

Field Trials with Nitrogen Management for Organic Strawberry Production in Santa Maria

- Lessons Learned -

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Overview

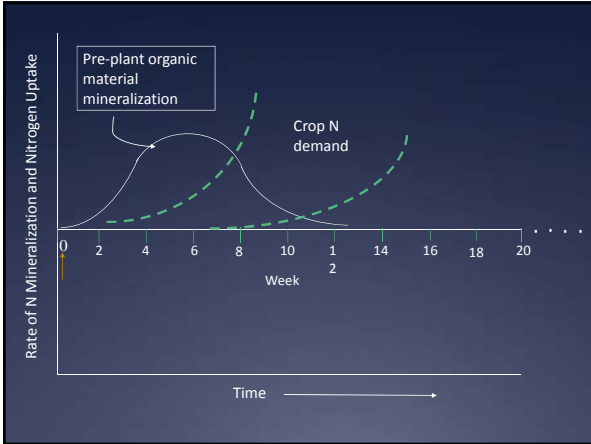
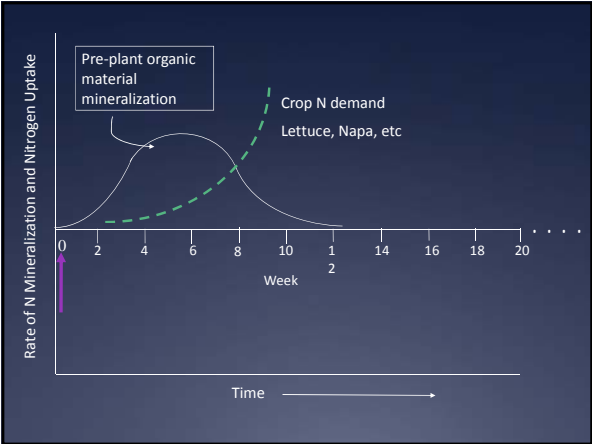
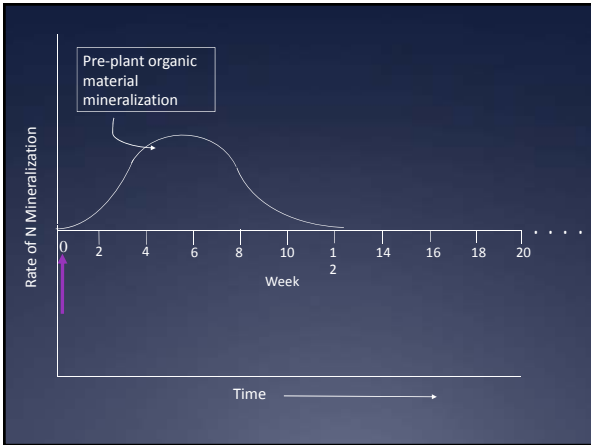
- * Background on strawberry N use and N from organic sources
- * Data from 07/08 and 08/09 field trials with organic strawberries in Santa Maria
- * Anticipated future field trials with organic strawberry production

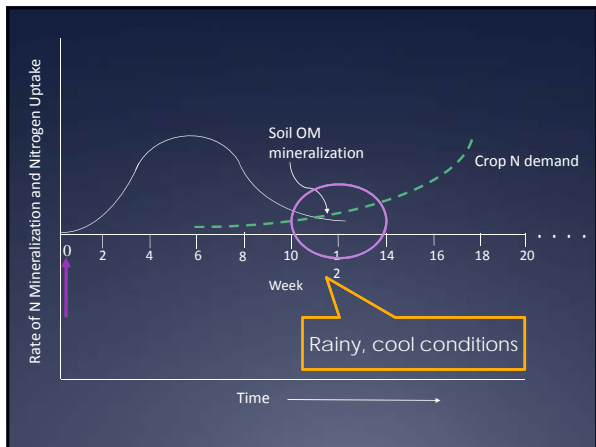
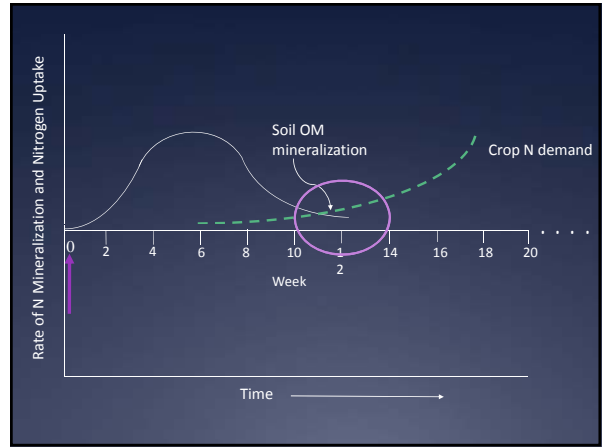
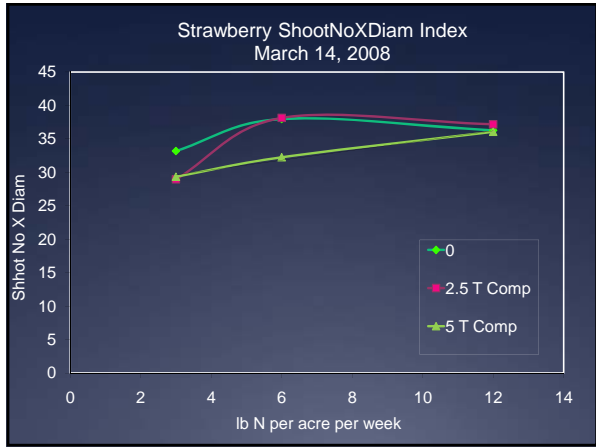
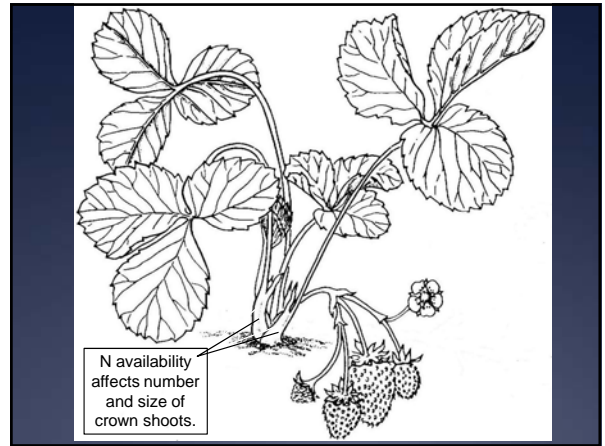
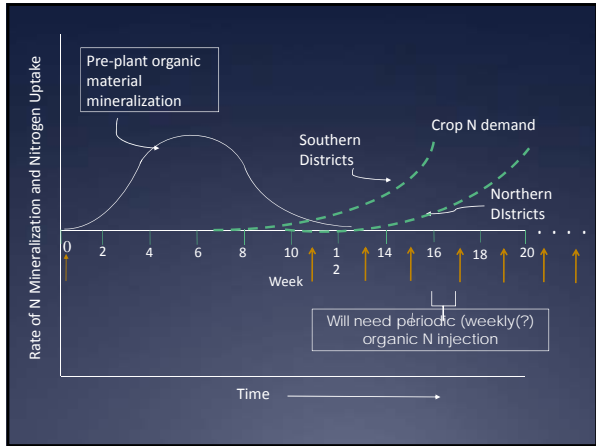
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Key problems with N use for organic strawberries are amount and timing

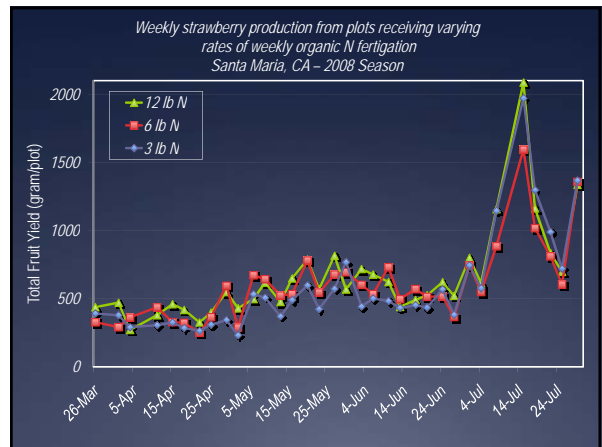
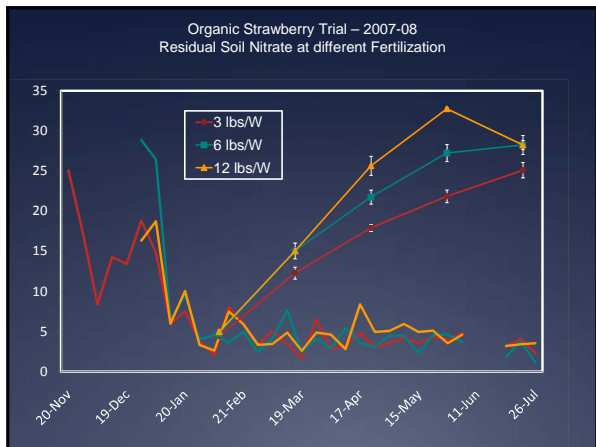
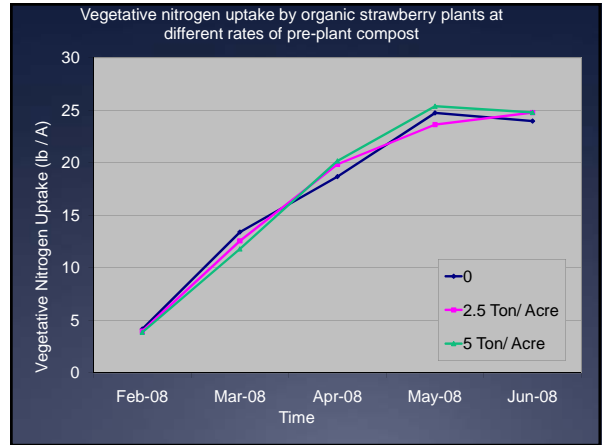
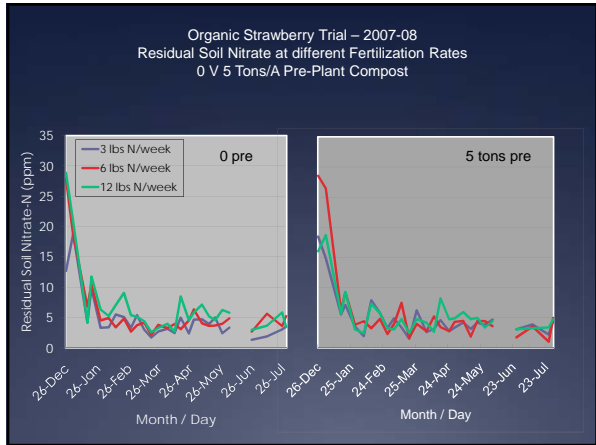
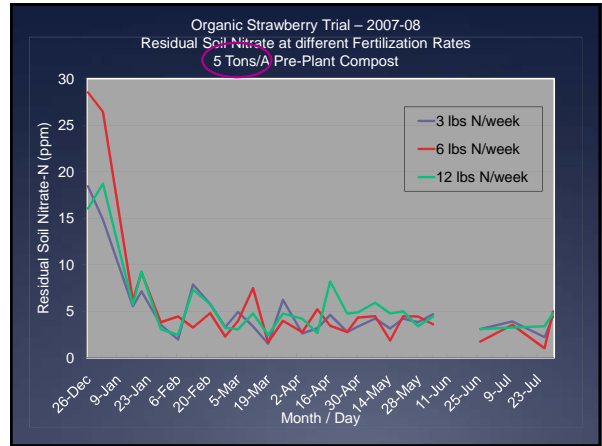
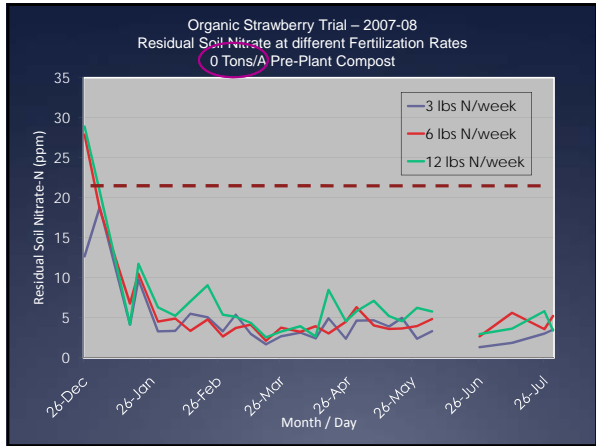
- * Organic N is expensive and availability is uncertain
- * Plant N is critical to early strawberry plant development and yield components
 - earliness AND overall production critical for profitability
- * Salinity can be a problem in strawberry growing districts and strawberries are sensitive (?) to salinity
 - need to delicately manage salinity without leaching costly and uncertain nitrate from organic sources

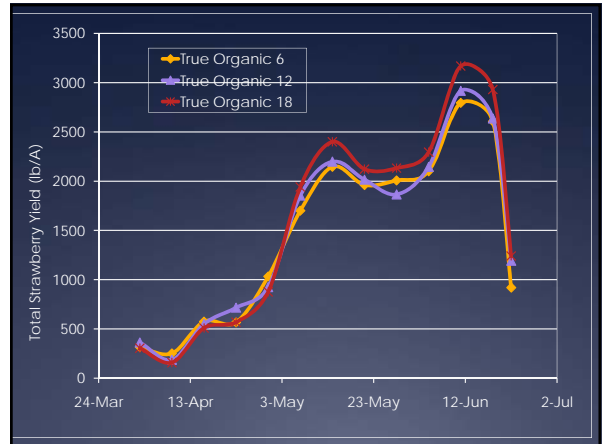
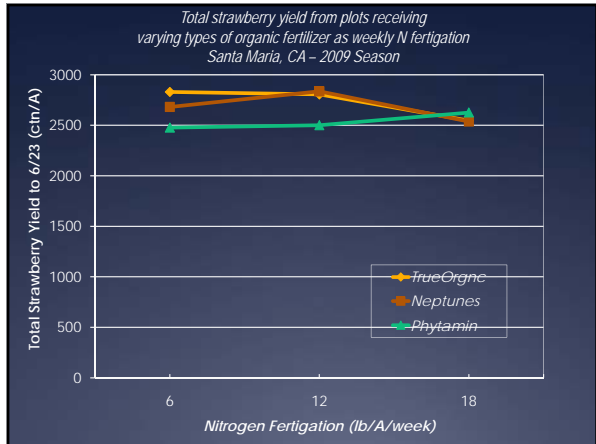
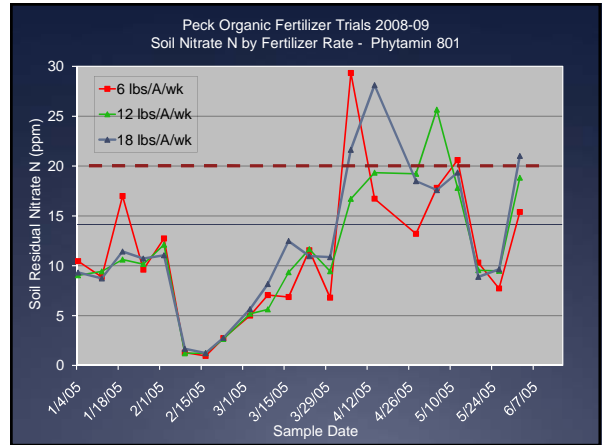
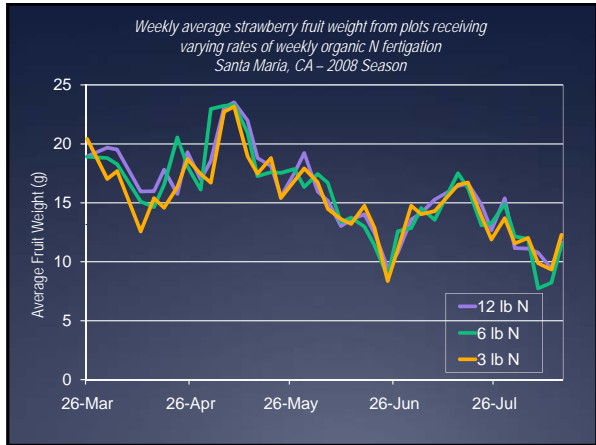
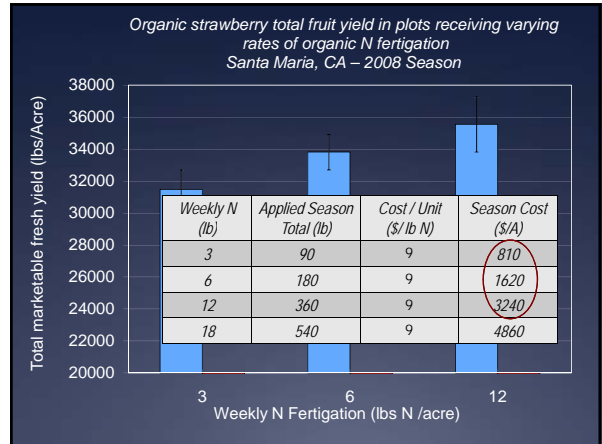
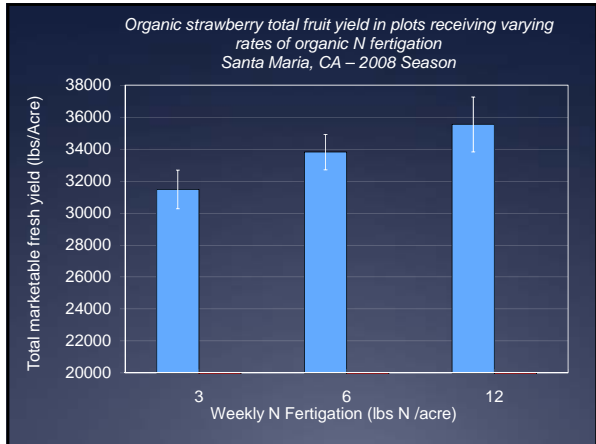
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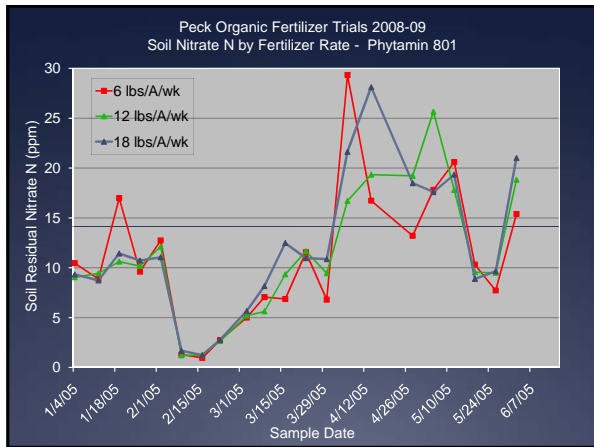
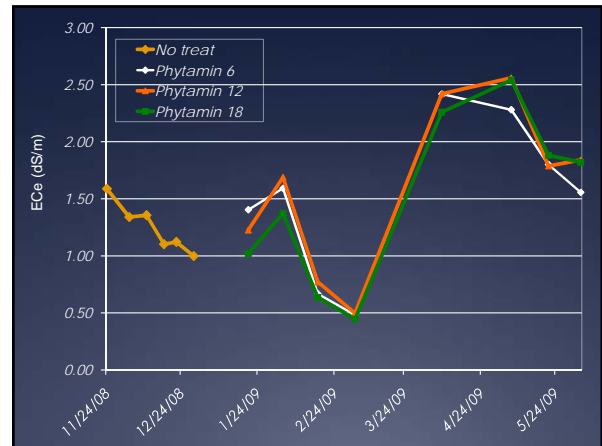


- Match N availability to crop need – organic strawberries*
- * Transplanted strawberry N uptake about 4 lb N/acre - first 90 days.
 - * During the next 20 weeks of growth, N uptake approaches 70 to 90 percent of seasonal total - 130-150 lb N/acre
 - * N uptake is steady and continuous for the entire period
 - * Current conventional strawberry fertigation recs for FL = 0.3 lb - 0.75 lb N /acre/day
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- * Salts accumulate in beds and annual flushing needed
- * Rainfall and irrigation management play important role
- * Drip irrigation is not efficient at leaching salts - limited area, in sandy soil straight down to fill furrows then little movement down
- * Type of fertilizer material and rate of application
- * Irrigation water quality and salinity management



Factors regulating N use efficiency for organic strawberries

- * Development stage and N demand by strawberry crop - growing area, variety, other
- * Rainfall amount and pattern
- * Soil organic matter
- * Type of fertilizer material and rate of application
- * Irrigation water quality and salinity management

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