

Messages emerged from the Workshop on 'Precision Irrigation'

October 13-14, 2015, Montpellier, France

An International Workshop on 'Precision Irrigation' included papers in the general areas use of sensors, new technologies, models, remote sensing and different management practices. A total of 25 papers and 6 posters were presented from: France, Tunisia, Mali, China, Thailand, Taiwan, Morocco, Egypt, Iran, South Africa, India, Germany and UK.

Key messages emerged from the workshop were:

1. Applying deficit irrigation in Tunisia led to significant water saving and higher water productivity. However, deficit irrigation could lead to soil salinization in areas with little or no rainfall.
2. Rice cultivation using a modified SRI and modified best management practice BMP in Taiwan is good practice, if seedlings took place in February instead of January. In such case, the growing season would be 119 days instead of 140 and water use of 498 mm instead of 450mm.
3. Controlled drip irrigation using measured soil water potential gave better results when compared with sprinkler and rainfed common beans in Germany.
4. Sweet potato yield in Mali produced 50% more yield under drip irrigation in comparison to the traditional basin irrigation.
5. Sensors for irrigation demand and canal supply as well as promoting water saving are of great benefit. Using sensors for water management with training farmers and providing information to the school students is bearing fruits in India.
6. Using remote sensing technology in South Africa to obtain actual evapotranspiration estimates showed promising results in reducing, water consumption, energy and costs.
7. Subsurface drip irrigation in France indicated good water and energy saving.
8. Variable rate centre Pivot irrigation strategy in China saved around 17% water.
9. Subsurface Drip Irrigation for date palm trees in Tunisia indicated the deeper the drip line is, the better root and leaf system developments are.
10. Using models linked to GIS in Thailand showed the spatial variability in crop water requirements.
11. The drip irrigation in India proved to be cost effective and led to higher water productivity and less labour cost.
12. Food security in Italy requires an integrated approach that considers water, crop, and land management.
13. Using Eddy covariance and weighing lysimeters in Egypt showed that the actual evaporation measured by EC, leads to a more water saving when compared with using potential evapotranspiration.
14. The Water4crops project results showed that using Scintillometers and, Eddy Covariance for actual evapotranspiration (area based) and COSMOS for soil moisture (300-700m radius), are promising techniques to use for crop water requirement estimation. The results indicated a significant difference between actual measured ET and the potential and crop ET with the Eta being a lot less.

The concerned workshop papers are available at http://wg-crop.icidonline.org/crop_present.html