

# Growing cucumber in high tech greenhouses

## BACKGROUND:

Estidamah has proved to be quite successful in cucumber growing in low and Mid-tech greenhouses. Average productivities in Mid tech greenhouses was 2.5 kg/m<sup>2</sup>/ week in summer and 1.5 kg/m<sup>2</sup>/week in winter. These numbers are notably higher than the average productivity of Saudi cucumber farmers. The major experimental factors in those experiments focused on a variety production using different nutrients, IPM protocols and substrates. However, production of different cucumber varieties in Hi-tech was not evaluated.

## OBJECTIVES:

1. Studing cucumber yield in Hi-tech in comparison with Mid and low tech. greenhouses. .
2. Studing the effect of plant density on the tested cultivar yield.

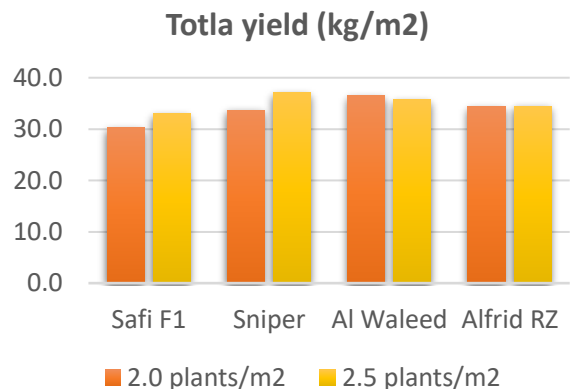
## TREATMENTS:

1. Four cucumber cultivars was used in this experiment.
2. Two different plant density (2.0 and 2.5 plants/m<sup>2</sup>)

## RESULTS:

- Yield of Alfrid cultivar was 21% higher in Hi-tech as compared with yield in Mid-tech greenhouse.
- Two cucumber cultivars yield improved by increasing plant density, while the other two was not affected.

Greenhouse technology	Start Harvest	Production [kg/m <sup>2</sup> ]	Light use [gr/mol]
Low tech (soil)	18-Jul	38.5	11.6
Mid-tech (soilless)	17-Sep	28.4	10.7
Hi-tech (soilless)	21-May	34.3	11.5



- Injection of CO<sub>2</sub> in Hi-tech up to 800 ppm improve cucumber yield by 20%.
- The effect of plant density on yield varied with cucumber variety.

## CONCLUSION