Fig. 2 is reproduced natural size with an arrow added, showing a piece of extra lac encrustation at the top of Fig. 2. Clusius does not explain his illustrations, nor has he numbered or lettered them; the figures serve more or less like decorations. The original drawings were possibly made by an artist, rather than by Garcia himself, which explains the anomaly in the picture (Fig. 2).

FIG 1

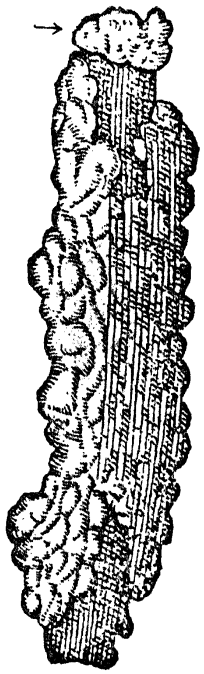


FIG. 2

Biochemical Laboratory,
Osmania University,
Hyderabad (Dn.),
April 16, 1947.

S. MAHDIHASSAN.

HEAT TREATMENT OF GODOWNS

RAHMAN[1] recommends 'superheating' for disinfesting empty godowns, but Pruthi and Singh[2] speak only of super-heating of grains and not of godowns. In the course of a trial in a godown in Bangalore, the writer experienced some serious reactions due probably to breathing in of carbon monoxide. This note is intended to caution workers, that in undertaking such work, protective devices must be employed.

Two bags of infested grains were spread in a corner away from the fire in a terraced room of 1,952 cubic feet. A fire was started at 9-30 a.m. with 30 lbs. of charcoal. The temperature of the room was recorded every half-hour.

Time	*Temperature* (° F.)
9-30	80°
10-0	85°
10-30	99°
11-0	104°
11-30	110°
12-0	110°
12-30	120°

(After 12-30 p.m., for reasons noted below, the room could not be entered into.)

At 12-30 p.m. the remaining charcoal was piled on the fire and the room sealed. It was opened two days later, and examination of the grain showed that all species infesting it, *viz.*, Calandra, Tribolium, Rhizopertha and Bruchids, were unaffected by the treatment, and were alive and active. 8 lb. of unburnt charcoal were recovered from the dead fire.

The main reason for the treatment proving ineffective against the insects in this experiment is obviously that the final temperature attained was probably not much more than 120° F. against 152° F. stated as necessary by Rahman. The experiment, when compared with Rahman's, also shows that the final temperature rather than the extent of rise determines the lethal effect on insects.

The writer had no protection when he entered the room for a few minutes every half-hour, and experienced certain disturbing symptoms due probably to taking in of carbon monoxide. These symptoms began at 11-30 a.m., about a minute after entering the room. There developed a sudden dizzy feeling in the head, a violent thumping of the heart and lightness in the limbs with intense perspiration all over; managed to reach the door with unsteady steps and slithered down in a semi-conscious condition outside. In the subsequent half-hours, these symptoms came on immediately on entering the room; in addition, light-headedness and a violent shaking of limbs were also experienced. After 12-30 p.m., it became impossible to get into the room. It took about three hours of rest in fresh air for these symptoms to wear off, though general weakness continued throughout the day.

This experience could have been avoided if mechanical devices of some kind (such as a suitable respirator, gas-mask, automatic temperature recorder, etc.) had been employed to render the operation entirly safe. Such protection, though probably implied is not mentioned by Rahman. If super-heating is undertaken as a regular method for disinfesting godowns, it is essential to be equipped with protective devices.

My grateful acknowledgments are due to Mr. B. Krishnamurti, Entomologist to the Government of Mysore, for valuable suggestions in writing this note.

Entomological Laboratory,
Department of Agriculture,
Bangalore,
April 22, 1947.

D. SESHAGIRI RAO.

1. Rahman Khan, A., *Indian J. Agri. Sc.*, 1942, **12**, 564. 2. Pruthi, H. S., and Mohan Singh, *Imp. Council of Agr. Res. misc. bull.*, 1943, **57**, 34.

A *GIBBERELLA* BLIGHT OF RYE HITHERTO UNRECORDED FROM INDIA

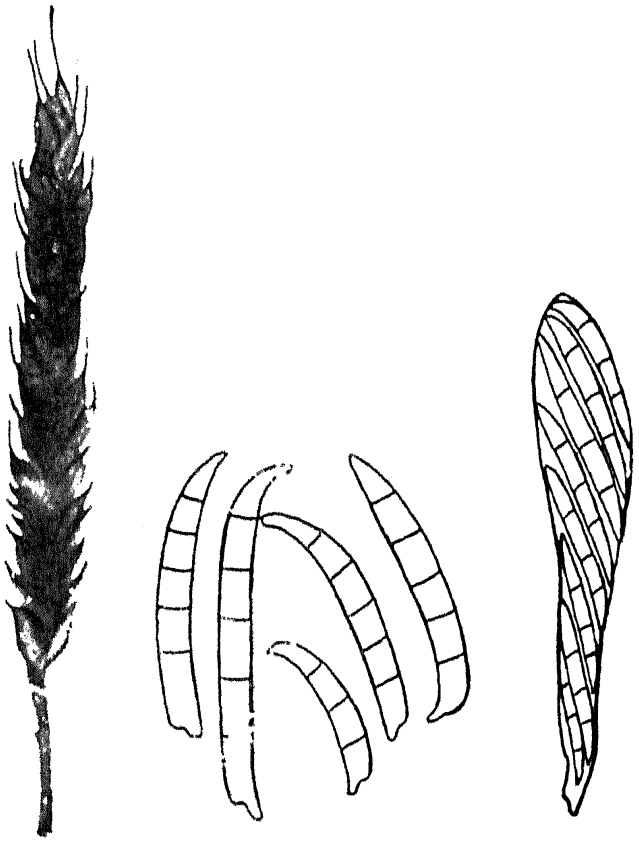
A SEVERE blight of rye (*Secale sereale* L.) ears was observed for the first time in the Upper Shillong Farm, Assam, in August 1946. The characteristic symptoms are confined to the heads of the host plant. On the heads the

blight may attack at any point, usually affecting and confining itself to only one spikelet, or later spread to other spikelets if conditions are favourable.

The first indication of infection consists of water-soaked areas, slightly brown in colour on the glumes. As the disease progresses the affected areas dry out and take on a ripened appearance. If the infection spreads into the rachis at the base of the spikelet and completely girdles it the portion of the head above this infected region will die and dry up even if it is not directly invaded by the fungus. After a while a cottony fungus growth, slightly pinkish in colour, appears on the dead surface. This growth becomes evident first at the point of infection but later may spread farther over the infected area. Conidia develop on this growth, and with age the pink tint turns to a darker salmon colour. The pinkish conidial masses are more apt to form at the bases of the spikelets where moisture is held for a longer time.

In the blighted heads the grains themselves are frequently invaded resulting in light weight, shrivelled kernels.

The pinkish coating of fungus growth occurring on the surface of diseased parts was found to consist of abundant conidia on microscopic examination. These conidia are long, slender, curved, septate, typical of the genus, *Fusarium*. The spores range in size from 35-75 · 4-5·5 μ with the great majority coming within a size-range of 45-65 × 4·2-5·5 μ. Most of them are 5-septate with occasional spores having as few as 3 or as many as 6 or 7 septa (Fig. 2).



1 2 3

FIG. 1. Symptoms of the disease
FIG. 2. Conidia
FIG. 3. Ascus with ascospores

On dead blighted heads the perithecia occur as small, black bodies either singly or in groups. They rest on the surface of the host or may be more or less imbedded in the mycelial crust where conidia have been produced. They are ovoid to subconical in shape and measure 150-250 × 100-250 μ. The asci may number over a hundred to the perithecium and each ascus contains 8 ascospores. The ascospores are fusiform, slightly curved, mostly 3-septate and measure 20-30 × 3·75-4·25 μ (Fig. 3).

The fungus was identified as *Gibberella saubinetii* (Mont.) Sacc. This fungus is known to cause scab of cereals in Europe, America, Australia and Great Britain, but so far it had not been known to occur in India. This communication thus records the first report of the occurrence of the fungus in India.

The specimen has been kept in the *Herb. Crypt. Ind. Orient.*, Imperial Agricultural Research Institute, New Delhi, and in the Herbarium of the Plant Pathological Laboratory, Sylhet (S. Chowdhury, No. 237).

Plant Pathological Laboratory,
Sylhet, Assam, S. CHOWDHURY.
March 30, 1947.

INDIA'S VITAMIN WEALTH

INDIA abounds in material that contain various vitamins. One such is Myrobalans (*Emblica officinalis*, "Nellikkai" in Tamil). These fruits contain quantities of vitamin C—a valuable protective food. During the second world war the Nutrition Research Laboratories at Coonoor (South India) were manufacturing tablets from these fruits for the use of the Military. At that time the utilization of these fruits was so much that in certain places there occurred a famine of the local fruit. I have used these tablets with profit. As its need for Military purposes is now non-existent its manufacture has been stopped at Coonoor. Our doctors now prescribe vitamin C as medicine in the form of very costly imported material like "Redoxon". It is a pity that the utilization of one of our indigenous products has thus come to an abrupt end and to the advantage of foreign manufacturers.

Thyagarayanagar,
Madras, T. S. VENKATRAMAN.
May 6, 1947.

THE DOUBTFUL OCCURRENCE OF A WAX-SPLITTING ENZYME

WHILE fat-splitting enzymes, the lipases, are known from animal, plant and even bacterial sources, wax, on the contrary, is apparently immune to a similar digestion. However there has been a solitary record by Sule[1] who reports a wax-splitting enzyme in the frothy secretion of a spittle insect, *Aphrophora salicis*. He calls this new enzyme Cerotinase which is suppopsed to give rise to Cerotinic acid. The term Cerotinase gives rise to a confusion with Carotinase, the enzyme which hydrolyses Carotin. Even apart from this the proper designation should be Cerase according to the substrate upon which the enzyme acts, Cera being wax in Latin.