NUTRIENTS ARE ESSENTIAL FOR HUMAN HEALTH

Fertilising Crops to Improve Human Health

'**Plant Nutrition and Health Risks Associated with Plant Diseases**' by Don M. Huber.

Part 06

Fertilisers & Human Health
An 8 Part Series

Main Message

The benefits of efficient crop production include lower prices, reliable supplies, employment opportunities, environmental improvements, and higher nutritional quality food and feed.

Nutritional quality is markedly reduced by disease and pest damage, and this often occurs before the symptoms of yield reduction are observed. The greatest losses are sustained in protein, vitamin and mineral composition.

Good animal and human health is dependent on healthy plants, and this is dependent upon fertile soils.

The severity of most diseases can be greatly decreased by proper nutrient management (Datnoff et al., 2007). Pest and disease damage are generally greatest with plants that are nutritionally or environmentally stressed.

Balanced nutrition increases plant vigour, competitive advantage, and a successful respone to limit infection. Disease control by cultural practices—crop rotation, organic amendment, irrigation, liming to adjust soil pH, and tillage—frequently influences disease through effects of these practices on nutrient availability, and this often involves altered microbial activity.

Ensuring nutrient sufficiency to maintain resistance to pathogens and abiotic stress is necessary to provide food safety, abundance, and nutrient quality. An abundant supply of affordable, safe and nutritious food and feed is essential to meet society's needs.

Key Points

- Nutritional quality is markedly reduced by disease and pest damage.
- The severity of most diseases can be greatly decreased by proper nutrient management.
- A balanced nutrition program increases plant vigour, competitive advantage and ability to successfully respond to limit infection.
- The advent of readily available inorganic fertilizers has brought about the demise of many diseases through improved plant resistance and the microbial interactions influencing them.

> "Nutrition is a critical part of health and development. Better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases (such as diabetes and cardiovascular disease), and longevity".
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> Source: (WHO Health Topics https://www.who.int/health-topics/nutrition)

Gannan Navel Orange at Boji Village, Yudu County, Ganzhou City, Jiangxi Province, December 2016

RLF. 25+ Years of Plant Nutrition.

RLF Specialty Liquid crop nutrition fertilisers have been developed, manufactured and continually refined over a period of more than 25 years to a position today where our products are targeted to provide the nutrition needs of any particular crop, or for any particular deficiency.

Crop nutrition is considered key to unlocking yield and quality potential and overall plant health.

RLF products deliver tangible and positive economic benefits for farmers and growers and the foundation for this success is RLF's high performance formulations. They are all based on, and built with an unwavering commitment to the science of plant physiology, i.e. the needs of each specific crop whether broadacre, horticultural or animal.

RLF specialty liquid crop nutrition products provide the global agricultural industry with some of the most advanced and efficient speciality liquid fertiliser formulations available – and in turn they produce highly nutritious food crops and produce for consumers.

Complete Scientific Review Extracts are:

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Economic forces operating over a long period of time have produced a highly efficient agricultural system. The benefits to society through efficient crop production include lower prices, reliable supplies, employment opportunities, environmental improvements, and higher nutritional quality food and feed.

Nutritional quality is markedly reduced by disease and pest damage, and sometimes before a yield reduction is observed. Greatest losses are sustained in protein, vitamin, and mineral composition, and least in carbohydrates. The need for increased processing required to compensate for pest losses or contamination may of itself reduce nutritional value.

Good animal and human health is dependent on healthy plants that are only available from fertile soils. The nutritional status of a plant determines its histological or morphological structure and properties, the function of tissues to hasten or slow penetration and disease development, and its nutritional value for feed or food.

The severity of most diseases can be greatly decreased by proper nutrient management (Datnoff et al., 2007). It is not possible to generalize the effects of any particular nutrient on all plant diseases because it is the sum of many interacting factors of the plant, pathogen, and environment over time that determine how a specific disease is affected by nutrition.

The disease response may be independent of vigour or other generalized growth responses since nutrients can limit pathogenesis or toxin production through passive and active mechanisms of defense that are activated through effective nutrient management. Pest and disease damage are generally greatest with plants that are nutritionally or environmentally stressed.

A balanced nutrition increases plant vigour, competitive advantage, and ability to successfully respond to limit infection. Disease control by cultural practices—crop rotation, organic amendment, irrigation, liming to adjust soil pH, and tillage—frequently influences disease through effects of these practices on nutrient availability, and this often involves altered microbial activity.

The advent of readily available inorganic fertilizers has brought about the demise of many diseases through improved plant resistance, disease escape, altered pathogenicity, or microbial interactions influencing these.

Efficient fertility programs can enhance plant resistance to pathogens, reduce the impact of environmental stress, and increase the nutritional quality of the food and feed that are produced. Effective disease and pest management improves crop quality and quantity to result in surplus food production, lower prices for consumers, and an abundance of quality food products.

Ensuring nutrient sufficiency to maintain resistance to pathogens and abiotic stress is necessary to provide food safety, abundance, and nutrient quality. An abundant supply of affordable, safe and nutritious food and feed is essential to meet society's needs.

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- The severity of most diseases can be greatly decreased by proper nutrient management and pest and disease damage are generally greatest with plants that are nutritionally or environmentally stressed.
- A balanced nutrition increases plant vigour, competitive advantage, and ability to successfully respond to limit infection.
- The advent of readily available inorganic fertilizers has brought about the demise of many diseases through improved plant resistance, disease escape, altered pathogenicity, or microbial interactions influencing these.