



# Environmental impacts on nutrient management and its production methods

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## DESCRIPTION

A crucial factor in boosting the supply of food for a population that is constantly expanding worldwide has been increasing nutritional inputs. However, focusing on the most crucial nutrients, such as nitrogen (N), has occasionally resulted in nutrient imbalances, some excess applications, particularly of N, inefficient use, and significant losses to the environment, which have an effect on the quality of the air and water, biodiversity, and human health. On the other hand, some nations' nutrient-depleted soils are a result of food exports from developing to industrialised nations. In order to achieve sustainable agriculture and maintain the necessary improvements in food production while avoiding waste, economic loss, and environmental effects, better management of all important nutrients is vital. Production methods that are more thorough, such "organic farming," may prove to be sustainable. However, it will be crucial to improve the efficiency of nutrient utilisation in conventional systems for the majority of the industrialised world as well as the emerging world, where a constantly expanding population wants more food.

Maintaining soil health and maximising crop output and quality need proper nutrient management. Applying the appropriate nutrient sources, such as manure, fertiliser, or compost, in the appropriate quantity, at the appropriate location, and with the appropriate timing is known as nutrient management.

### Crop nutrients in nature

Even though micronutrients are very little necessary for plants, that doesn't mean their significance for plant growth is any less. They are just as necessary and effective as those who are needed in larger numbers. However, there are other other factors that affect nutrient levels, such as:

- Crop
- variety
- climate
- soil characteristics
- fertilisation management

The aforementioned elements acting collectively will affect the crop output and nutrient

requirement. The possible environmental effects of inappropriate or excessive usage of fertiliser, manure, and compost have recently come to the attention of agricultural producers. Nutrient Management Planning is now being used by farmers to optimise crop yields, cut fertiliser costs, and reduce the environmental impact of the nutrients used on their farms. By balancing the nutrients already present in the soil with amendments from other sources, a complete nutrient management plan will identify the steps necessary to meet your crop management goals. This will ensure that the level of nutrients in the soil is optimal for crop growth and meeting environmental objectives.

**Pacific northwest crops nitrogen uptake and utilization:** The time and pattern of biomass accumulation and nitrogen uptake for a number of Pacific Northwest crops are discussed in this publication. This knowledge can be used to plan N fertilizer applications for best effectiveness.

West of the Cascades Post-Harvest Soil nitrate testing for manured cropping Systems by Using post-harvest soil nitrate testing as a technique to evaluate nitrogen management in manured cropping systems west of the Cascade Mountains in Oregon, Washington, and south coastal British Columbia is described in this study.

As a plant matures and progresses through several developmental phases, its nutritional needs to be change (e.g., vegetative VS. reproductive). Fertilizer usage should ideally be

increased when demand is highest and decreased or discontinued at all other times. This strategy could lessen runoff and stop dangerous nutrient surpluses or deficits.

Chrysanthemums and marigolds are two separate growth phases in some plants, and they exhibit a pattern of increased N intake during vegetative growth and a levelling off or drop after the development of visible buds. After a visible bud, fertiliser can be reduced because nitrogen is most important during the vegetative phase. In contrast, New Guinea impatiens exhibit a continuous, progressive rise in N intake as they grow because they lack discrete vegetative and reproductive stages. Early on, low fertility is beneficial for New Guineas, and fertilisation becomes more important as the plant grows older and larger.

## CONCLUSION

Long-term planning and a varied combination of cultural practises and inputs are necessary for nutrient management on organic farms. Only a few crops' nitrogen uptake patterns have been identified, but there is already some knowledge available to improve postharvest longevity and lessen nutrient runoff by lowering fertility in the last stages of growth. Although there are an increasing variety of organic fertilizers and biofertilizers on the market, the most successful organic farms often obtain their nutrients on the farm or very close by utilising organic wastes, scavenging leftover soil nutrients, and biological nitrogen fixation.