



Biomass development of tomatoes under protected cultivation in the humid tropics

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Introduction

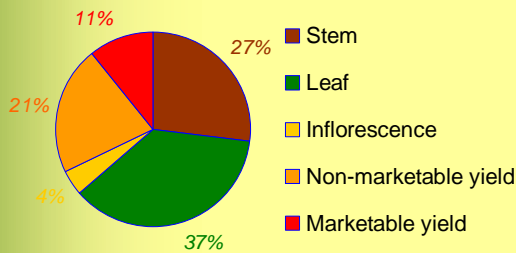
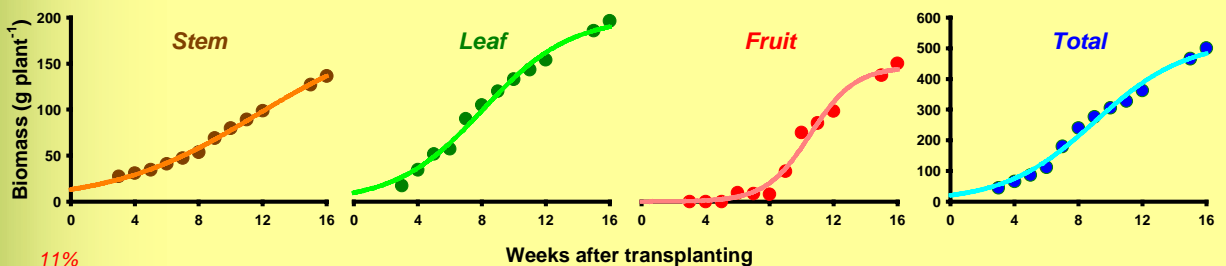
Studies about the dynamics of tomato growth in greenhouses are scarce and limited to temperate conditions. There is apparently no study about biomass development of tomato under protected cultivation in the humid tropics.

Materials and Methods

For determining biomass development in tropical tomato, we cultivated an indeterminate species according to the high-wire system in roofed nethouses during the cooler season (Jan-Feb) and the hot season (Mar-May) in the tropical lowland of Thailand (14° N).

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Biomass accumulation and partitioning



- **Biomass accumulation:** comparable to greenhouse production in temperate climates
- **Biomass partitioning:** much greater percentage partitioned into vegetative organs, particularly stems

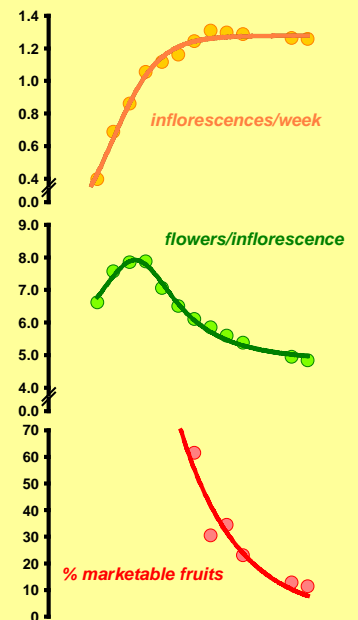
Generative development



- **Inflorescences:** approach a constant production rate irrespective of temperature

- **Flowers:** increasing temperature prevents fruit setting and causes flowers to drop

- **Marketable fruits:** already limited numbers of flowers develop largely into parthenocarp fruits which do not enlarge to marketable size



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Cooler season



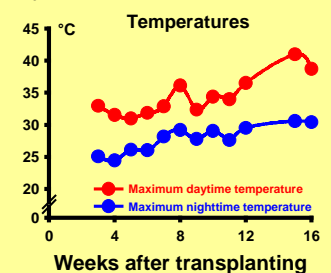
Hot season (Feb-Oct)



Lack of fruit setting



Parthenocarp



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