

PROACTIVE NUTRITION

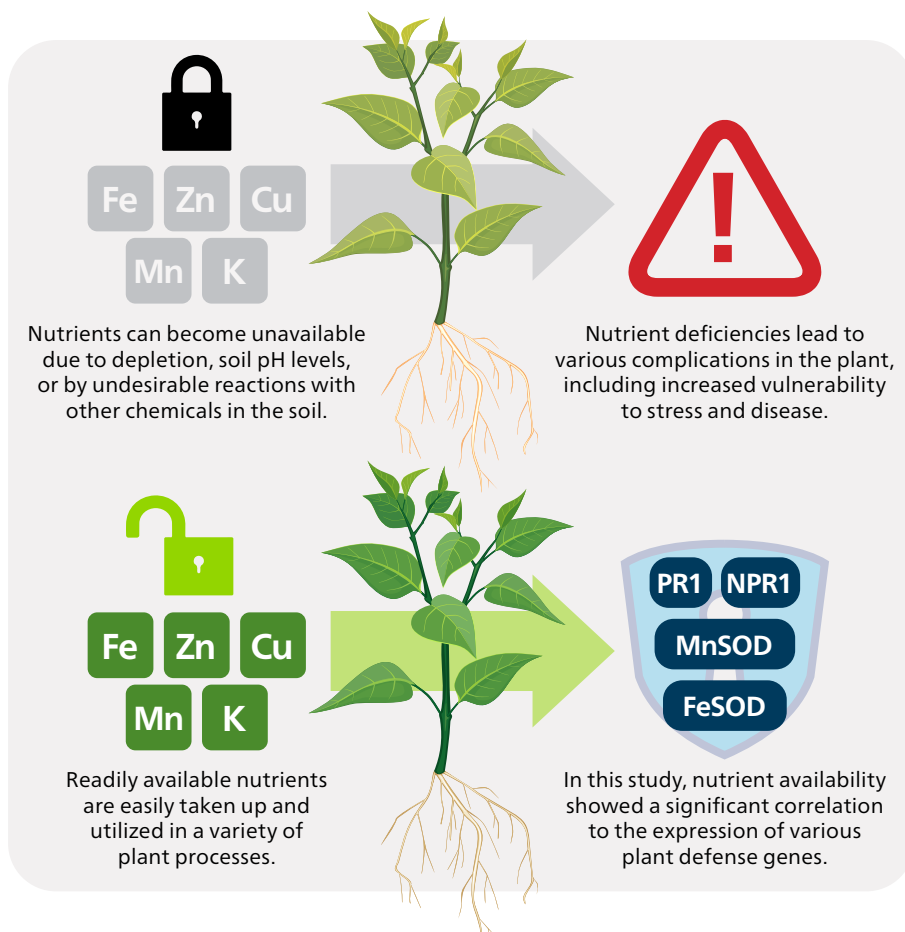
An essential first line of defense for crop production

What role does nutrition play in integrated pest management?

Just as humans require vitamin C, zinc, calcium and other vitamins and minerals to stay healthy, plants that are well-nourished also have more effective defense systems.

- In plants, a ready supply of nutrients such as iron, zinc, copper and manganese is essential to optimal cell integrity and plant vigor in the face of external stresses.
- Proactive nutrition is an essential part of integrated pest management and can help reduce the need for corrective intervention later in the season.

In an article published in 2017 in the journal *Phytopathology*,¹ researchers described a model they developed which was able to predict to a significant degree the severity of bacterial leaf spot in pepper plants, based on nutrient availability and the subsequent defense responses in the plants.



"The data indicate that the level of risk at a particular location may be influenced by how macronutrient and micronutrient concentrations affect plant disease resistance genes in the SAR pathway."

¹ B. Dutta, D.B. Langston, X. Luo, S. Carlson, J. Kichler, and R. Giaitis. "A Risk Assessment Model for Bacterial Leaf Spot of Pepper (*Capsicum annuum*), Caused by *Xanthomonas euvesicatoria*, Based on Concentrations of Macronutrients, Micronutrients, and Micronutrient Ratios." *Phytopathology*, 2017.

Read the full study at <https://doi.org/10.1094/PHYTO-05-17-0187-R>

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