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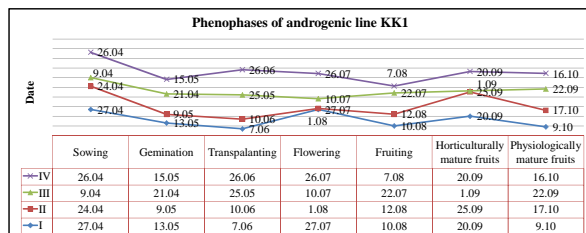
Introduction

The biology of pepper growth and development is strongly dependent on complex influence of environmental abiotic factor. The length of different phenophases is pepper variety characteristic. Vegetation period of a variety is the period from germination to emergence of the first fruits in physiologically mature stage. The terms earliness to horticulturally (technological) and physiologically (botanical) mature stages are used in commercial production and the harvest in certain mature stage depends on the characteristics and utilization of pepper fruit. In this study the biological characteristics with an emphasis on vegetation period as earliness indicator of seven androgenic pepper lines derived from 3 different sweet pepper varieties was studied.

Materials and methods

Seven pepper androgenic lines (KK1, KK2, P3, P4, F5, F6, F7) and their parental varieties (Kurtovska kapija, Piran, Feherozon) were studied during four years in randomized block experiment in glasshouse conditions. During the experiment the growth, biological phenophases and their duration were observed and analysed: germination, flowering, fruiting, horticulturally and physiologically mature stage of fruits.

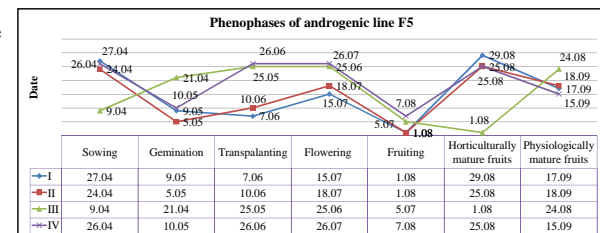
Results and discussion



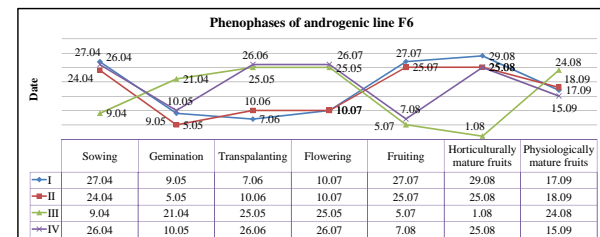
The germination period for the androgenic line is 13 to 15 days.

The length of the flowering period of lines KK1 and KK2 is 78 and 77 days respectively.

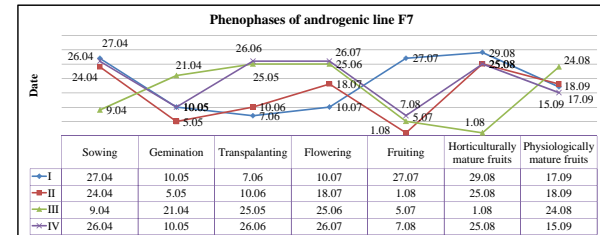
It is 76 days for the parental genotype Kurtovska kapija. The flowering period for the line P3 is 78 days, 70 days for the line P4 and it is longer compared to the parental genotype Piran (66 days). The androgenic line F5 set flowers in 71 days, line F6 in 68 days, while F7 in 70 days from the germination.



The vegetation period of the androgenic lines KK1 and KK2 is 131 and 130 days to the horticulturally mature stage and 154 and 152 days to the physiologically mature stage, respectively. The vegetation period of the line KK1 is 1 day longer and for KK2 is 3 days shorter as compared to the parental genotype Kurtovska kapija.



The androgenic lines P3 and P4 has vegetation period of 129 to the physiologically mature stage and it is the same as for the parental genotype Piran. The vegetation period to the horticulturally mature stage is 108 days and it is 1 day longer as compared to the parental genotype.



The androgenic lines F5 and F6 has 110 days vegetation period to the horticulturally mature stage, while the line F7 109 days which is 7 and 6 days, respectively, longer vegetation as compared to the parental genotype Feherozon. The length of the physiologically mature stage is 131 days for the androgenic lines obtained from Feherozon and it is 7 days longer compared to the original genotype.

Conclusions

Based on the vegetation period length to the fruit physiologically mature stage and analogically, according to their earliness, the studied androgenic lines belong to two pepper types:

- Androgenic lines KK1 and KK2 - late-ripening peppers
- Androgenic lines P3 and P4 - mid-ripening peppers
- Androgenic lines F5, F6 and F7 - mid-ripening peppers

