Workshop Energy and greenhouse climate management

F. Kempkes gave a presentation focused on dehumidification in heated greenhouses. He highlighted that new dehumidification systems have good potential for energy saving (around 25% saving). There was a question about the cost of brine used for dehumidification. F. Kempkes answered that for the moment he did not known, and that more research is necessary. Moving the air in the morning could help to prevent condensation on fruits but it slightly increases transpiration. In organic greenhouses, evaporation also comes from the soil. Often, they have more humid conditions. With plastic on the soil, it is always dryer.
According to the speaker, the gaps are to make the growers more familiar with the systems presented and with high humidity in greenhouses. It takes time to transfer that to the practice. Growers could tolerate higher humidity conditions

F. Baptista presented the importance of environmental control in greenhouse production in the Mediterranean regions. Energy efficiency could be improved by using water, fertilizers, plant protection products and the energy coming from the sun more efficiently (to produce more with the same inputs).
Discussion focused on the transfer of knowledge, the use of screens and the necessity to heat in such systems. Technical solutions for new greenhouses are known, but if prices are not stable in the long term, growers will not invest. To adopt new solutions, dissemination among growers is important.

J. I Montero shortly introduced the deliverable of the working group “energy” of the COST action. Very little is known about energy use in organic greenhouse production. Energy use is rarely taken into account in the private or public regulations. For heated greenhouses, better insulation could reduce the energy use. For unheated greenhouses, the production (and then the energy efficiency) could be increased thanks to a better climate management particularly with a better greenhouses design and ventilation.

As a conclusion, two points could be highlighted :

- the importance of knowledge transfer and exchange among growers,
- the long term economical situation, which will allow growers to invest – or prevent them from investing - in new production systems.

Céline Gilli 20th April 2016