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Research Article

PROTECTION OF LEAF SPOT OF MUSKMALLOW FROM *JATROPHACURCAS.*

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ABSTRACT

Musk mallow is important medicinal plants used to control diseases and disorders. The seeds are of great economic importance that are used in manufacture of perfumes, brewing and in pharmaceutical industries - this Plant seed are get affected by different pest and diseases, of these leaf spot disease are more important, due to disease development, Fungal pathogen plays important role in destruction of foliage and ultimately seed yield loss occurs. In order to control leaf spot disease caused by *Alternaria hibiscicum* - Phytoextract of *Jatropha curcas* was used. The phytochemicals of *J. curcas* are useful to reduce fungal growth significantly.

Keywords: *Muskmallow, Phytoextract, Jatropha Curcas, Ambrtee*

INTRODUCTION

Musk mallow or ambrette *(Abelmoschus moschatus)* belongs to family malvaceae distributed in India. The seeds contain an aroma i.e. similar to that of musk (Kasturi) obtained from the musk deer (*Moschus moschifera*). It's used in perfume industry, in blending of chewing tobacco (zarda) and ingredients in several medicines. The seeds are use as coolant, diuretic, an aphrodisiac, it check vomiting and cures diseases due to imbalance. The seed coat yields an aromatic oil used in cosmetic, Scents. The oil is used for imparting musky odour to Product like Sachets Pan masala, inscense – sticks (Srivastava, 1995).

Musk mallow suffer from several fungal and viral diseases, like mosaic disease, anthracnose and leaf spot diseases are important. Initial symptoms of leaf spot diseases caused by *Alternaria hibiscicum* includes appearance of dark brown spots on the leaves and spots are more prevalent on leaf margins (Singh and Gupta, 1961; Wakle and Karppa, 2000).

The dark brown patches covers almost all part of the leaf surface causing defoliation and killing plant that causes high loss to growers. Therefore the investigation has been carried out for protection of leaf spot diseases caused by A*lternaria hibiscicum* with the efficacy of phytoextract of *Jatropha curcas* (Thakur *et al.,* 2012)

MATERIALS AND METHODS

For the evaluation of efficacy of phytoextract of *Jatropha curcas* the Medium aged leaves were collected, chopped, washed and socked.

The leaves were grinded and fine powder was prepared. 10 gm. of powder diluted in 100 ml of distilled water and used as mother extract. The different dilution prepared were 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0 from mother extract.

The pathogen used for assay of antifungal activity was *Alternaria hibiscicum*. The culture were maintained on Potato dextrose agar medium and use for bioassay by poisoned food technique as adopted (Manikkhandare and Wakle, 2009) 10 ml. phytoextract of each concentration mixed with 10 ml.

Czepak dox Agar medium and without phytoextract treated as a control A 5 mm mycelial disc was cut from 10 days old culture of pathogen inoculated at the center of each plate. For each treatment three replicates were maintained. After 7 days of incubation period diameter of fungal growth was measured and determined as per cent control efficacy.

Table 1: Percent Control Efficacy of *Jatropha curcas* against – *Alternaria hibiscicum*

Concentration (b)	Percent Control Efficacy Incubation Period In(Days) 1	2	3	4	5	6	7	8
0.5	81.33	74.34	61.47	53.66	436.85	36.00	24.72	13.86
1.0	82.46	76.33	64.66	55.00	46.33	39.66	30.33	16.22
1.5	83.36	79.46	68.32	58.75	50.63	42.86	33.90	21.76
02	84.00	82.53	71.47	63.93	55.34	96.96	37.88	30.00
2.5	85.36	84.32	75.62	66.47	60.38	50.39	41.93	40.33
3.0	86.13	85.43	78.68	70.32	65.47	56.69	47.00	50.66
3.5	86.90	81.00	80.50	75.89	66.00	53.33	50.00	58.20
4.00	93.00	90.20	88.66	77.50	72.40	57.10	55.42	69.30
5.00	100	100	100	96.00	89.	85.	75	90.20
5.00	100	100	100	100	100	100	100	100
5E	1.58	1.54	1.37	1.22	1.56	1.46	1.13	1.71
CD-0.01	7.83	7.60	6.78	6.04	7.69	7.22	561	8.46
CD-0.05	5.23	5.10	4.53	4.04	5.16	4.83	3.74	5.66

RESULTS AND DISCUSSION

The observations reveals that as incubation period increases, the percent control efficacy decreases. With the increase in concentration of the phytoextract of *J. curcas*, there is decrease in liner growth of *Alternaria hibiscicum*. The concentrations 2.5, 3.0 and 3.5 were found more effective to control the growth of *Alternaria hibiscicum* and at 3.0% concentration the antifungal activity is reduced significantly. Khandare and Wakle (2009) also used the plant extract against seedling diseases of sonamukhi and found that the plant extract of *A. indica* and *E. citridora* check the growth of *Alternaria.* Similar types of experiments conducted by Mishra and Tiwari (1992) used plant extract of *A. indica* and *Eucalyapus.* Shirsikar and Kadam (1992) studied control of groundnut disease by Neem extract. Robinson *et al.*, (1998), Sarvamangal and Datta (1993) also found the similar results of antifungal activity of plant extract.

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