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Paper

## Evaluation of genotypes for seed qualitative parameters in *Kharif* and summer grown soybean [*Glycine max* (L.) Merrill]

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### ABSTRACT

An experiment was conducted to evaluate ninety soybean genotypes in two seasons viz., *Kharif* and summer for seed qualitative characters. The *Kharif* season recorded significantly higher oil content (14.47%), seed germination (64.82%), shoot length (14.28 cm), root length (17.84 cm), seedling dry weight (1.04 g), seedling vigour index (1951), reducing sugar (1.33%) compared to summer season (13.59%, 58.54%, 12.61 cm, 16.26 cm, 0.78 g, 1943 and 1.00%, respectively). Irrespective of sowing seasons, significantly maximum, oil content (17.05%) in VL Soya21 (G<sub>89</sub>), seed germination (89.00%) in Birsa Soy1 (G<sub>4</sub>), seedling vigour index (3222) in Birsa Soy1 (G<sub>4</sub>) were recorded over sowing seasons.

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**Key words :** Seed quality, *Kharif*, Summer, Genotypes, Soybean

## INTRODUCTION

Soybean [*Glycine max* (L.) Merrill] tops in the world production of both oil seed and edible oil. World harvest of soybean is more than 50 per cent of the total world's oil seed production. USA, the world leader in soybean production produces about 40 per cent of world's output. Apart from USA, China and Brazil are the other leading soybean producers. India ranks fifth in the world soybean production. In India, soybean has witnessed a phenomenal growth both in area and production during last two decades, wherein, it is presently grown in about 9.67 million hectares area contributing to 9.73 million tonnes production annually (Anonymous, 2009). In Karnataka state, soybean is currently becoming more popular with the farmers as an oil seed crop. It is grown annually over an area of 1.78 lakh ha and 2.36 lakh tonnes production (Anonymous, 2009). Karnataka ranks fourth in area and production next to Madhya Pradesh, Maharashtra and Rajasthan States. Dharwad, Belgaum, Bidar, Bagalkot and Haveri are the major soybean growing districts in Karnataka State

The season of seed production is one of the important

factors which influences the seed yield and quality since the weather conditions such as temperature, relative humidity, photoperiod and wind velocity vary from season to season and region to region resulting in differential seed yield and quality (Heydecker, 1972). The environments under which seeds are developed play a decisive role on seed quality (Vanangamudi and Karivartharaju, 1989). Therefore, selection of optimum season for producing better quality seeds is the at most aspect of soybean seed production programme but, the information on seasonal effect on seed quality is rather scanty in soybean and it needs to be investigated.

## MATERIALS AND METHODS

An experiment was conducted at College of Agriculture, Dharwad, Karnataka, India during 2009-2010 with three replications. The field experiment was laid out in the Completely Randomized Block Design with factorial concept and replicated thrice for record of various observations. 90 soybean genotypes were evaluated in two seasons viz., *Kharif* and summer. The observations