

Effect of storage containers on disease development in dry rot of potato

Wakle GL

Department of Botany, R.M.I.G. College, Jalna, MS, India.

Email: gautamwakle@gmail.com

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ABSTRACT

Effect of different storage containers were tested against disease development of dry rot of potato causing *Fusarium Coeruleum*, the containers were used as tin box, polyline bags, paper box, wooden box, cloth bags, gunny bags and bamboo strip box. for four-month period in, eight month period and twelve month incubation periods. Among the storage containers used bamboo strip box, gunny bags and wooden box was found suitable for post harvest storage of potato.

Keyword: *Fusarium Coeruleum*, gunny bags.

INTRODUCTION

Potato (*Solanum tuberosum*) is one of the most important nutritive food crop having rich source of carbohydrates, Protein, Vitamins, trace elements. It is used in cotton industry for sizing cotton, also used in papers industry. The important aspect of the potato are manufacture of alcohol (Chadha,1994). In the view of above, it's offer a permanent solution of problems such as hunger, malnutrition, and unemployment (Shekhawat,1999). Various pests and diseases get affected such as bacteria and fungi plays major role for disease development. Tuber Rot is caused by faulty handling during transportation and in storage. (Boy,1972, Khurana and Chandra,1980, Khurana 2002, Paul and Ezakil 1999). Different diseases are affected such as black scurf, common scab, soft rot, brown rot, dry rot, tuber rot (Gadewar,1989; Wakle and Kareppa, 2000;) In the present investigation attempt has been carried out to control the growth of *Fusarium coeruleum*. By using different storage containers like, tin box, polyline bags, bamboo strip boxes, cloth bag, wooden box, gunny bags, paper box, among these storage containers used, bamboo stripes box, gunny bags and wooden box were found suitable for controlling the liner growth of *Fusarium coeruleum* causing dry rot of potato in post-harvest storage period.

MATERIALS AND METHODS

The different storage containers were used to find out the effect on growth of *Fusarium coeruleum* causing dry rot of potato. as tin box,

polyline bags, paper box, cloth bags, gunny bags, wooden box, and bamboo strip box. All the container were sterilized and used for development of dry rot diseases. The healthy potato of Kufari Chandramukhi vartety, K. Lavkar, K. Sinduri, and K. Badsh were used. its -washed and surfsce sterilized before use. The medium sized potato were kept in each container, it was inoculated by hyphal tips of fusarium coeruleum

aseptically in 10 mm bore deep in potato.the inoculated potato is kept for incubation for four month periods.

RESULTS & DISCUSSION

For the post-harvest storage of potato different storage containers were used to observe the disease development of different storage periods.

Table,1 ; Effect of four month storage periods on storage containers in disease development of dry rot of potato

Storage container	K. Chandramukhi	K. Lavkar	K. Sinduri	K. Badshah
Tin box	06.11	04.33	03.66	04.11
Polyline bag	05.66	03.11	03.00	03.66
Paper box	04.00	03.66	02.66	03.11
Wooden box	03.66	03.00	02.11	03.00
Cloth bag	03.55	02.99	02.00	02.66
Gunny bag	03.00	02.00	01.99	02.00
Bamboo strips box	02.11	1.66	01.66	1.99
S.E.,-.	0.11	0.05	0.07	0.08
C.D.=0.01	0.74	0.38	0.29	0.40

Table 2 ; Effect of Eaight month storage periods on storage containers in disease development of dry rot of potato

Storage container	K. Chandramukhi	K. Lavkar	K. Sinduri	K. Badshah
Tin box	08.70	06.20	05.90	06.11
Polyline bag	06.66	05.11	05.00	05.66
Paper box	06.00	05.00	04.66	05.11
Wooden box	05.66	04.88	03.88	04.60
Cloth bag	04.55	03.99	03.00	03.66
Gunny bag	04.30	03.60	02.99	02.60
Bamboo strips box	03.31	3.06	02.60	2.99
S.E.,-.	0.21	0.55	0.67	0.78
C.D.=0.01	0.84	0.78	0.69	0.50

Table;3 Effect of storage containers With Twelve Month Period on disease devolpment of dry rot of potato.

Storage container	K. Chandramukhi	K. Lavkar	K. Sinduri	K. Badshah
Tin box	1070	09.20	08.90	07.11
Polyline bag	09.66	08.11	07.00	06.66
Paper box	08.00	07.00	06.66	06.11
Wooden box	07.66	06.88	05.88	05.30
Cloth bag	06.55	04.99	04.00	03.90
Gunny bag	05.30	04.60	03.99	03.60
Bamboo strips box	02.31	3.06	02.60	2.99
S.E.,-.	0.31	0.65	0.87	0.78
C.D.=0.01	1.24	0.98	0.86	0.70

The storage containers were used as, tin box, poly line bags, paper box, wooden box, cloth bags, Gunny bags, bamboo strips box. After four month periods of incubation, development of dry rot diseases were highest in variety kufir hanamachi, intermediates in k. sinduri, k. Badshah and mimimum in k. lavkar. the storage container, tin box, polyline bages,and paper box shows maximum growth, while wooden box shows intermediate, and cloth bages, gunny bages,and bamboo strips box shows minimum infection of fusarium coerilium causing dry rot of potato.

While eight month incubation period and twelve month incubion periods, similer types of observation were recorded. Vijay Paul (1999)suggest that traditional method ofpotato storage is popolar in central southern india are hip and pit method. Uppal and Ezekiel(1999) suggest that traditional potato storage method ie, kutcha pit and Pucca pit are also best for storage of potato.they stated that potto stored for 30 days in heap and pits become sutiable for processing. Gupta et al., (2000)observed storage method in seed quality of ground nut,the seed were stored in gunny bags, plastic bags,andpoly line gunny bags.it was found that, gunny bags and polylined guny bags, proved to better storage containers for maximum seed viability and minimum seed mycoflora.

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