

MARKET ROT OF VEGETABLES IN KERALA

Post harvest diseases of vegetables are known to cause considerable economic loss. Extensive studies have been made on these diseases in different parts of India. In Kerala, however, very little information is available on the different types of microorganisms that cause decay of vegetables during transit and storage, the type and extent of deterioration caused by them and the methods of combating such diseases. During the present studies, an attempt was made to isolate the different fungi causing decay and deterioration of certain vegetables in the different markets at Trivandrum, Kerala State.

The fungi were isolated and maintained on potato dextrose agar medium. Detached vegetables were surface sterilised with 1:1000 mercuric chloride solution, washed in sterile distilled water and inoculated with the respective fungal isolates. Both injured and uninjured vegetables were inoculated and incubated under humid chamber in the laboratory at room temperature (25-27°C)

The organisms pathogenic to the different vegetables and the nature of damage caused by them on artificial inoculation are detailed in Table I.

Table I

Results of artificial inoculation of vegetables with fungi.

Vegetable	Fungus	Type of damage caused on artificial inoculation
Banana	<i>Gloeosporium musarum</i>	Dark brown spots which enlarged and turned black within 3 to 4 days causing rotting of the infected region with the production of pink spore masses of the fungus.
	<i>Fusarium sp.</i>	Blackening and wrinkling of the skin within 3 to 4 days.
	<i>Diplodia sp.</i>	Blackening of the infected region and complete rotting within 5 to 6 days.
Chillies	<i>Colletotrichum capsici</i>	Sunken wrinkled areas with dark dots constituting the acervuli of the fungus with rotting of the tissues within 3 to 4 days.

Vegetable	Fungus	Type of damage caused on artificial inoculation
Tomato	<i>Corynespora cassicola</i>	Dark brown to black lesion and rotting of the fruit in 4 days with dark coloured mycelial growth of the fungus.
	<i>Colletotrichum phomoides</i>	Dark coloured sunken area developing into a wet rot of the fruit within 4 to 5 days.
	<i>Aspergillus niger</i>	Dark brown lesion with profuse production of conidiophores and conidia of the fungus within 4 days.
	<i>Diplodia sp.</i>	Dark lesions causing severe rotting of the fruit within 5 days.
	<i>Rhizopus sp.</i>	Brown patches resulting in complete rotting of the fruit after 5 days.
Brinjal	<i>Rhizopus sp.</i>	Complete rotting of the fruits with profuse fungal growth within 5 days.
	<i>Diplodia sp.</i>	Dark coloured spots with rotting of tissues within 4 days.
Bhindi	<i>Pythium sp.</i>	Complete rotting of the fruit within 3 to 4 days with profuse white fluffy fungal growth.
Cucumber	<i>Pythium sp.</i>	Complete rotting of the fruit with profuse white fungal growth within 3 to 4 days.
	<i>Diplodia sp.</i>	Dark coloured areas with rotting of the tissues within 3 days.

The present study revealed that fungi like *Glaeosporium musarum*, *Colletotrichum capsici*, *C. phomoides*, *Aspergillus niger*, *Corynesporocassicola*, and species of *Fusarium*, *Diplodia*, *Rhizopus* and

Pythium, are chiefly responsible for causing damage to vegetables in the different markets at Trivandrum. All these organisms caused severe damage when artificially inoculated under laboratory

conditions Injury was found to be a prerequisite for the attack by these fungi. They failed to infect intact, uninjured vegetables. It therefore becomes apparent that prevention of injury by careful picking, transport and storage will minimise the decay and deterioration of vegetables by fungi.

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