

Evaluation of Nitrogen Uptake and Applied Irrigation Water in Asian Vegetables Bok Choy, Edible Chrysanthemum, Garlic Chives, Moringa, and Lemongrass

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Abstract

Grown primarily in Fresno, Monterey, Riverside, San Bernardino, Santa Clara, San Luis Obispo, and Ventura counties on around 7,026 acres, Asian vegetables are valued at \$79 million per year. Asian growers producing specialty vegetables and herbs are required to fill out the nitrogen management plan as part of the Irrigated Lands Regulatory Program. However, they lack the information to complete this form accurately as there is no information on nitrogen fertilizer recommendations or nitrogen uptake for most of their crops. This project proposes to provide detailed measurements of total nitrogen (N) uptake and N uptake pattern of bok choy, edible chrysanthemum, garlic chives, moringa, and lemongrass. The project will also evaluate current irrigation management practices of these crops and compare them with the water requirements of each crop and identify potential practices that may help reduce nitrate leaching. Together, the information collected will provide the basic information necessary for growers to better manage N inputs to these crops and protect water quality.

Project Objectives

1. Evaluate N uptake, N availability, canopy development and water application of bok choy, edible chrysanthemum, garlic chives, moringa, and lemongrass
2. Extend the findings of this research to Chinese and Hmong growers in the Central Coast and Central Valley regions to increase their understanding of N uptake and publish results to provide documentation of the findings