

Average yields of crops in maunds per acre (1 maund = 82 lbs.)

	Karnal			New Delhi		
	1941-42	1942-43	1943-44	1941-42	1942-43	1943-44
Wheat { Flooded ..	14.88	19.91	17.12	..	9.02	5.07
Wheat { Rainfed ..	5.45	17.41	9.92	..	9.20	2.75
Barley { Flooded ..	17.39	17.52	34.66	..	26.21	9.84
Barley { Rainfed ..	9.94	16.60	16.52	..	22.83	12.07
Gram { Flooded ..	15.94	17.50	16.88	7.50	10.76	7.34
Gram { Rainfed ..	0.97	14.71	13.40	3.32	10.45	3.22

water which now runs to waste in the sea. By flooding the land once only in early September, when plenty of surplus water is available, and without any further irrigations, the yields obtained during the last three years have been given in the above table.

The differences in yields are apparent in 1941-42 and 1943-44, but in 1942-43, a year of heavy monsoon rainfall (32.7 inches at Karnal and 26.9 inches at New Delhi), the differences are, as may be expected, of a lower order.

Growth of deep-rooted grasses in the grazing areas can be assured in years of deficient rainfall by the use of the surplus water which is now wasted. Canalization of the areas to use this water coupled with measures to conserve rainfall would assure the *kharif* crop completely and would result in the stabilization of *rabi* crop production on a higher level in these precarious areas.

Imperial Agricultural Research
Institute, New Delhi,
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C. H. PARR.

PREVENTION OF DAMAGE TO STORED POTATOES BY THE POTATO TUBER MOTH

IN *Current Science*,¹ Rahman published some results of his experiments on the storage of potatoes and damage by the tuber moth, *Gnorimoschema operculella* Zell. In view of the seriousness of the tuber moth problem nearly all over India, the problem has been re-examined.

The results given by Rahman show:—

- (1) marked difference in moth damage between covered and uncovered potatoes;
- (2) little significant difference in damage covered by the seven materials used, either by moth or by rot;
- (3) none of the seven materials used, has any superiority, in preventing rotting;
- (4) the figures for moth damage in respect of covered potatoes on the racks and on the *pucca* floor are too erratic to lead to any definite conclusion.

Rahman's statement, therefore, that the percentage of losses due to moth attack as well as rotting was higher when potatoes were stored on the floor than when they were stored on racks and that saw dust, Lantana leaves, local grass and *bhusa* gave good results, is not borne out by his data. Indeed

his only finding appears to be the well-known fact that covering potatoes with some suitable material minimises moth attack.

Lefroy and Evans (1910) experimented on potato storage at Pusa; these were repeated in certain areas in the Central Provinces. They concluded that the most effective and inexpensive method of storing potato against moth attack and rotting, was to keep them covered under a layer of sand and to examine periodically, specially during the rainy season, and pick out the attacked or rotting potatoes. This method has given varying degrees of success, depending, it appears, largely on the correctness and efficiency with which the method has been practised.

Following Rahman's clue, a laboratory experiment was conducted at Cawnpore in which lots of 16 potatoes were kept covered with sand, ash, saw dust, *bhusa*, ash mixed with lime, Lantana leaves and *Murraya koenigii* leaves, together with one lot uncovered as Control and exposed equally to the tuber moth attack. The experiment lasted from 14-9-1944 to 2-3-1945. The results have shown that potatoes, covered with sand, ash and ash mixed with lime, remained completely free from moth attack while other lots suffered heavily. The percentage of moth-attacked and rotten potatoes under Lantana leaves was 91.0 and 47.9 respectively against 0.0 and 8.3 under sand and 0.0 and under ash. The experiment is being repeated on large-scale and a full account of both may be published at a later stage.

Entomologist to
the Government of U.P.,
Cawnpore,
March 28, 1945.

K. B. LAL.

1. Rahman, Khan A., *Curr. Sci.*, 1944, 13, 133. 2. Lefroy, H. M., and Evans, G., *Agri. J. India*, 1910, 5, 19.

THE CHROMOSOME NUMBER OF SACCHAROMYCES CEREVISIAE

AFTER a survey of our knowledge of the cytology of yeasts Kater¹ concludes that while amitosis is of doubtful value as a process occurring during budding "the burden of proof still rests with both sides". We would like to add that an explanation should also be given as to why the chromosome number is given by Badian²