

Optimizing nitrogen fertilizer practice to improve lychee flowering and yield. (S04-li100842-Poster)

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Abstract:

Lychee (*Litchi chinensis* Sonn.) is gaining popularity in American markets and is becoming a high value crop in south Florida. However, unreliable flowering and yield seriously impact on lychee production in this area. Flowering normally follows cold or drought stress. Under warm weather, high rainfall and excessive nutrients cause unreliable flowering and fruit set. Although growers have no control over the weather, they can optimize flowering by managing the vegetative vigor of trees. When excessively watered and fertilized, lychee trees grow vigorously and produce vegetative flushes every two or three months. The lack of maturity of late vegetative flushes in the late fall or early winter prevents flowering in January and February. Vegetative flushes in late fall can be prevented by restricting nitrogen in summer. Thus, through proper nitrogen fertilizing, growers can achieve abundant flowering. Our results demonstrated that the timing and rate of nitrogen fertilizer significantly affected soil and leaf nitrogen status. High nitrogen concentrations in the leaves were associated with vegetative flushing and reduced flowering and yield.

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Presentation Information:

Presentation Date: Monday, November 11, 2002

Presentation Time: 2:00-4:00 pm

Poster Board Number: 1828

Keywords:

Lychee, Tropical fruit, Nitrogen fertilizer, Flowering