
RESEARCH PAPER

Survey and screening of different castor genotypes against leaf spot of castor caused by *Alternaria ricini* (Yoshii) Hansf

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The results of the survey indicated that, the maximum disease severity was recorded at Hiriyur taluk of Chitradurga district followed by Koratageri (19.88%) of Tumkur district and least disease severity was observed at Doddabelavanagal (8.22%) of Bangalore district. Among the twelve varieties, none of the entries were immune and highly resistant. Only one entry was resistant, six were moderately resistant and five were susceptible. None of the entries showed highly susceptible reaction. Among the 13 hybrids, only one was highly resistant (CK-09 IHT-51), seven entries were resistant, four were moderately resistant and only one entry was susceptible. None of the entries showed immune and highly susceptible reaction.

Key words : Survey, Disease severity, Screening, Genotype, *Alternaria ricini*

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INTRODUCTION

Castor (*Ricinus communis* L.) belonging to the family Euphorbiaceae is an important non-edible, export oriented industrial oilseed crop in India, which has been known to mankind from time immemorial. It has a prominent place in dry lands due to its drought resistance because of its quick growth, deep root system and wax coating on shoots. India is the leading producer of castor. In India the crop occupies 7.87 lakh ha with an annual production of 10.54 lakh tones and a productivity of 1339 kg ha⁻¹. In Karnataka the area under this crop was 23.0 thousand hectares with an annual production of 16.00 thousand tonnes and productivity of 696 kg ha⁻¹ (Anonymous, 2007). Castor oil and its derivatives are used in several industries like perfumery, cosmetics, textile, paints, printing inks, adhesives, plastics, rubber, lubricants, paper, chemicals and pharmaceuticals etc. (Singhal, 1995). The oil also finds a place in domestic medicine as purgative. Oil cake of castor forms valuable manure for many commercial crops.

Castor plants are attacked by numerous diseases under

high relative humidity conditions, but only a few occur in the high plains. Some of the diseases are seedling blight caused by *Phytophthora colocasiae*, leaf spot caused by *Alternaria ricini* and *Cercospora ricinella*, wilt caused by *Fusarium oxysporum*, grey mold rot caused by *Botrytis cinerea*, root rot caused by *Macrophomina phaseolina* and rust caused by *Melampsora ricini*, etc. In recent years, leaf spot caused by *Alternaria ricini* is assuming serious proportions in major castor growing areas, causing losses in yield and oil content. The earliest reports of *Alternaria* leaf spot on castor in India were made by Dastur (1913), Chibber (1914), Dey (1945) and Singh (1955). But these studies were confined to morphology of the pathogen. Hence, present investigation included the survey to know the disease severity and screening of castor genotypes against leaf spot disease caused by *Alternaria ricini* under natural conditions.

RESEARCH METHODOLOGY

Survey was conducted for severity of leaf spot of castor caused by *Alternaria ricini* during the cropping season (2009-2010) in major castor growing regions of southern Karnataka