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EFFECT OF EXTRACTS OF SOME MEDICINAL PLANTS ON THE GROWTH OF *ALTERNARIA TRITICINA*

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In the present investigation leaf extract of fifteen plant species, bulb extract of two plant species and rhizome extract of one plant species were tested against the mycelial growth of *Alternaria triticina*. The *Polyalthia longifolia* extract gave the best inhibition of pathogen on glucose glutamic acid medium.

Keywords : *Alternaria triticina;* Medicinal plants.

Leaf blight of wheat, caused by *Alternaria triticina* Prasada and Prabhu, is one of the most important and destructive disease which causes substantial yield losses. In recent years, many phytoextracts are being used as fungicides for the control of various plant pathogens[1-2]. The present investigation was carried out in laboratory to study the effect of different phyto extracts on leaf blight pathogen of wheat.

The plant materials were washed with tap water followed by sterilized distile water (SDW) and crushed in SDW at the rate of one gm tissue in one ml water (1:1w/v) and filtered with double layer of cheese cloth. This formed the standard plant extract solution. The effect of these extracts were studied against the test fungus according to the method of Thornberry[3]. The inhibition zone was measured after 24h of incubation up to 96h and compared with the control. The extract of the following plants were evaluated : *Azardirachta indica* A. Juss; *Polyalthia longifolia* Benth. & Hook. f.; *Ocimum sanctum* L.; *Cassia occidentalis* L.; *C. tora* Baker.; *Tridex procumbens* L.; *Calotropis procera* (Ait.) R. Br.; *Catharanthus roseus* (Linn.) G. Don.; *Jatropa curcas* L.; *Boerhaavia diffusa* L.; *Eucalyptus rudis* Endl.; *Ricinus communis* L.; *Delonix regia* L. *Lantana camera* L. and *Lowsonia inermis* L. and rhizome of *Zingiber officinale* Rosc. and bulbs of *Allium cepa* L. and *A. sativum* L.; Per cent inhibition of radial growth of pathogen was calculated by following formula-

$$\frac{C-T}{C} \times 100 \text{ where as C = Control, T = treated.}$$

Among 18 unsterilized phyto extract studied, the extract of *A. indica, P. longifolia, O. sanctum, C. roseus* and rhizome of *Z. officinale* were found to be inhibitory to *A. triticina*. The *P. longifolia* extract gave the best inhibition of pathogen on glucose glutamic acid medium[4], followed by *A. indica, O. sanctum, C. roseus and Z. officinale* (Table-1).

The sterilized phyto extracts failed to produce any inhibition of fungal growth. This shows that antifungal compounds in these phytoextracts might be destroyed during autoclaving. Nene *et al*[5]; also observed

Table 1. Effect of Plant Extract on the growth of *A. triticina* after 96 hr at 26±1°C.

Plant Extract	Radial growth in petriplate (mm)	Percent Inhibition
Polyalthia longifolia	35	70
Azardirachta indica	18	64
Ocimum sanctum	25	50
Catharanthus roseus (white)	30	40
Zingiber officinale	30	40
Control (without any phyto extract)	50	00

similar trend.

It is noted that unsterilized phyto extract of plants contain some unknown chemicals, which inhibit the growth of pathogen, and these may be thermo labile in nature. Singh *et al*[6]; also reported the effectiveness of neem products on *A. triticina*. Datar[7] found that leaf extract of *P. longifolia* was most effective in reducing the mycelial rowth of *Macrophomina phaseolina,* the incitant of charcol rot of sorghum. The plant species having antifungal activity are widely available and can be utilized as leaf extract for the management of leaf blight of wheat. Further research on improving the efficacy of these phytoextracts is in progress.

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