



The visibility of using water boxes and mulch in dryland revegetation

Mohammad Noor Alhamad, Mohammad Alrababah, and Hanaa Athamneh

Jordan University of Science & Technology, Natural Resources& Environment, Irbid, Jordan (malhamad@just.edu.jo)

Drylands cover more than 41% of the world's surface area and are homeland for about one-third of the world's population, 90% of them in developing countries. Land degradation in the drylands is hot environmental topic as it impacts environmental quality and jeopardizes food security in developing countries. The climate of Jordan varies from dry sub-humid Mediterranean in northwestern areas to desert conditions over a distance of 100 km, where more than 90 % of the county's area receives annual rainfall of less than 200 mm. In Jordan revegetation programs are rainfed; rainfall in Jordan is characterized by variable nature, thus, these programs faces a major challenge of the low survival rate of transplanted seedlings. The present study ought to explore the visibility of using water boxes and plastic mulch as an innovative approach to enhance seedling survival and establishment of four forest tress species (Carob, Cupressus, Quercus, and Pinus). The experiment results showed that Cupressus, and Pinus seedlings expressed the highest survival rate of 88% and 84 % respectively, flowed by Crob (64%) and Querrcus (16%). The plastic mulch significantly enhanced the seedling survival rate b y40 % over the control while the water boxes resulted in an increase of 32 % over the control.