

Estimation of losses due to storage diseases of potato in markets of Dhaka city in Bangladesh

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Potato (*Solanum tuberosum* L.) is a tuber crop belonging to the family Solanaceae. Potato is the most important source of human food and ranked as the fifth major crop of the world (Hooker, 1983). The area and yield of potato vary from year to year in Bangladesh. However; recent reports indicated that 4161 million tons of potatoes were produced from 744 thousand hectares of land in 2005-2006 (BBS, 2006). Potato crop has many hazards in the field as well as in the storage and market, of which soft rot, dry rot, potato scab, potato gangrene, hollow heart are important. A recent report indicated that 0.187 million tons of potato were lost in Bangladesh due to diseases (Anonymous, 2006). In Bangladesh considerable work have been done by BAU and BARI scientist on different aspects of diseases of potato but no systematic work has been done on the market diseases of this crop, except recording the occurrence of a few diseases and only a limited research work has been done. Therefore, the present work was carried out to determine the health status of potatoes in the market storages, and to estimate the percent loss of potato due to important diseases occurring in the market storages of Dhaka city.

For surveying the market diseases of potato in shop cum storage, 10 shops under each of the three markets viz. New markets kacha Bazar, Karwan Bazar and Uttara Kacha

Bazar of Dhaka were selected. In all the shops tubers were spreaded over the floor and the diseased potatoes were sorted out and weight was taken. The bags were opened and the diseases tubers (soft rot, dry rot, and common scab) of each bag were separated from the healthy ones. The diseased tubers from these bags were weighed and these amounts was divided by the total amount of observed potato in the four (4) bags and multiplied by 100 so as find out the percentage of loss due to diseases (Islam,1995). From diseased tubers, bacteria were isolated by streaking it on to nutrient agar plate and incubated at a room temperature of 26°C for 48 hrs; fungi were isolated on acidified PDA medium. For actinomycetes, isolation was made on to NA plate incubated at room temperature of 26°C-28°C for 48 hrs. Pathogens were identified following the standard keys. Pathogenicity was confirmed by standard slice inoculation method, block inoculation method, pin prick method. Data were recorded from time to time during the tenure of the works for requisite parameter. The experiment was conduct in and the data collected on different parameters under the experiment Data were statistically analyzed following two factors RCBD using the MSTAT- computer package program developed by Russell (1986).

Table 1. Loss estimation of storage potato caused by various diseases during different months

Month	% loss	% soft rot	% dry rot	% scab
July	5.58 A	3.56 A	1.13 A	0.89 A
August	4.96 B	3.28 B	0.89 B	0.79 B
September	4.55 C	2.96 C	0.84 C	0.75 B
Level of Significance	*	*	*	*

Significant at P 0.05

Different market diseases (soft rot, dry rot, and scab) of potato in New market kacha bazaar, karwan bazaar and Uttara kacha bazar of Dhaka were presented in Table 1. The average losses due to soft rot incidences were found as 3.56% in July, 3.28% in August and 2.96% in September. The average dry rot incidences were found as 1.13% July, 0.89% in August and 0.84% in September. The average loss of scab were found as 0.89% July August 0.79% and 0.75% in September and percent of loss incidences 5.58% (July) 4.96% (August) and 4.55% (September). July was found as the most affected month followed by August and September.

The storage condition specially temperature and humidity were found to be important factors for the variability of disease incidence and tuber losses. The Study revealed the fact that potatoes were subject to infection by different diseases in the markets of Dhaka city.

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