



CRA ORT

Consiglio per la Ricerca e la Sperimentazione in Agricoltura
Centro di Ricerca per l'Orticultura
Pontecagnano (SA) Italy

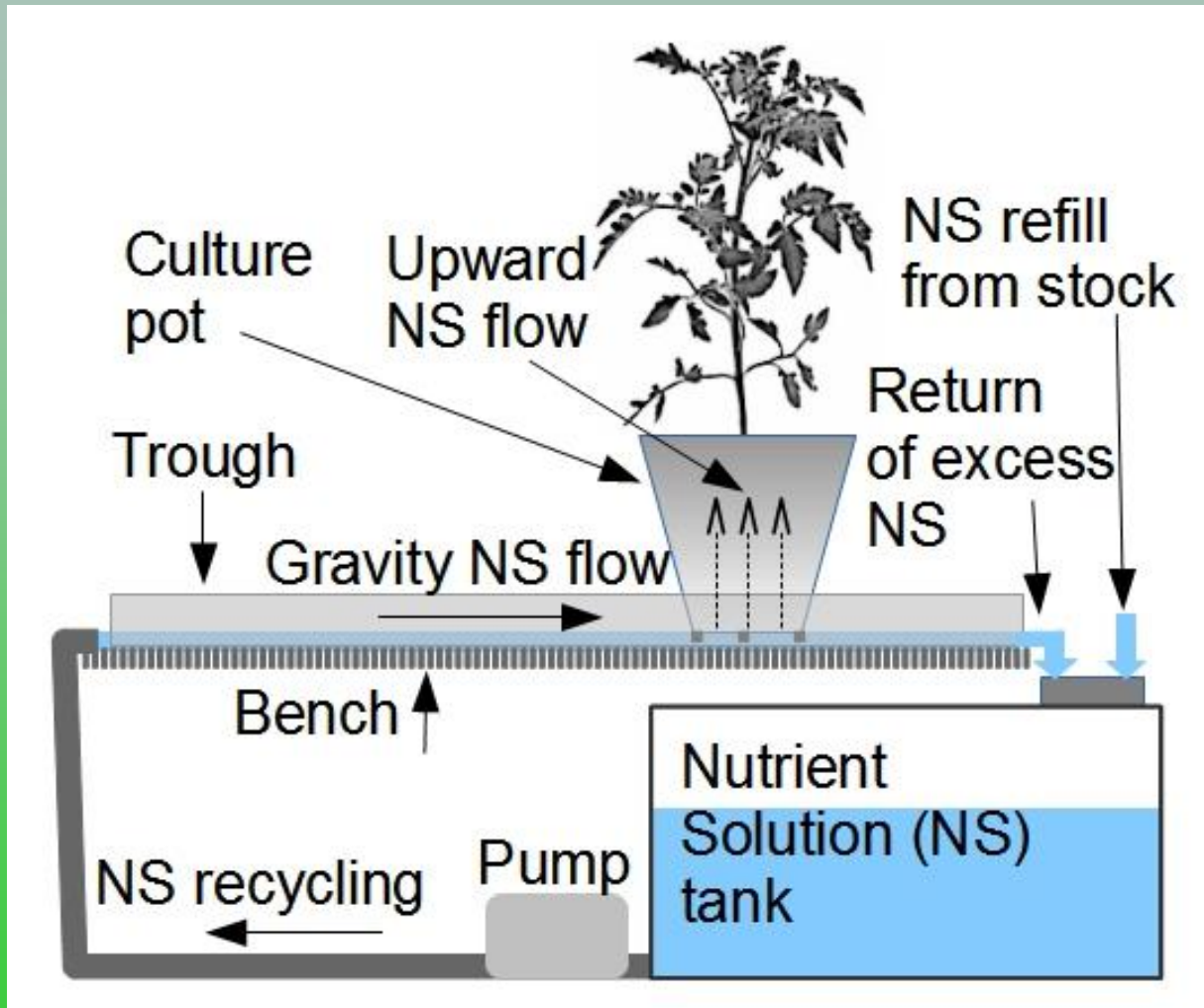
Trough bench subirrigation system on tomato and other vegetables: the OFRALSER project

Manuela Capodilupo and Accursio Venezia

Intensive vs soilless horticulture

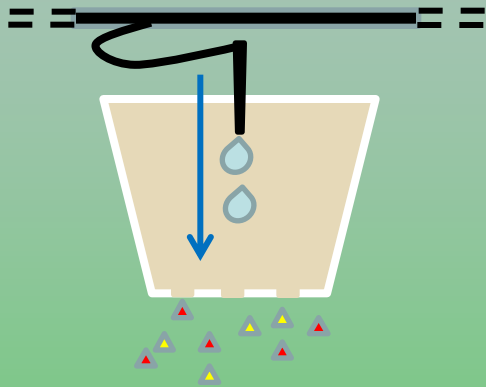


Trough bench subirrigation system

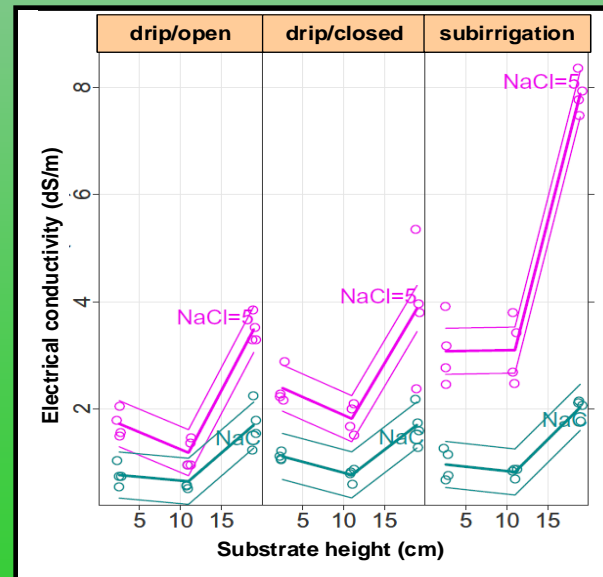
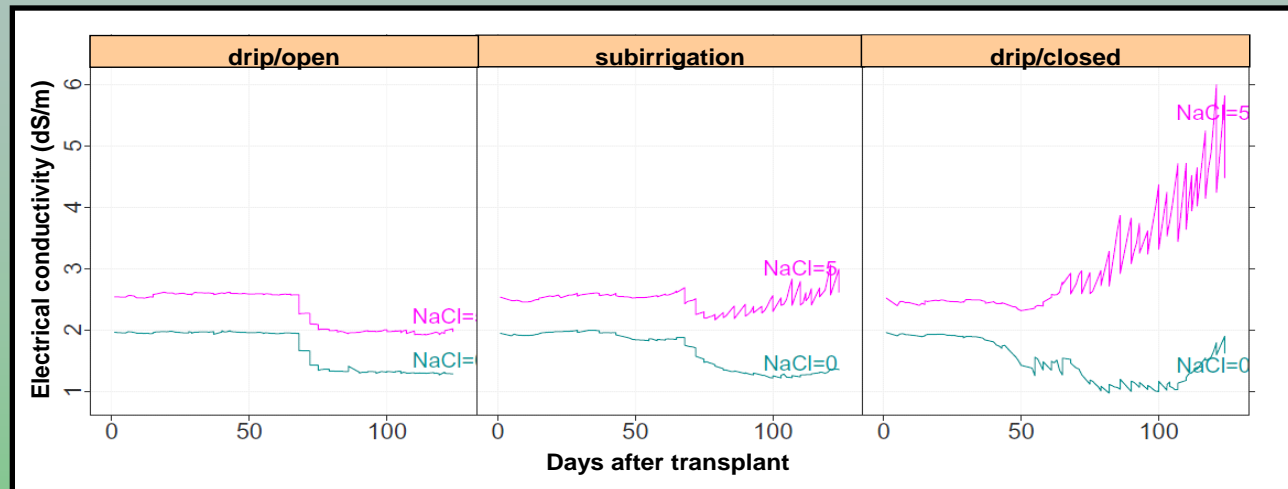
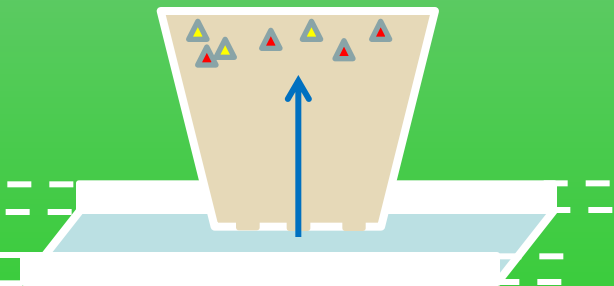


Closed system: Drip vs Sub-irrigation

DRIP IRRIGATION



SUBIRRIGATION



Advantages of subirrigation

- stability of the nutrient solution
- uniformity of water and nutrient distribution
- low incidence of diseases

Factors studied

Tomato cultivar

Performances of different substrates

Concentration of the nutrient solution

Quality of irrigation water

Irrigation frequency

Watering duration

Mulch

Volume at refill

CRA-ORT tasks in OFRALSER

OFRALSER “*High Convenience Fruits And Vegetables: New Technologies For Quality And New Products*”

TRANSFER TO PRIVATE COMPANIES



bench slope 1%

irrigation treshold 100 J cm^{-2}

10 liters pots

irrigation water of good quality

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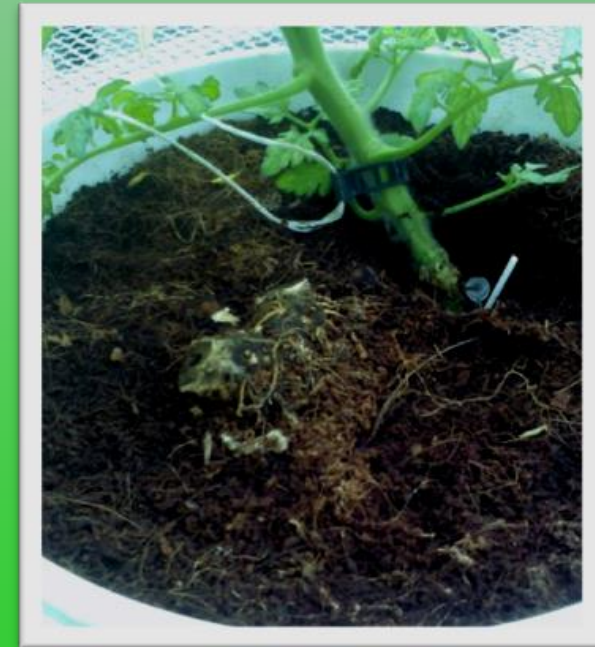
Adaptation of subirrigation
to tomato long crop



Growing
other vegetables



Reusing
the substrate



Observations

- Amount and elemental composition of biomass and produce
- Quality components of produce (EC, pH, dry matter, total acidity, °Brix)
- Physical and chemical properties of nutrient solution and aqueous extracts of substrate
- Germination tests of tomato seeds treated with aqueous suspension of decomposed roots
- Functional and molecular characterization of microbial populations inhabiting the recirculated solution and substrate (Biolog Ecoplate, Api Zym, DGGE)

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