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Special Issue Reprint

Advances in Biostimulant Use on Horticultural Crops

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Biostimulants are an invaluable tool for horticulture, often applied to plants with the goal of enhancing certain desirable characteristics regardless of their nutrient content. Specific biostimulants have the capacity to modify physiological processes that benefit growth, development, and/or stress tolerance. Since the biostimulant definition focuses on function versus form, there are many compounds that can be classified as biostimulants.

Researchers have identified biostimulatory properties from humic substances, composts, natural extracts, peptides, antioxidants, and many other types of compounds. As society faces global threats such as climate change and food insecurity, the role of biostimulants in horticulture is arguably more important now than ever before. This reprint consolidates recent advances on the effect of biostimulants on a diverse range of horticultural crops, including lettuce, tomato, pumpkin, basil, apple, cucumber, pepper, peony, and fir. Reprint articles describe application methods, range of effects, and speculate on a potential larger commercial benefit. There is an emphasis in these Reprints on the effect biological extracts, such as those from other plants or other organics. There is also an emphasis on abiotic stress mitigation, specifically salt, nitrogen, alkaline, and water deficit stress. The ability of biostimulants to promote photosynthesis and growth through stress will be an essential property for the future.

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