

# GREENHOUSES



**ATA GROUP  
TURKEY**



## **Design:**

The design will be suited to the climatic conditions, topography, soil texture and other factors of the project site. The climatic data required for the election of the greenhouse model are: monthly temperatures and relative humidity maxima and minima, wind speed and dominant direction, monthly radiation and precipitations.

## **Measures:**

The width and length of the greenhouses are fixed according to the topography, greenhouse model, crop type and crop system (soil or soil-less media) and according to the demand of the End-Users.

## **Type of the structure and internal equipment:**

ATACO TARIM Company has several kinds of greenhouses that can be adapted to any climate (temperate, tropical, subtropical, cold, etc) or crop type (flowers, vegetables, fresh herbs, etc.). The internal equipment of the greenhouse is chosen according to the climatic conditions.

## **Roof & Side windows:**

According to the climate conditions, the roof & side windows can stay open or closed. In hot climate, the window openings permit reducing the internal high temperature by releasing of the heat outside. In cold zones, it is possible to close the window in order to prevent energy loss. The windows permit also to reduce the humidity excess in rain conditions.

## **Curtains:**

The curtains of greenhouse sides are made of plastic rolls that are enrolled to upper direction, opening lateral windows along the greenhouse side. The curtains can be opened manually or automatically by electrical roll-up motor.



## **Covering:**

The greenhouses can be covered by polyethylene film, PVC, polycarbonate or glass. The polyethylene is the most common film plastic in use. It contains infra red absorbers and reflectors such as IR, UVA, that prevent the loss of wavelength radiation, preventing the loss of energy. **In Summer, especially in very hot climates like IRAQ, we advise dark green or black colour polypropylene nets (mash) to make shadow on the crops like the Date Palm Trees are doing in some regions.**

## **Microclimate control:**

The microclimate monitoring can be done automatically or by hand. Greenhouses may require internal equipment for microclimate control, in different forms such as:

- ? Air circulation fans.
- ? Ventilators.
- ? Screens.
- ? Micro-sprayers (Foggers)
- ? Pad cooling (Wet pad), etc.

## **Heating:**

In order to obtain good crop development, high yield and good fruit quality, heating the green house is suitable in lower temperatures. There are different equipments (cheap or expensive) to do this.

## **Substrates:**

In soil less culture, we use different substrates such as: Perlite, Rock wool, volcanic stone or organic materials.

## **Irrigation system:**

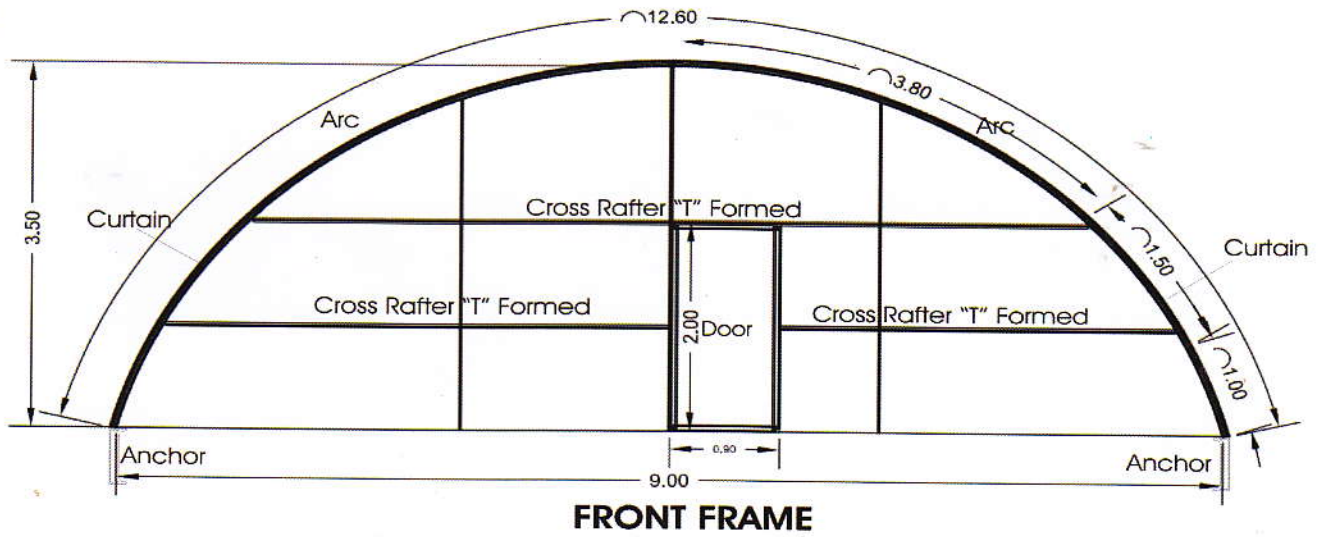
We use the Drip Irrigation System in greenhouses.

## **Automation:**

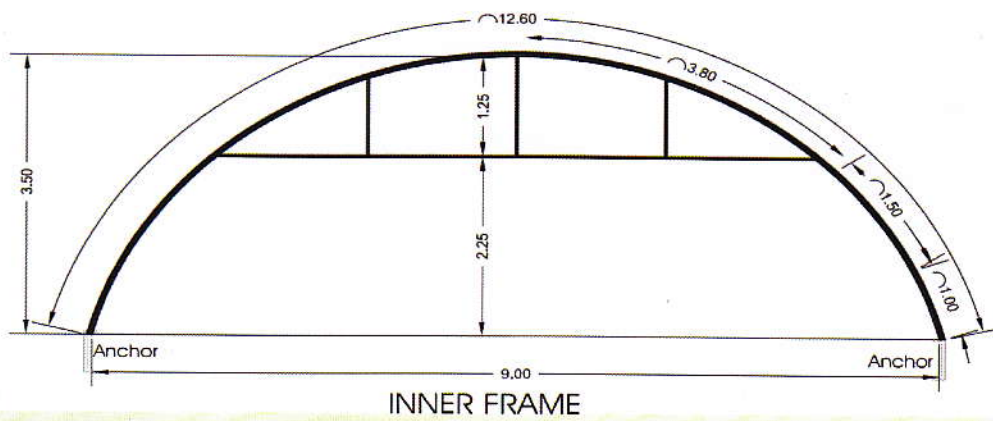
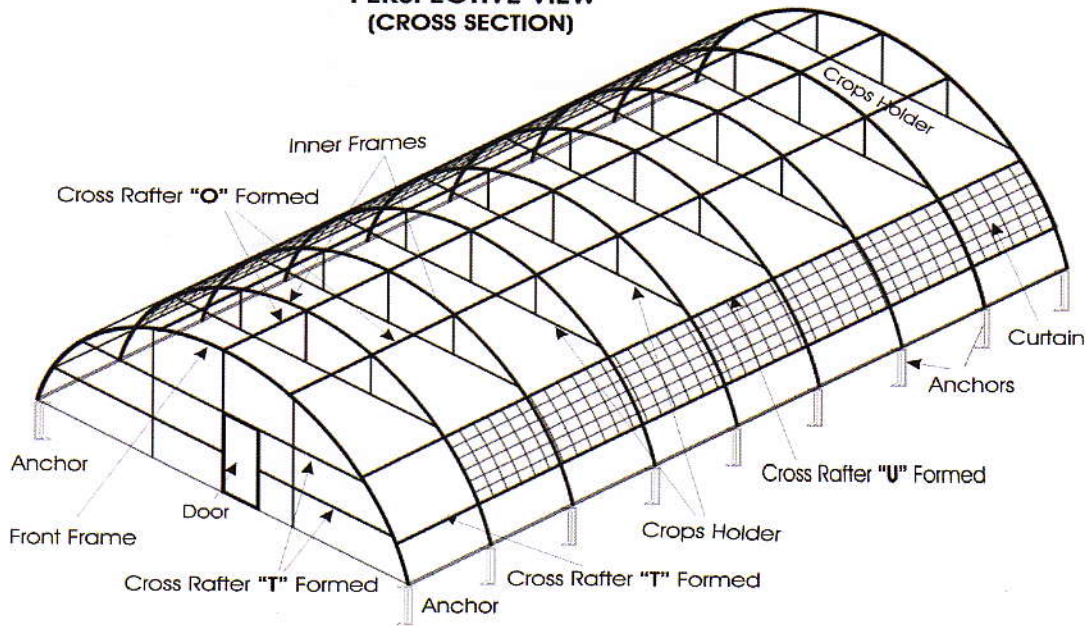
The microclimate, irrigation and fertilization monitoring can be done automatically by computers but will increase the price of the investment.







PERSPECTIVE VIEW  
(CROSS SECTION)

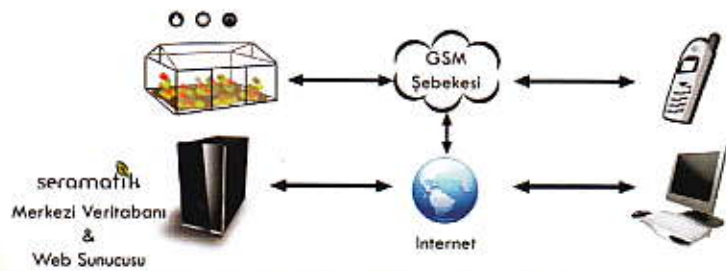




## SOME MONITORING EQUIPMENT



### Çalışma Modeli



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**With our experienced staff in mechanical, and enviromental branches, ATA GROUP-TURKEY is able to diagnose, project and erect the appropriate system in all sectors of his facilities.**

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