients. They are usually labeled with three numbers representing the percentage of nitrogen, phosphorus, and potassium, respectively (e.g. 10-10-10).
- NPK Fertilizers: NPK fertilizers are formulated to provide a specific ratio of nitrogen,

phosphorus, and potassium. Different ratios are suitable for different stages of plant growth.

- Slow-release Fertilizers: These fertilizers release nutrients gradually over time, providing a steady supply of nutrients to the plants. They can help prevent nutrient leaching and offer long-term nourishment.

#### 5. Identifying Nutrient Deficiency and Excess:

- Yellowing or discoloration of leaves can point to various nutrient deficiencies or excesses. Consulting a nutrient deficiency chart or guide can help identify the specific issue.

- Stunted growth, leaf curling, or tip burn may also indicate that certain nutrients are lacking or being overfed. Checking the pH and nutrient levels of the growing medium can help diagnose the problem.

#### 6. Addressing Nutrient Issues:

- Nutrient deficiency can be addressed by applying the appropriate fertilizers, either through foliar feeding or root drenching. It is important to follow the dosage instructions to avoid over-fertilization.

- Nutrient excess can be alleviated by flushing the growing medium with water to leach out the excess nutrients. Adjusting the pH level can also help improve nutrient uptake.

#### 7. Customized Nutrient Schedule:

- Creating a customized nutrient schedule requires understanding the specific needs of different cannabis strains and the characteristics of the growing medium.

- Factors to consider include the strain's flowering time, nutrient requirements during different growth stages, the pH level of the growing medium, and the desired yield.

- Regular monitoring of plant health and adjusting the nutrient schedule accordingly is crucial for successful cannabis cultivation.

In conclusion, understanding the different types of fertilizers is vital for providing the appropriate nutrients to cannabis plants. Knowing the role and functions of macronutrients and micronutrients, identifying signs of nutrient deficiency and excess, and using the appropriate nutrient sources to address these issues will ensure optimal growth and yield. By creating a customized nutrient schedule based on different strains and growing mediums, participants will gain comprehensive knowledge of the importance of nutrients and fertilizers for successful cannabis cultivation.