

ملخصات الأبحاث المقدمة من الدكتورة/ داليا محمد الصوفى محمد

البحث الثامن

Abdelraouf, R.E., Hamza, A., Abdou M.A.A, and **Dalia M. Elsoofy** (accepted in 21 May 2022). The Performance of Partial Root-Zone Drying Technique on Yield, Water Productivity and Quality of Cucumber. Asian Journal of Plant Sciences.

اداء تقنيه التجفيف الجزئى لمنطقه الجذر على إنتاجيه الماء وجوده الخيار

ملخص البحث باللغة الانجليزية:

Background and Objective: Saving irrigation water and improving the productivity and quality of cultivated crops is the main goal for all dry areas that suffer from limited irrigation water. Therefore the main goal was to maximize water productivity of cucumber “WP cucumber”, using the automatic partial roots-zone drying “PRD” technique. Materials and Methods: Two field experiments were conducted to study the effect of automatic irrigation "AC" and the performance of PRD on WPcucumber and quality. Experimental designs were arranged in a split-plot design. Irrigation method [Manual control "MC" and "AC"] were used in main plots and PRD technique [100% FI, 75% FI and PRD)] and were used in sub-main plots. Results: The study recommends the application of AC in irrigation and the application of PRD technique compared to MC and irrigation at 100% FI. Perhaps the recommendation is due to the many benefits of AC and PRD techniques. Indeed, despite the negative impact of the PRD technique on increasing moisture stress, the many advantages created by this technique overcame and outweighed this only drawback, as it led to an increase in the size of the root spreading area and an increased application efficiency by increasing the size of the roots, which led to an increase in the area of absorption of water and nutrients, which ultimately reflected on the increase of WPcucumber and quality characteristics. Conclusion: it is necessary to apply the PRD technique with its AC management when the goal is to save water, increase WP cucumber and improve the quality under the conditions of arid areas.