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Principles of Nutrient Management and Best Management Practices

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INTRODUCTION

Nutrient Management

Nutrient management refers to the efficient use of crops. It is necessary to balance soil nutrients with crop needs. The best product is obtained by using nutrients in sufficient quantities and at the right time.

Principles of Nutrient Management

The 4R's of Nutrient Management

The word "4R" a lot, but what does it really mean ?

When talking about the proper use of nutrient application, Nutrient management or the "4Rs" of Nutrient management are often mentioned. The 4Rs, which stand for right source, right rate, right time, and right place, are designed to guide farmers in management practices that help preserve nutrients on their own fields. Applying the 4Rs helps manage the economic, environmental and social aspects of nutrient management.

Right Source (First R)

To make the right decision, the following points should be taken into consideration:

Is the fertilizer used (commercial or manure) suitable for immediate or delayed planting ?

Is there a fertilizer combination that has the most uses and can be used ?

What are the nutrients in the soil?

Second R is Right Amount:

Match amount of fertilizer applied to the crop nutrient uptake

What is the crop nutrient demand ?

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• Done a soil analysis (manure analysis, if using as the fertilizer source) to appropriately match the dose of fertilizer demand for crops based field fertility on individual basis

• Make good equipment using to spread the fertilizer or manure is properly calibrated for efficient distribution

• Decide goals for estimating crop yield goals

• Decide the law of diminishing returns: the unit of nutrient applied = crop yield increase generated

The third **R** is **Right Time**:

Plan to apply fertilizer when the crop needs it; often consider weather and season around planting:

• Nutrient runoff may be greater in winter

• Saturated fields do not retain good nutrients

• Apply fertilizer before weighing. Precipitation can cause food runoff The EnviroImpact tool is a decision support tool that helps short-term planning of food usage, reducing most of it from emissions.

Finally, determine the right place

Place the fertilizer in an area where the roots can access nutrients.

- Soil type
- Slope
- Distance from water

• Soil properties such as nutrient capacity and friability (may vary from field to field) Nutrient losses

• Phosphorus or P index >• With GPS integration difference between crop data

Best Practices for Fertilization

Fertilizers are essential to stimulate plant growth. It contains many nutrients that all plants need to survive: nitrogen, potassium. phosphorus and Specialty fertilizers also contain different nutrients to meet the needs of different plants (What is Fertilizer and How Does It Work). Although fertilization is necessary for the health of most crops, it can cause problems. Most of the fertilizers used in the fields are not absorbed by the soil and mix with rivers or mix with the soil profile, polluting groundwater.

There are many factors to consider when deciding which fertilizer to use for your crops.

Many soil and tissue tests are performed because plants need certain nutrients to grow well. This way, growers know what their plants need and can make fertilizer decisions accordingly. According to Monty Saunders (2013), soil testing should be done annually and tissue testing should be done weekly to assess nutrition and health throughout the growing season. Onion plants should be fertilized with nitrogen every 2 to 3 weeks, and adding phosphorus also helps (large onion).

Growers should consider different fertilization methods. The main methods include broadcast fertilization, foliar fertilization. spot fertilization and drip fertilization. Spreading manure means spreading manure evenly over the field (see Nutrient Management: Fertilization Methods for details). Leaf fertilization is the application of liquid fertilizer to the leaves of the plant in the form of a spray, allowing it to be placed on the leaves. . (For more information, see Foliar Fertilization - Pros and Cons). The permit refers to the use of fertilizer in the area near the plant rows.

Insemination is a completely different type of desire. Fertilizer is added to water and can be used from rivers, manure and reservoirs (combining "green business" with technology). NO. Healthy plants can grow because they are less susceptible to diseases. Liquid fertilizers also reduce pollution because the chemicals used are more efficient.

Fertilization is beneficial for onion plants because it controls nitrogen leaching and preserves water, energy and nutrients from good water and nutrients. application (Jat et al., 2011). Compared to taps and faucets, water pumps can easily transport water to spaces; Therefore, drip irrigation is the best choice for agricultural irrigation and fertilization. For more information on the right equipment to suit your farming needs, visit Fertilizer Injectors: Selection, Maintenance and Calibration.