INTEGRATED AGROECOLOGICAL PRACTICES TO SUPPORT WEED MANAGEMENT AND IMPROVE PRODUCTIVITY: CASE OF LENTIL *(Lens culinaris* Medik.) AND FAVA BEAN (*Vicia faba* var. minor L.) IN MEKNES REGION, MOROCCO

Saadia Belmalha*, Wijdane Rhioui, Abdellatif Boutagayout

Department of Plant and Environment Protection, Ecole Nationale d'Agriculture de Meknès, Route Haj Kaddour, BP S/40 - 50000 Meknès, MOROCCO

*corresponding author: sbelmalha@enameknes.ac.ma

In order to protect human health and the environment and to prevent the occurrence of weed ecotypes, global efforts are being made to reduce the world's high dependency on synthetic herbicides for weed control. In this perspective, a field experiment was conducted at the educational farm of the National School of Agriculture of Meknes (Morocco) to evaluate mulch effect of black plastic, oat straw and sycamore leaves on both faba bean and weed growth at flowering and harvest stage. The experiment was performed according to a randomized complete block design (RCBD) repeated four times. The results showed that the highest weeds infestation was recorded in weedy check (Control). Sycamore leaves, oat straw and black plastic mulches have significantly reduced weeds density and biomass, thus provided efficiency by 84.8, 80.6 and 86.8% respectively. In addition, the oat straw, black plastic, and sycamore leaves have improved faba bean yield by 42, 52.9, and 43% respectively. In lentil crops the effects of manual weeding, plant extract, black polythene, and mulching were tested. The weed flora inventoried was very diverse, with 22 different species. Our treatments provided an effective weed control compared to the control, especially black polythene, mulching and manual weeding. As for the plant extract treatment, the weed control efficiency was lower than the other treatments. It was concluded that, the agro-ecological practices tested in this study showed the highest yield and yield components of lentil crop compared to the weedy check.