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Effect of Different Vitamins against *Alternaria arachidis* Kul.

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Abstract

Among oil seed crops, groundnut (*Arachis hypogea* L.) is an important crop. The underground as well as the foliar parts get affected by different micro-organisms causing various diseases. Along with earlier known foliar disease, a new disease Alternaria Blight has been observed in the field. The alternaria blight infected leaves show marginal necrosis and increases inward to form wedge shaped lesions. The lesions get surrounded by yellow zone. The disease is increasing gradually year after the year. Therefore its study is essential. *Alternaria arachidis* Kul. causing alternaria blight was isolated & purified. DSI was increasing year after the year indicating that the disease occurrence is increasing and it needs control measures. The effect of different vitamins against *Alternaria arachidis* Kul. was studied. The different vitamins used for the study were as ascorbic acid, biotin, inositol, nicotinic acid, pyridoxine, riboflavin and thiamin. The concentration of these vitamins used was 0.25%. It was noted that ascorbic acid, biotin, nicotinic acid, pyridoxine and riboflavin were stimulatory while inositol and thiamine were inhibitory to the pathogen as compaired to the control.

Key Words: *Alternaria arachidis* Kul., Groundnut, Vitamins

Introduction

Among oil seed crops, Groundnut (*Arachis hypogeal* L.) is an important crop. It is used for edible purpose and for oil extration. The various foliar diseases such as tikka, rust, collar rot,wilt and stem rot are known Reddy [5]. Anew disease "Alternaria Blight of Groundnut" has been observed and reported by Subramanyam *et al.,* [9]. The data indicates that the disease incidence is increasing year after the year gradually. Therefore, the study of "Alternaria Blight of Groundnut" is considered tobe essential one. The alternaria blight infected leaves show marginal necrosis and increases inward to form wedge shaped lesions. The lesions get surrounded by yellow zone. The effect of different vitamins against *Alternaria arachidis* Kul was studied Singh, [7] and Solunke [8].

Material and Methods

The alternaria blight infected leaves of SBXI variety of groundnut were collected from Dept.of Agronomy, MAU, Parbhani.

The pathogen was isolated and purified on potato dextrose agar media by the single spore isolation method Onkar *et al.,* [4]. The pathogen was maintained on potato dextrose agar media.

The pathogenicity was proved by simple detached leaf technique (SDL) Cook [1], Mayeeand and Mune [3], Satishkumar [6], Kareppa and Gangawane [2].

Results and Discussion

Different scientists studied the effect of different vitamins on the growth of different fungi. Singh [7] showed the effect of vitamins as thiamin and biotin on the growth of *Helminthosporium solani.* Solunke [8] indicated the effect of vitamins on *Sclerotium rolfsii*. He used 0.25% ascorbic acid, biotin, inositol, nicotinic acid, pyridoxine, riboflavin and thiamin.

Table-Efficacy of vitamins against *Alternaria arachidis* kul

Vitamins(0.25%)	Linear Growth(mm) Incubation Period(Days)									
	1	2	3	4	5	6	7	8	9	10
Control	5	8	19	32	45	52	60	74	82	90
Ascorbic acid	9	12	34	38	56	60	65	75	83	90
Biotin	8	12	34	40	54	62	70	78	84	90
Inositol	8	11	31	36	49	55	61	72	80	88
Nicotinic acid	9	13	35	42	59	68	76	85	90	90
Pyridoxin	8	11	32	37	48	60	63	74	83	90
Riboflavin	8	11	33	37	47	59	65	73	83	90
Thiamin	8	12	20	39	54	57	59	65	74	85

The efficacy of different vitamins was tested against *Alternaria arachidis* Kul. The different vitamins used for the study were ascorbic acid, biotin, inositol, nicotinic acid, pyridoxine, riboflavin and thiamin.The concentration used was 0.25%. The vitamins as ascorbic acid, biotin, nicotinic acid, pyridoxine and riboflavin were stimulatory while inositol and thiamin were inhibitory to the pathogen as compaired to the control. The results were as shown in the table.

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