

## **STUDY OF RELATIONSHIPS BETWEEN YIELD AND SOIL WATER MANAGEMENT OF WINTER WHEAT IN BI- AND TRICULTURE CROP ROTATION SYSTEMS**

Lajos Fülöp DÓKA<sup>1</sup>

**Abstract.** *The present research work was carried out within the confines of a polifactorial long-term field experiment set up in 1983 with bi- (maize-winter wheat) and triculture (maize-pea-winter wheat) crop rotation systems in two following crop years (2011/2012 and 2012/2013). Winter wheat was studied as test plant. Lower soil moisture volume percentage content values were calculated in the triculture among the studied systems. Water deficit values calculated for the bi- and triculture crop rotation systems proved the higher water use of winter wheat populations sown after pea pre-crop. Water deficit values before sowing confirm the different effect of pre-crops on soil water management. According to the results of the present study it has been stated that water stock of the chernozem soil is significantly affected by crop rotation.*

**Keywords:** long-term field experiment, winter wheat, crop rotation, soil water stock, yield

---

<sup>1</sup>Title: PhD, University of Debrecen Faculty of Agricultural and Food Sciences and Environmental Management Institute of Crop Sciences, Debrecen, Hungary (doka@agr.unideb.hu).

---