

ILAC Demonstration project

Demonstration Project of recycling drainage water in tomato and pepper

Eli Matan – Director, Southern R&D

There is no need to elaborate on the well-known water problem in Israel. Thus, modern agriculture is based on maximal control of all the production processes.

Growing crop in intact media enables optimal control on water and fertilizers' supply, but at the same time, despite its advantages, this technology is uneconomical, because of the waste of water. To prevent salination of the medium (which is limited in comparison to soil), the amount of water used for irrigation is 30-50% higher than the actual requirement of the crop. This amount enables washing accumulated salt that may harm plant functioning from the medium.

The technology of growing plants in intact medium presents a high potential for water saving, because it is possible to collect the drainage water (which in soil irrigation permeate and contaminate underground water), and reuse them to irrigate various agricultural crops such as vegetables, flowers and herbs after a suitable treatment.

The goal of the Southern R&D is to advance this important issue, to expand the greenhouse production even under the limiting water allocation conditions for growers.

In recent years we dealt with this important issue in a variety of vegetable crops – tomato, pepper, strawberry, and a few flower species – roses, solidago and lizianthus.

In this work the crucial problem of plant irrigation in closed systems (recycling of drainage water) was studied. In general, the findings indicate that it is possible to save about 50% of the water and 75% of the fertilizers by using this technology. It is important to note that these are friendly technologies and that the meaning of using a recycling system is reduction in the contamination of the soil and underground water with washed salts, that happens in open irrigation systems.

In view of the accumulated knowledge we thought that it is important to demonstrate the technology to growers in the region and in other parts in the country, as well as to students in the regional schools.

This initiative was realized thanks to the sponsorship of ILAC that allocated the needed resources to establish two demonstration projects in tomato and pepper, which are important crops in the region. Southern R&D at the Experimental Station in the Besor farm established both projects to demonstrate the practicability of this technology to the public under growing conditions that characterize the region.

We invite all those who did not see it to visit the projects and receive detailed explanations on the technologies.

Tomato



Pepper

