

## EFFECT OF PLANT EXTRACTS ON SEED MOULDS OF PEA

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**METHODS AND MATERIALS-** Fungitoxicity of plant extracts was studied by the poisoned food technique described by Nene and Thapliyal (1993). The Plant extracts were prepared by collecting fresh plant parts, washing them thoroughly and grinding in distilled water. The extracts were thoroughly mixed by stirring. Czapek dox agar medium was prepared and sterilized in flasks. To it equal amount of the plant extract was added. The medium was then poured into petriplate. Small disc (0.7 cm) of the fungal culture grown on potato dextrose agar (PDA) for 7 days was cut with a sterile cork borer and transferred aseptically in the centre of the petriplate containing the plant extract. Control was also simultaneously kept where in the culture discs were grown under similar condition but without plant extract. Linear growth of the test fungi was measured at regular intervals. The diameter of the fungal colony was compared with control as a measure of the fungitoxicity.

**RESULTS AND CONCLUSION-** Aqueous leaf extracts of higher plants were inhibitory to the fungal growth. Extracts of *Polyalthia longifolia* was more inhibitory to *Alternaria alternata* where as *Azadirachta indica* and *Polyalthia longifolia* inhibited *Aspergillus flavus*; *Azadirachta indica* inhibited *Curvularia lunata*. Whereas *Fusarium roseum* and

*Helminthosporium tetrameta* showed inhibition due to *Polyalthia longifolia*. *Azadirachta indica*, *Adathoda vasica* and *Annona squamosa*. Aqueous extracts of fresh rhizome and bulb at 10% concentration were tested for inhibition of mycelial growth of the five fungi isolated from pea seeds solid medium. Extracts of *Zingiber officinale* and *Allium sativum* inhibited the growth of *Aspergillus flavus*. The extracts of *Allium cepa* and *Allium sativum* inhibited the growth of *Alternaria alternata* while that of *Allium cepa* inhibited the growth of *Curvularia lunata*, where as *Fusarium roseum* did not showed any distinct inhibition. Extracts of freshly harvested mature seeds of commonly grown leguminous plants at 10% concentration were studied to observe their effect of fungi growing on pea seeds. The growth of *Alternaria alternata* was inhibited by Cow pea (*Vigna unguiculata*) seed extract. The growth of *Aspergillus flavus* was inhibited by seed extracts of gram (*Cicer arietinum*), moth bean (*Phaseolus aconitifolius*) and Green gram (*Phaseolus aureus*). The growth of *Fusarium roseum* was inhibited by cowpea seed extract, whereas that of *Helminthosporium tetramera* was inhibited by moth bean and cowpea seed extracts. The over all results indicated that the extract of plants parts offer much scope for then exploitation as a promising material for use in plant disease control.

**Table 1 : Effect of plant extracts on growth of fungi**

Plant Part	Plant	Diameter of fungal growth (mm)				
		A. alternata	A. flavus	C. lunata	F. roseum	H. tetramera
Leaf	Control	58	60	64	65	55
	Annonasquamosa	38	34	48	55	40
	Adathoda vasica	35	30	42	35	34
	Azadirachta indica	33	23	25	40	38
	Polyalthia longifolia	29	25	28	35	32
Rhizome	Control	62	64	60	65	55
	Zingiber officinale	40	28	48	52	43
	Curcumata longa	35	28	42	54	23
	Allium cepa	30	34	26	45	60
	Allium sativum	32	23	55	50	45
Seed	Control	70	68	65	72	58
	Cicer arietinum	41	21	45	52	48
	Phaseolus aconitifolius	37	22	42	38	30
	Phaseolus aureus	32	20	44	36	34
	Vigna unguiculata	29	30	36	30	32

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