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STUDIES ON FUNGI RESPONSIBLE FOR THE FRUIT SPOILAGE AND THE THEIR ISOLATION

S. L. Korekar

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Abstract :

Investigation concerning fungi accountable for the post crop consumption about tomatoes, flat of the hand fruit, candy potato, Irish potato, banana, carrot, plantain, pawpaw, Avocado pear, water-melon then sparkling purple peppercorn out of five one-of-a-kind markets or farm lands within Marathwada. Healthy and diseased samples had been accrued beyond the select markets/farmlands. Fungal species located associated including the erosion on the more than a few berry or vegetables.

KEYWORDS :

Fungi, Spoilage, Infection, Fruit, Vegetables.

INTRODUCTION :

Fruits are nature's astonishing drug treatments packed together with nutritional vitamins minerals, anti-oxidants then much phyto-nutrients (Plant derived micronutrients). They are superlative period according to our sight; now not just due to the fact of their coloration then flavor however assist physique fit or healthy. Fruits are low between calories and fats and are a source of easy sugars, filament and vitamins, who are integral because optimizing our health. Fruits provide lots about soluble dietary fiber, which helps according to ward on ldl cholesterol and fats beyond the physique or after reach remedy beyond constipation as like well. Fruits contain many anti-oxidants like poly-oxidants like poly-phenolic flavonoids, vitamin-C, anthocyanins. These compounds, firstly, help physique after protect out of oxidant stress, diseases, and cancers, yet secondly assist physique in accordance with increase ability according to fight against this ailments by means of boosting our redemption level. Many fruits, so in contrast in conformity with veggies then cereals, bear dead excessive anti-oxidant values as is something measured via their "Oxygen Radical Absorbent Capacity".

Fungi are increasingly implicated as the agents of spoilage of economically important fruits and vegetables. Fruits supply some necessary nutritional substances such as vitamins and essential minerals in human daily diet; this keeps the body in a good and healthy condition. Consumption of fruit and vegetable products has dramatically increased in Nigeria by more than 40% during the past few decades. It is also estimated that about 30% of all fruits and vegetables produced is lost each year due to spoilage.

Fruits and vegetables contribute 92.3 per cent of total horticultural production. The area under fruit cultivation is 6.6 million hectares with a total production of 75.8 million tones. India is the second largest producer of fruits in the world, after China. It is, however the largest producer of mango, banana, papaya, sapota, pomegranate and anola. About 40 per cent of the world's mangoes and 30 per cent of the world's bananas and papayas are produced in India, the diverse agro-climatic conditions favour cultivation of more than five kinds of fruits and nut crops, majority of which are grown in the tropical region.

The major commercial tropical fruits are grapes, banana, mango, citrus, papaya, pineapple and sapota. Although the area under fruit crops has increased in the last three decades, still it is only a little over one per cent of the total; cultivated area. Indian mangoes are being exported to various foreign countries including Gulf, USA, China and England getting significant amount of foreign currency to India. Therefore, farmers in India in general while in Andhra Pradesh, Maharashtra and Goa in particular are growing mango on large scale. The farmers of Maharashtra, since last two decades have inclined to grow mango on large areas. The popular varieties of mango that are being cultivated and transported from other markets are Dasherri, Langra, Mulgoa, Neelum, Pairi, Benisan, Kesar, Aphanso, Lalbagh, Totapuri and many local varieties.

Global production of papaya is approximately 6 million metric tons; however 70% of the world productions (FAOSTAT, 2003) were from Nigeria, Brazil, Indonesia, Mexico and India. Papaya production ranks 10th among all fruit species grown commercially in the world following citrus, banana, grapes, apples, mangoes, pineapples, pears, peaches, nectarines and dates. The importance of papaya to agriculture and world's economy is demonstrated by its wide distribution and substantial production in the tropical countries.

ECO-FRIENDLY MANAGEMENT OF POST-HARVEST FUNGI

Fungi toxic properties of eleven selected medicinal plants. (10% aqueous leaf extract) screened against test fungi. Glucose nitrate medium was prepared in flasks and sterilized. To this medium, the requisite quantity of the plant extract was added. The plant extract was prepared by collecting fresh plant parts, washed thoroughly in distilled water and grinded in distilled water. The plant extract was thoroughly in distilled water and grinded in distilled water. The plant extract was thoroughly mixed by stirring. The medium was then autoclaved at 15 lbs pressure for 20 minutes. After cooling the medium, fungi were inoculated in aseptic condition and incubated for seven days at room temperature. Suitable checks were kept where the fungi were grown under the same condition in glucose nitrate without plant extract. Mycelia growth of the test fungi was measured in gram after harvesting. The mycelia weight of the fungi compared with check was taken as a measure of the fungal toxicity. Similar procedure was followed to study the antifungal activity of essential oils, medicinal plant gums, and latex of medicinal plants and fruit rinds of some medicinal plant.

METHODOLOGY:

Isolation of Fungi from Rotten Mango, Banana, Custard Apple and Grape Fruits:

Infected fruits of different mango varieties viz. Local Osmanabad, Kesar, Local Jalna, Local Nanded and Local Latur; Local banana varieties viz. Jalgaon BV1, BV2, BV3 and local; custard apple varieties Local Kaij, Ghatangri, Local Vaijapur, Local Barshi and Local Kandhar. Grape varieties viz. Bhokari, Sharad, Thomson, Gulabi and Perlette were collected from different districts of Marathwada region of Maharashtra state. Small pieces, measuring 2 mm² each of infected tissue, were cut off from fruits with the help of sterile sharp knife. Pieces of diseased fruit were washed with tap water and surface sterilized with 1% Sodium hypochloride solution for 2 min, washed twice with pieces were separately transferred to sterilized petri-dishes containing potato dextrose agar (PDA) medium and incubated at 25°C for 10 days. Petri-dishes were observed daily and colonies of fungi were chosen. The isolate fungi were purified using single spore technique and then kept in a refrigerator on PDA medium.

The specimens used in this study were obtained from various 3000 fruits and vegetables within Marathwada State. Fungal isolates were obtained from randomly selected symptomatic plants.

Fungal Isolation

Infected crop plants yet vegetable samples had been advance surface sterilized by using swollen below walking faucet water among method in conformity with cite grime or sand. The infected portions over the quite a number samples were excised yet cut within 2 mm² pieces with a flamed surgical blade, floor sterilized including 1% NaOCl yet rinsed among 4 successive changes concerning barren distilled water. The excised contaminated portions were afterward plated regarding to Sabouraud dextrose agar (SDA) slants supplemented along 50 mg chloramphenicol and 5 mg gentamicin through liter.

CONCLUSION

Deterioration about just berry yet plant is brought about by way of fungi infection. We therefore advocated well timed spraying on the fruits including fungicides according to limit the damaging things to do of the fungal pathogen then illness including mycotoxins yet sordid related fungal metabolites so much would possibly stand harzadous to ethnic health. Since half concerning these pathogens obtain get right of entry to via wounds constructed by using moth pests, there is additionally the need because of in addition investigations concerning the pests inflicting accidents over fruits, including the aims of reducing their activities.

REFERENCE

- 1.Akamine, E.K and A. Arisume (1953).Control of post-harvest storage decay of fruits of papayas with special reference to the effect of hot water. Am. soc. Hort. Proc. 61: 270-274.
- 2.Abd-Alla, M.S. Atalla, K. M. and M.A.M. El-Sawi (2001). Effect of some plant waste extracts on growth and aflatoxin production by *Aspergillusflavus*. Annals Agric. Sci., Ain Shams Univ., Cairo 46: 579-592.
- 3.Agrawal, G.P. and K.Ghosh (1979). Post-infection changes in as ascorbic acid content in lemon, musambi and orange fruits infected by *Colletotrichumgloeosporioides*. Indian Phytopath. 32: 108:109.
- 4.Gadgile, D.P. and Chavan, A.M. 2009. Impact of nutritional sources on the activity of enzyme cellulase produced by post-harvest fungi isolated from mango fruits. Bioinfolet. 6(3): 227-229. [5]
- 5.Gadgile, D.P. 2011. Studies on post-harvest diseases of mango fruits. Ph. D. thesis submitted to Dr. Babasaheb Ambedkar Marathwada, University, Aurangabad. pp. 166. [6]
- 6.Holker, U., M. Höfer and J. Lenz, 2004. Biotechnological advantages of laboratory-scale solid-state fermentation with fungi. Appl. Microbiol. Biotechnol., 64: 175-186.
- 7.Korekar, S.L. and P.B. Papdiwal (2004). Diseases of some fruit trees of Osmanabad and Latur districts of Maharashtra, Geobios;31(2-3): 143-145.
- 8.Rathod, G.M. 2011. Studies on post-harvest diseases of papaya. Ph. D. thesis submitted to Dr. Babasaheb Ambedkar Marathwada, University, Aurangabad
- 9.Singh, D., Sharma, R.R. 2007. Postharvest diseases of fruit and vegetables and their management. In: Prasad, D. (Ed.), Sustainable Pest Management. Daya Publishing House, New Delhi, India.
10. Wood, R.K.S. 1960. In:Plant pathology: An advanced treatise.(Eds. Horsfall, J.G. and Diamond, A.E.). Academic press, New York. pp. 233-272.

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