

## Acknowledgments

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## Summary

The objectives of this study were to evaluate three strawberry cultivars for their adaptability to Khartoum State conditions as well as to study the effect of organic fertilizers on seedlings establishment and vegetative growth. The vegetative and reproductive parameters of the three strawberry cultivars; Sweet Charlie, Chandler and Selva were evaluated over two growing seasons of 2002 and 2003. In the first experiment three strawberry cvs (Sweet Charlie, Chandler and Selva) were tested under field condition and their vegetative and crop production parameters were evaluated. Sweet Charlie flowered earlier (26 and 37 days) while Selva was relatively a late cultivar (43 and 57 days) and Chandler was intermediate cultivar (34 and 43 days) for the two seasons, respectively. Chandler over-yielded the other two cultivars giving (30 and 32 g) fruits per plant as well as the highest fruit weight (12.9 and 15.1 g) compared to Sweet Charlie and Selva and consequently giving the highest yield /ha (14.6 and 24.2 ton/ha), respectively. Chandler also recorded highest fruit juice content (44.4%). Selva fruits were high in fiber content. The three cultivars resulted in comparable number of crowns per plant, shoot /root ratio, total soluble solids and fruit pH. Cultivar Chandler suffered more from spider mites damage. Fruits of Sweet Charlie were more firm and with better flavour scoring 7 and 9, respectively. But Selva scored the best fruit texture and appearance, 8 and 6.5, respectively. In the second experiment seedlings of the cv Sweet Charlie were grown on the different growing media (Goureira, chicken and mixed compost) to evaluate the effect of the media and their growth was evaluated. Mixed compost containing 1:1 sand:silt plus chicken manure (19 m<sup>3</sup>/ha) and farm yard manure (28 m<sup>3</sup>/ha) proved to be the best planting media for establishment of strawberry plantlets compared to chicken compost (19 m<sup>3</sup>/ha) and pure sand and silt. The highest number of leaves (18.3), number of runners (15.3 and 17.7) and shoot length (16.7 and 25.3) was obtained under mixed compost media. Roots were longer under soil media lacking organic fertilizers. The three soil media resulted in similar shoot /root ratio.

## الملخص

هدفت هذه الدراسة لتقييم تأقلم ثلاثة أصناف من الفراولة تحت ظروف ولاية الخرطوم. لدراسة تأثير التسميد العضوي على تأسيس البادرات و النمو الخضري. القياسات الخضرية وإنتاج المحصول لتقييم أصناف الفراولة الثلاثة: أسويت شارلى و شاندرل وسلفا و التي قيمت على موسمين 2002 و 2003. في التجربة الأولى ثلاثة أصناف من الفراولة (أسويت شارلى و شاندرل وسلفا) أختبر على ظروف الحقل قيمت القياسات الخضرية والإنتاج. أسويت شارلى أزهر مبكرا (26 و 27 يوم) بينما سلفا كانت نسبيا متأخرة (43 و 57 يوم) شاندرل توسط الأصناف (34 و 43 يوم) للموسمين 2002 و 2003 على التوالي. شاندرل الأكثر إنتاجا على الصنفين الآخرين (30 و 32) ثمرة للنبات كما بأكبر متوسط وزن ثمرة (12.9-15 جرام) مقارنة لأسويت شارلى وسلفا. وأعطى مردود أعلى للهكتار (14.6 و 24.2 طن). شاندرل سجل أعلى إنتاج محتوى عصير ثمار (44.4 %) و ثمار سلفا كانت أعلى محتوى ألياف. الأصناف الثلاثة متقاربة في عدد التيجان بالنبات و نسبة طول المجموع الخضري الى الجذري و المواد الذائبة الصلبة الكلية و رقم الهيدروجيني للثمار. الصنف شاندرل عانى أكثر من أضرار العنكبوت الأحمر وثمار الصنف أسويت شارلى كانت أكثر تماسكا و أفضل نكهة و أحرز 7 و 9 على التوالي. ولكن ثمار سلفا أحرز أفضل مظهر و قوام 6.5 و 8 على التوالي. في التجربة الثانية شتلات الصنف أسويت شارلى نمت تحت بيئات (السلت وكمبوست الدواجن و خلطة الكمبوست) قيمت تأثير بيئات على النمو. خلطة الكمبوست التي تحتوى 1:1 رمل و سلت زائد كمبوست الدواجن و كمبوست الأب قار (19:28 متر مكعب للهكتار) دلت انه أفضل بيئة زراعة لتأسيس نباتات الفراولة مقارنة بكمبوست الدواجن (19 متر مكعب للهكتار) أو رمل و سلت فقط. كان أعلى طول نبات (32 و 40.7) و عدد الأوراق (18.3) و عدد المدادات (15.3 و 17.7) و تحت بيئة خلطة الكمبوست. الجذور كانت أطول تحت التربة الفقيرة للسماد

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