

Effect of sowing dates and plant cultivar, on growth, development and pod production of snap bean (*Phaseouls vulgaris* L.) during summer season

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Abstract : Two field experiments were carried out in the experimental farm of the faculty of Agriculture, Moshtohor, Benha University during two successive summer season; to study the effect of sowing dates March 1st referred as early sowing date, April 1st as medium sowing date and May 1st as late sowing date. Four cultivars were tested in the experiment namely Paulista, Samantha, Narina and Bronco. The data for vegetative growth and chemical composition was taken at 75 day. Flower behavior as well as quantity and quality of green pods were determined.

1. All vegetative aspects i.e plant length, number of leaves and branches per plant as well as fresh weight of shoot were significantly increased with early sowing on the 1st of March. Cv. Bronco reflected the highest value of these vegetative criteria. On the other hand, the dry matter percentage of the shoots was increased with delaying seed sowing from March 1st to May 1st.
2. Early sowing (1st March) led to significant increases in all assayed photosynthetic pigments (chl. (a), (b) and carotenoids) as well as mineral constituent (N, P, K). Cv. Paulista followed by cv. Bronco reflected the highest values. Early sowing (1st march) exhibited the maximum increase in reducing, non-reducing and total sugars as well as nucleic acids (RNA& DNA). Cv. Paulista reflected the highest level for all these parameters.
3. Flowering behavior showed that early sowing date (1st March) exhibited the highest values of both number of flowers, pods per plant and fruit set percentage. Plants of cv. Bronco possessed the superiority in this respect followed by cv. Paulista.
4. Sowing snap bean seed in early planting (1st March) significantly increased green pod yield per plant as well as feddan followed by cv. Bronco, cv. Paulista then cv. Narina. Meanwhile cv. Samantha produced the lowest yield. Worth to be mention that cv. Paulista improved pod quality in all measured physical and chemical parameters of pods.

It can be concluded that cv. Bronco can be recommended on the early sowing date (1st March) to obtain high green pod yield .For better quality of pods cv. Paulista at early sowing (1st March) could be recommended.

Keywords: sowing dates, plant cultivar, pod, snap bean, *Phaseouls vulgaris* L.,