National Journal of Multidisciplinary Research and Development
ISSN: 2455-9040
Impact Factor: RJIF 5.22
www.nationaljournals.com
Volume 3; Issue 1; January 2018; Page No. 832-833

Appraisal of rots in market

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Abstract
A survey of markets and godowns of Agra and Shikohabad was made, during April' 2012 to September' 2012 at bimonthly interval. In this particular area cured garlic bulbs are stored in gunny bags that are piled up one above the other in dry ventilated rooms. Bulbs samples were collected randomly from these bags at said interval, and the observation taken have been presented herein.

Keywords: appraisal, market, observation, bulbs

Introduction

A. Disease incidence

Apparently healthy and diseased bulbs were separated s counted to record the per cent disease incidence.

Table 1: Extent of spoilage of stored garlic bulbs during 2012

Period of Blue samples % disease			
observation	collected	Diseased	incidence
April	292	18	6.16
July	325	55	16.92
September	235	52	22.12

The data presented in table 1 show that only 6.16 per cent bulbs carried the visual rotting symptoms during April the period immediately after harvest. The incidence was appreciably enhanced in the month of July when it reached as high as 16.92 percent. During the month of September, it further advanced to 22.12 percent.

B. Symptomatology

a H= Healthy **b** D= Diseased

Fig 1: Symptoms of rotting market supply at an early stage.

Externally, both healthy and diseased bulbs appeared to be similar exceps that the latter were lighter in weight and disfigured to various degrees (Fig.1).
These bulbs turned yellowish –brown and did not possess the usual "garlic smell". Sometimes black, greenish-black or brownish-yellow Spores/conidia masses were also visible in the crevices of some of the cloves of a rotting bulb. Some bulbs were completely disfigured and rotten (Fig.1B). A comparative picture of healthy and diseased cloves can be seen in.
The healthy cloves were full, fleshy and off –white while diseased ones were brown or yellowish-brown, shrivelled, disfigured and light in weight. Appearances of white, brown, grey, black mycelia and spores/conidia were the common features on heavily infested cloves. In some cases, all cloves of a bulb were destroyed, while in other one fourth, half, three fourth or greater proportions of cloves were affected. Even apparently healthy looking bulbs also possessed a few rotten cloves. A careful examination of the destroyed disfigured and withered bulbs showed that mites, insects and larvae also got associated with them during these rainy months.
Plant pathologists, in past, were concerned more with disease of Crop and cash –crop than of fruits and vegetables. A number of surveys made in resent past have shown that economic losses incurred by post-harvest diseases have reached the substantial level, that costed 200 million dollars in USA in 1965 (survey of U.S. Department Agri. Survey)and amounted to an average loss of 20-30 percent in India(Mehta 1975) [3]. Strenuous et efforts undertaken by Thakur and Chenulu 1970 [5] in Delhi by Jamaluddin *et al*. (1972) [1]. Recommandation and maintain of Garlic in storage (Mosita, 2013) [2] by Sridhar (1978) [4].
Garlic bulbs the vegetable under investigation, are consumed as raw vegetable in almost all households in India and abroad and hence, are one of the essential ingredients of our food intake. like other it too suffers from many fungal ailments, obviously due to its Subterranean growth and fleshy nature. This was further borne out by the survey made during the present investigation. The bulb rotting was only 6.16 percent in May, nearly a month after harvest, which increased to 16.92 percent in July and further enhanced to 22.12 percent in September (Table 1). The magnitude of garlic rotting evident under the present supports the data compiled by Mehta (1975)

[3] for other vegetables in India. Continued increase of garlic diseases during these months indicate that inoculums loaded on bulb surface, either from fields and/or from storage and harvest atmosphere was able to multiply and proliferate in the ambient conditions that prevailed because of the ensuing rainy season. A critical examination of the diseased bulbs showed that browning, withering and disfiguration were the general symptoms express on their surfaces, which in addition black, green those described by Wu (1977) [6], from Taiwan ln addition black green yellow, yellow- brown tissues and sporulation were also observed. The diseases were of fungal origin of water exudation from them.

Acknowledgement
The authors extremely thankful to Dr. A N Roy, Ex- Head, Department of Botany, Agra College, Agra and U.GHC New Delhi for providing financial assistant.

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