

ABSTRACT

A surface drip irrigation system with two types of emitters and two flexible locations of lateral lines was studied with the aim of evaluating the irrigation system in irrigating the apricot crop. The Field experiment was conducted in sandy soil. During the season of 2002 and 2003 at El-Ghzaly Village, El Bustan area at Nubaria sector, Bihera Governorate

The study aimed to achieve the best performance of drip irrigation system under sandy soil conditions on apricot yield.

Field tests were conducted at two types of emitters (long path and multi orifice), tow laterals irrigation lines (one line and tow lines) and two numbers of irrigations daily (once and twice daily)

The results show that, the highest moisture content, along the irrigation line, were about 7.74% and 7.31% at the treatment C₂ [long path Emitter –Two lateral lines per one row (2/1), and twice daily irrigations], during the seasons 2002 and 2003, respectively. Meanwhile the maximum yield (3.5 Mg/fed. at the season 2002, and 7.28 Mg/fed. at the season 2003) was obtained at the same treatment C₂. Moreover, at the same treatment, C₂, the cost of producing one kg of apricot was the lowest (about 0.33 L.E /kg) which was about 47% less than the highest cost at the treatment A₁ (long path emitter-one lateral per row – one irrigation time daily). The water and the fertilizer use efficiency were the highest, also, at the same treatment, C₂.

المستخلص

تم تنفيذ هذه الدراسة بقرية الغزالي - منطقة البستان - قطاع النوباريه - محافظة البحيرة ، خلال موسمي ٢٠٠٢-٢٠٠٣.

و يهدف هذا البحث لتحقيق افضل نظام ادارة للرى بالتنقيط طبقا لمتغيرات التجربة ، لمحصول المشمش ، فى التربة الرملية.

و كانت المعاملات التى تم تنفيذها هى: نوعين من النقاطات (نو المسار الطويل- المتعدد الفتحات) ، عدد خطوط الرى (خط أو خطين رى بجانب كل صف شجر) و عدد مرات الرى فى اليوم (مرة أو مرتين رى يوميا).

و اوضحت النتائج ان اعلى محتوى رطوبى على طول خط الاشجار كانت ٧,٧٤% ، ٧,٣١% فى المعاملة C₂: (نقاط نو المسار الطويل- خطين بجانب كل صف شجر (١/٢) وفترتين رى يوميا) خلال موسمي ٢٠٠٢ ، ٢٠٠٣ على الترتيب.

و أعلى انتاجية للمشمش كانت حوالى ٣,٥ ، ٧,٢٨ ميجا جرام / فدان لنفس المعاملة C₂ خلال موسمي ٢٠٠٢ ، ٢٠٠٣ على الترتيب.

كما كانت اقل تكاليف لانتاج واحد كيلو جرام من المشمش لنفس المعاملة أيضا وهى حوالى ٠,٣٣ جنية / كجم مشمش و كانت ثقل عن المعاملة A₁ (نقاط نو المسار الطويل – خط واحد بجانب كل صف شجر و فترة رى واحدة يوميا) بحوالى ٤٧%.

و كانت كفاءة استخدام المياه و السماد اعلى ايضا عند نفس المعاملة C₂

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