SEASON EXTENSION IN TWO POLISH JUNE-BEARING STRAWBERRY CULTIVARS

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AIM OF THE STUDY

Determination of the suitability of two Polish strawberry cultivars for the late harvesting through cultivation under polyethylene roofs and at the high tunnel using delayed planting of frigo plants.

MATERIAL AND METHODS

⇒ ***Cultivars tested:***

- Grandarosa
- Pink Rosa

} both cultivars bred at RIH, Skierniewice, Poland)

- Elsanta - standard

⇒ ***Plants***

- Potted frigo A plants (crown diameter 15 mm)

⇒ ***Cultivation methods:***

- cultivation in gutters lined with cocomats (size 100 x 28 x 10 cm), arranged in an open field and protected with polyethylene roofs (partial cover) from rain and hail
- cultivation in cocomat-lined gutters at the high plastic tunnel
- traditional cultivation of plants in soil in the open field (control)

⇒ ***Design of the experiment:***

- 5 replications; a replication (plot) was a cocomat (unit) with 6 plants growing it

⇒ ***Dates of planting:***

- 17th July 2012 - plants in cocomats and in the open field (grown for two seasons)
- 19th July 2013 - plants in cocomats

⇒ ***Irrigation and fertilization:***

- three times a day (9 a.m., 12 noon, and 3 p.m.) by means of a computer-controlled capillary system.

⇒ ***Traits evaluated:***

- Fruit ripening time (Faedi Index, specifying the number of days from 1 January until the time when 50% of the crop has been collected),
- marketable yield in g/plot,
- weight of 100 fruits in g,
- fruit firmness in N (using INSTRON 5542 penetrometer),
- extract in °Brix (soluble solids content; using a Rudolph J-157 refractometer),
- ascorbic acid content in mg/100 g (using an RQ-Easy reflectometer and Merck test strips).



CONCLUSIONS

In soilless cultivation under cover, both cultivar and cultivation conditions have a significant effect on fruit ripening time, fruit size, firmness and ascorbic acid content. In comparison to Elsanta both Polish cultivars (Grandarosa and Pink Rosa) produce substantially larger and firmer fruits.

RESULTS

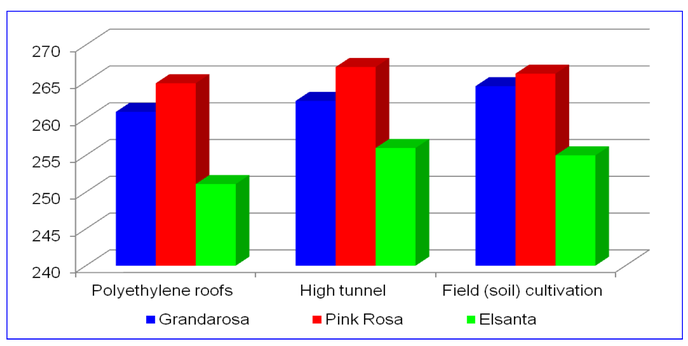

Fig. 1. Fruit ripening time (Skierniewice, 2012)

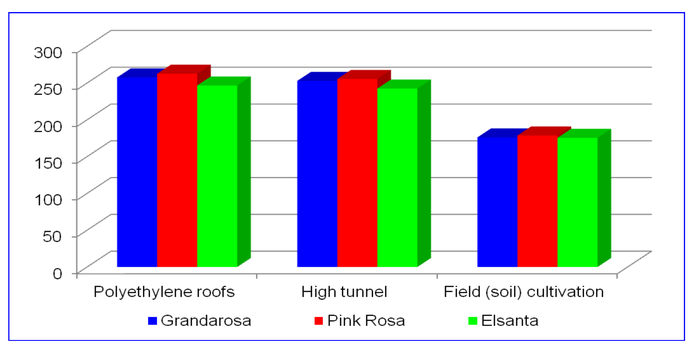

Fig. 2. Fruit ripening time (Skierniewice, 2013)

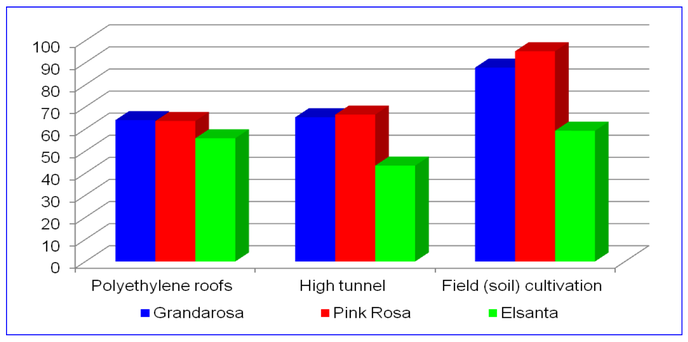

Fig. 3. Fruit marketable yield (Skierniewice, 2012)

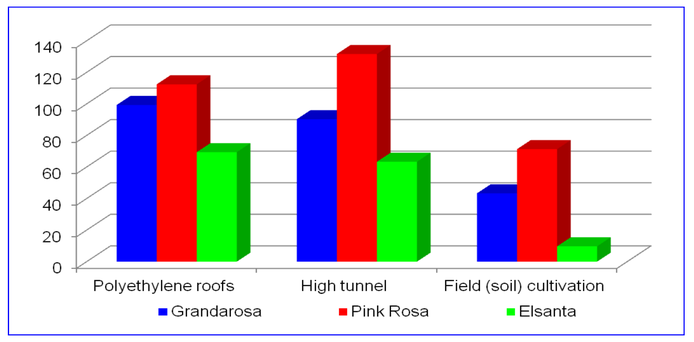

Fig. 4. Fruit marketable yield (Skierniewice, 2013)

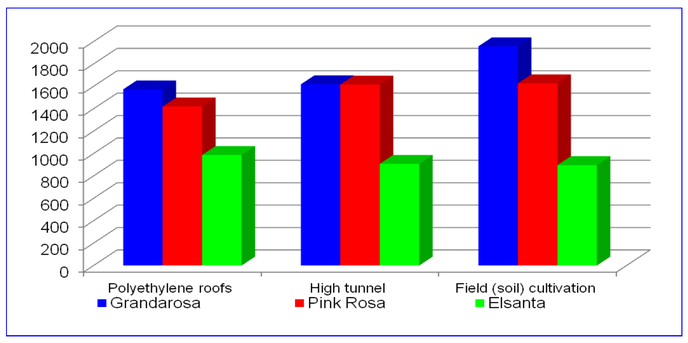

Fig. 5. Mean weight of 100 fruits (Skierniewice, 2012)

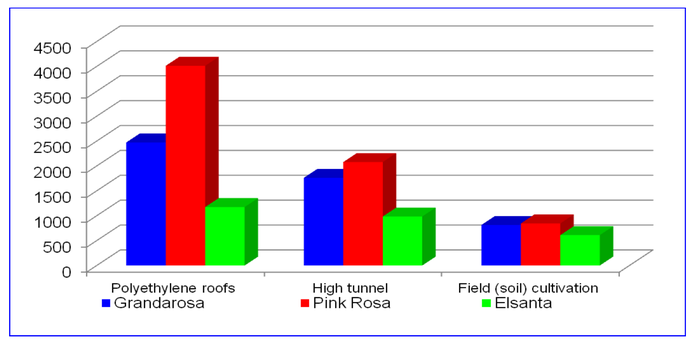

Fig. 6. Mean weight of 100 fruits (Skierniewice, 2013)

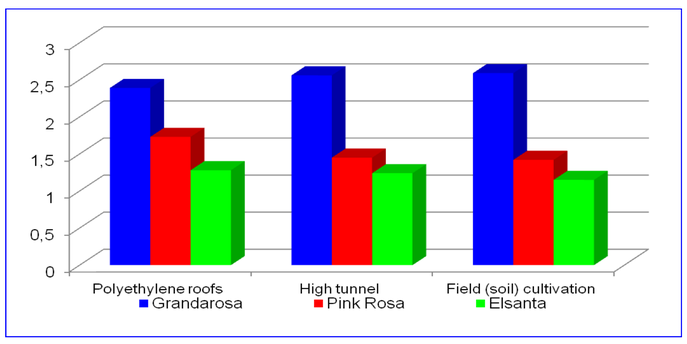

Fig. 7. Fruit firmness (Skierniewice, 2012)

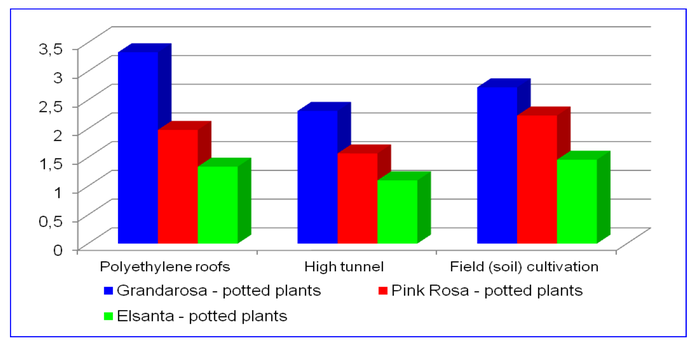

Fig. 8. Fruit firmness (Skierniewice, 2013)

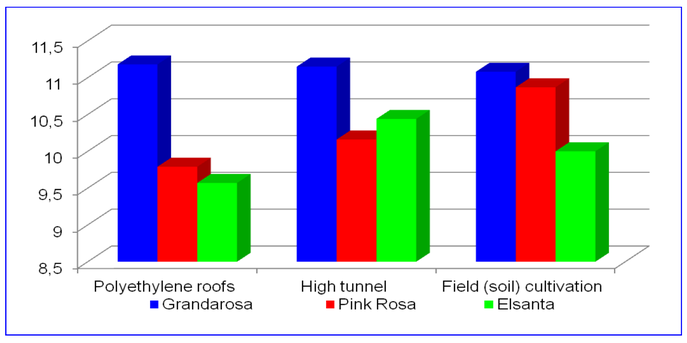

Fig. 9. Soluble solids in fruits (Skierniewice, 2012)

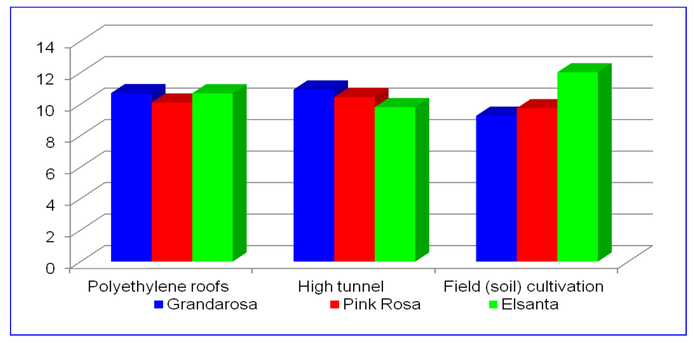

Fig. 10. Soluble solids in fruits (Skierniewice, 2013)

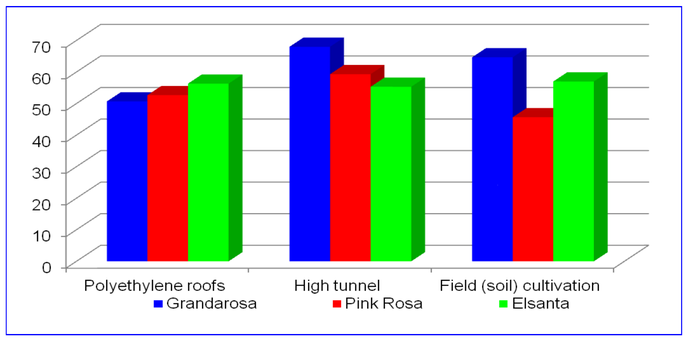

Fig. 11. Ascorbic acid in fruits (Skierniewice, 2012)

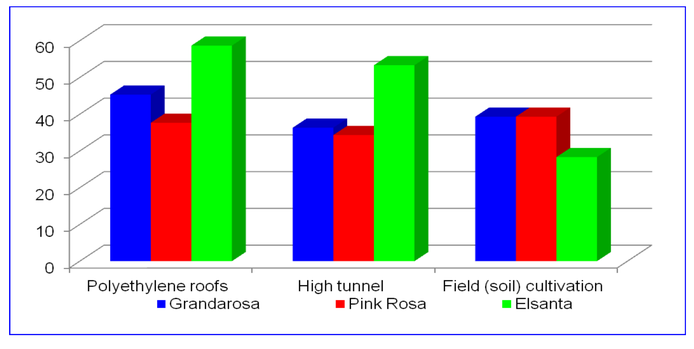

Fig. 12. Ascorbic acid in fruits (Skierniewice, 2013)