

Hi-Tech Glasshouse Increases Tomato Yield



Hi-Tech (Air condition)



Med-Tech (Pad and Fan)

Background

Cooling green house process is the major component of water use in greenhouses in Saudi Arabia, during summer cycle. Thus, evaporative cooling (Pad and fan system) is attained at the expense of large amounts of water. So, instead of pad & fan cooling system, Estidamah Hi-Tech glasshouses are equipped with air conditioning system, which allows to seal the greenhouse environment from the outside air, with the possibility to in-reach the compartment with Co2 to improve plant photosynthesis and tomato production.

Objectives

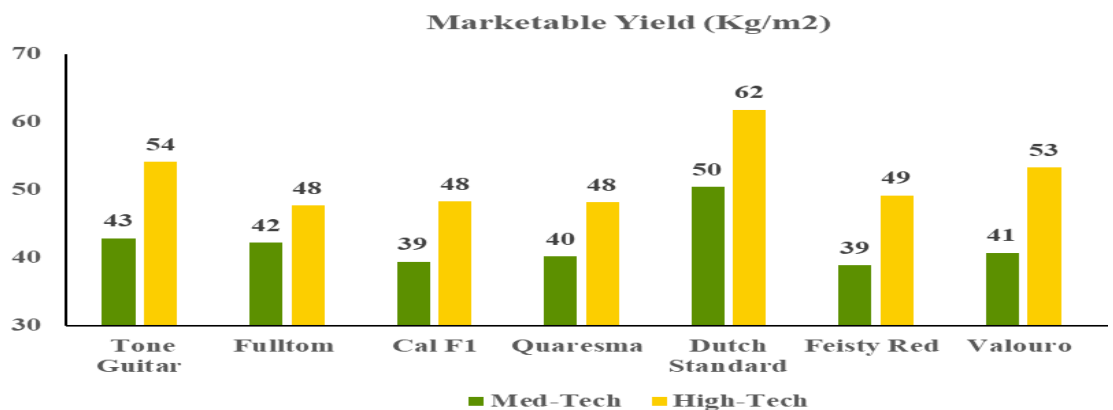
Compare productivity of different tomato cultivars under Hi and Med-Tech greenhouse technologies.

Treatments

- Med-Tech glasshouse (Evaporative cooling: Pad and fan system)
- Hi-Tech glasshouse (Mechanical cooling: Air condition)
- Nine different tomato cultivars (Tone Guitar, Fulltom, Cal F1, Red Gold, Quaresma, Dutch Standard, Feisty Red, Forrester, Valouro) .

Result

Hi-Tech Glasshouse increased marketable yield of tomato cultivars up to 14-29% than Med-Tech.



Conclusion

- ❖ High yield cultivars could be introduced to local market.
- ❖ CO₂ enrichment is the limited factor of increasing yield and number of fruits under Hi-tech, as compared to Med-tech Glasshouse.