



## Standardization of planting time and spacing in french bean cv. LAKSHMI as autumn crop for lower hills of Northern India

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### ABSTRACT

The healthy seeds of French bean cv. Lakshmi were sown on five planting times at fortnightly intervals viz., P1: Aug 01, P2: Aug 16, P3: Sep 01, P4: Sep 16 and P5: Oct 01 at three spacings viz. S1: 60x15 cm, S2: 75x15 cm and S3: 90x15 cm during three consecutive years 2003 to 2005 at the Experimental Farm of Regional Horticultural and Forestry Research Station, Bhota, District Hamirpur (HP) in a Randomized Block Design with three replications in the plots of size 2.25x1.80 m every year. The recommended doses of manures and fertilizers and all agronomic practices were adopted timely for raising a healthy and normal crop. The data was recorded on yield (q/ha), number of pods per plant and plant height (cm). Significant differences were observed for all the traits studied during all the three years. The French bean cv. Lakshmi as an autumn crop planted during mid August at a spacing of 90x15 cm produced maximum pod yield. A continuous decrease in pod yield and its attributes was recorded with every delay in planting the crop.

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Of all the at least 18 type of cultivated beans, french bean (*Phaseolus vulgaris* L.) is the most important and extensively grown green vegetable for tender pods, shelled green beans and dry beans (*Rajmah*). It ranks high as a cheap source of nourishing food and a valuable source of protein, calcium, iron and vitamins. In the world, it is cultivated in more than 100 countries for green pods as vegetable crop and occupies considerable area in India also. In Himachal Pradesh, the North-Western Himalayan state of India, French bean cultivation is mainly confined to mid and high hills having sub tropical to wet temperate agro-climatic conditions where sowing is done from March to May and has turned to be one of the most important cash crops. French bean varieties are grouped into two; bush and pole type, in later staking is done on poles or dry branches of plants and spaced widely than the former. It is sensitive to both frost and very high temperatures as well as drought and very heavy rainfall. The seeds will not germinate in cold soil and the plants drop their blossoms or pods in very hot or rainy weather, 15-25<sup>o</sup> C temperature is the best. Among the various components of production technology, standardization of planting time and spacing in lower hills as autumn crop will go a long way in increasing the area and production under French bean

and boosting the income of the farmers through production of this off-season crop.

### MATERIALS AND METHODS

The present investigations were carried out on french bean cv. LAKSHMI during three consecutive years 2003 to 2005 at the Experimental Farm of Regional Horticultural and Forestry Research Station, Bhota, District Hamirpur (HP). The healthy seeds were sown on five planting times at fortnightly intervals viz., P1: Aug 01, P2: Aug 16, P3: Sep 01, P4: Sep 16 and P5: Oct 01 at three spacings viz., S1: 60x15 cm, S2: 75x15 cm and S3: 90x15 cm. These 15 treatment combinations were laid out in a Randomized Block Design with three replications in the plots of size 2.25x1.80 m every year. The sandy loam soil of well prepared field was incorporated with recommended doses of manures and fertilizers and all agronomic practices were adopted timely as per package of practices for raising a healthy and normal crop. The data on yield (q/ha) was recorded on plot basis, whereas, that of pods per plant (No.) and plant height (cm) was recorded on ten randomly selected plants.