Awardee
Dr. József Zsembeli of the University of Debrecen, Centre for Agricultural and Applied Economic Sciences

Place of Activity
University of Debrecen
Centre for Agricultural and Applied Economic Sciences
Hungary

In accordance with the combat against drought damages and soil degradation, conventional soil cultivation methods are prospectively replaced by conservation tillage. The determination of the effects of technological elements influencing the soil water regime (mulching, mitigation of cracking etc.) can contribute to the elaboration of water preserving technologies as the elements of up-to-date and sustainable crop production. I examined the soil water regime processes by operating a weighable lysimeter system that is unique in its type in Hungary. I gained more information on the effects of soil cultivation techniques suitable for the mitigation of the unproductive losses (evaporation, deep percolation) occur out of the vegetation period on the water balance components of the soil. I provided data about the effects of certain technological elements (mulch layer, heat isolating soil surface, mitigation of cracking, etc.) on the soil water balance under different climatic and hydrologic conditions.

Awardee
Dr. Iván Gyulai

Place of Activity
Szuhafő, North Hungary

An innovative method of vegetables gardening has been developed since 1999 in a former traditionally cultivated garden in Szuhafő, North Hungary. The method uses the deep mulch technique. A 50 cm deep mulch is topped up in the autumn by using straw litter. There is no till at all. During the winter there is a high biological activity in the soil that results a soft soil structure. In the spring we split the mulch to get the soil surface for seeding. Seeds are placed onto the surface. 2-3 centimeter deep mulch will be replaced to the top after that. Transplants are placed into a compost bed, which is created by split the mulch and top up the bed with compost. In the autumn we fill up the mulch to the original level, as it is composting and getting compacted. The method is using the natural way of doing, like in the forest, the dead fallen leaves an important part of soil development.