

Research  
Paper

## Dry matter accumulation, pod and seed yield of French bean as influenced by different dates of sowing and varieties during *Kharif*

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### ABSTRACT

A field experiment was conducted during *Kharif* season 2005-06 to study the dry matter accumulation pattern, pod and seed yield (kg/ha) of French bean varieties influenced by different dates of sowing *i.e.* 10 day interval after first sowing on onset of monsoon. Early sowing on 13<sup>th</sup> July was found sufficient for increased dry matter in various plant part of French bean as compared to delayed sowing *i.e.* 22<sup>nd</sup> July, 3<sup>rd</sup> and 12<sup>th</sup> August and variety 'Arka Komal' produced maximum dry matter accumulation of leaf and stem as compared to varieties Varun, Contender and Waghya. Variety 'Varun' produced maximum total dry matter (g/plant), pod and seed yield (kg/ha) as compared to Contender, Arka Komal and Waghya.

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**KEY WORDS :** Sowing dates, Varieties, Dry matter accumulation, Yield attributes, Pod and seed yield, French bean

French bean is grown in different part of the world for its mature dry beans, immature tender green pods and for its leaves to be used as vegetable and dry seed as pulse. Although some high yielding varieties have been developed in French bean, non-availability of quality seeds is one of the factors hindering productivity of crop. Optimum sowing dates is also most important factor for successful production of any seed crop. Sowing dates and plant varieties are the most critical factors for achieving higher productivity. Hence, the present experiment was undertaken to study the dry matter accumulation and pod and seed yield of French bean as influenced by different dates of sowing and varieties during *Kharif* season 2005-06 under Marathwada condition.

### RESEARCH PROCEDURE

The present investigation was undertaken at Marathwada Agricultural University, Parbhani, during *Kharif* season 2005-06 to study the dry matter accumulation pattern, pod and seed yield (kg/ha) of French bean as influenced by different sowing dates and varieties. The materials for this study were taken from the experiments conducted with a view for studying the response of French bean varieties to different sowing dates during *Kharif* season 2005-06. The experiment was laid

out in split plot design with 16 treatment combinations comprising of four sowing dates *viz.*, 10 days interval after first sowing dates on onset of monsoon *i.e.* M<sup>1</sup>- onset of monsoon (13<sup>th</sup> July), M<sup>2</sup>- 10 days after first sowing (22<sup>nd</sup> July), M<sup>3</sup>- 20 days after first sowing (03<sup>rd</sup> August), M<sup>4</sup>- 30 days after first sowing (12<sup>th</sup> August) as main plot and four varieties *i.e.* V<sup>1</sup>- Varun, V<sup>2</sup>-Waghya, V<sup>3</sup>- Arka komal, and V<sup>4</sup>- Contender as subplot.

The investigation was carried out on medium deep vertisol. The soil of the experimental plot was clayey in texture, with slightly alkaline in reaction (pH=7.86). It was low in available nitrogen (210kg/ha) medium in phosphorus (22.77kg/ha) and fairly rich in available potassium (378kg/ha). Each experimental unit was replicated thrice with 4.5M x 3.6M and 3.6M x 2.7M size in gross and net plot, respectively. The four varieties were sown as per the treatment of sowing dates by dibbling method. First sowing was done onset of monsoon *i.e.* 13<sup>th</sup> July. The half dose of N(60kg) and full dose of P (60kg) and K(60kg) was applied as basal and remaining half N(60kg) was applied 30 days after sowing.

For the purpose of recording growth and yield observation, each plot was divided into sub plot, five plants were randomly selected and tagged for recording plant height and yield components, five plants were uprooted at