

THE EFFECTS OF TILLAGE PRACTICES ON WATER MANAGEMENT OF SOYBEAN (*GLYCINE MAX* L.)

Boglárka BOZÓKI¹ – Péter Gergő KOVÁCS¹ – Márta BIRKÁS¹ – Zoltán KENDE¹ – Csaba GYURICZA¹

¹*Institute of Agronomy, Hungarian University of Agriculture and Life Sciences, Páter Károly u. 1., 2100 Gödöllő, Hungary*

email: Bozoki.Boglarka@phd.uni-mate.hu

Keywords: Glycine max L.; soybean; water management; soil tillage; climate change

Abstract: Continuous world population growth imposes the need to produce higher-quality food. Due to the high content of valuable protein and high concentration of carbohydrates, vitamins and minerals, soybean (*Glycine max* L.) is one of the most essential leguminous and oilseed crop that contributes to human alimentation and animal nutrition. This study assesses the possible impacts of soybean seedling development and seeds' quality indicators correlate to water supply aboveground and in the root zone. The level of water management is crucial in and out of the growing season; however, the increase in temperature may adversely affect climatic conditions. As a consequence of water contained in soil, leguminous crops can improve soil texture and the capacity of minerals if admissible water is available for the crop. Soil tillage is cardinal for agricultural water management; by practising proper tillage continuously, soil properties can increase, and exposedness can decrease in the long term.