

Moreover, by the cold method of extraction, the solubilisation of pectins can be minimised.

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¹ *Jour. Indian Inst. Sci.*, 1920-21, 3, 72.

² *Ibid.*, 1923, 5, 137.

³ *Zeit. Physiol. Chem.*, 1923, 128, 290.

Powdery Mildew of Betel Vine.

OF recent years powdery mildew has been doing much damage to betel vines in Bassein near Bombay. The disease is, however, localised in this area since it has not yet been reported from other parts of the Province of Bombay. The mildew usually makes its appearance during the cold months and practically disappears as the hot weather approaches. Older plantations are more liable to attack than newly planted vines.

The disease is easily recognised by the appearance of yellow spots, which are slightly raised and irregular in outline, and correspond in extent to white powdery patches of mildew on the under surface of the leaves. The patches of mildew are also sometimes found on the upper surface of the leaves. These patches are at first small but increase in extent as they grow together.

Field trials made during the past few years have shown that dusting of betel vines with sulphur of the order of 200 mesh fineness results in complete control of mildew. Usually one application of sulphur dust is sufficient for effective control, but in older gardens two dustings are generally required. In the absence of the treatment the leaves have to be plucked as soon as they are ready for harvest; otherwise they are disfigured by spots and drop down if infection is severe. Apart from checking mildew, sulphur dusting has therefore the effect of prolonging the life of the leaves which can be harvested to suit the market conditions.

The causative fungus of powdery mildew of betel vines is an ectophyte which feeds by sending globular haustoria into the epidermal cells of the leaf. The fungus is new to science, and the name proposed for it is *Oidium piperis* spec. nov.

A detailed account of this investigation together with the technical description of the causative fungus will be published in a separate communication.

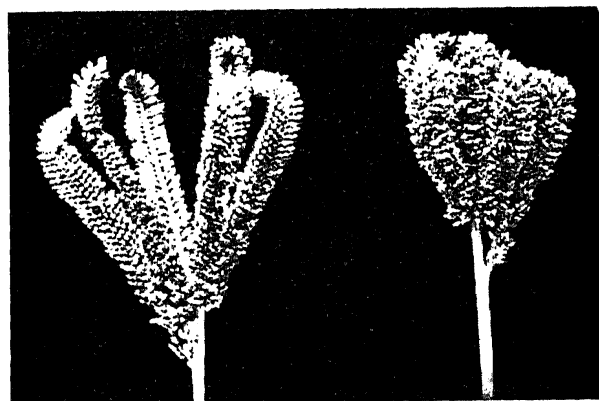
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R. 42—An Economic Recessive Mutant from E.C. 593 *Ragi* (*Eleusine coracana* Gaertn.).

IN 1934, at the Agricultural Research Station, Hagari, a single plant with "In-curved" ears was spotted in a half-an-acre plot of E.C. 593 *ragi*, a strain of *Eleusine coracana* Gaertn. with "Top-curved" ears. This odd plant was labelled R. 42 (R = *Ragi*) and it has bred true to all its characters during the three years it has been under culture.

The authors are of the opinion that this plant arose from E.C. 593 by mutation. The seed of E.C. 593 was obtained from the Millet Breeding Station, Coimbatore, in May 1933. It was under comparative trial in that year (1933-34) with Type-8 *ragi*. No other strain of *ragi* was grown on the Station in that season. Any question of the plant being a mixture of, or a cross with Type-8 is ruled out, as the latter is deeply purple pigmented and R. 42 is a green throughout. In this crop purple pigment is dominant to green throughout.¹ The plant resembles E.C. 593 very closely in all morphological characters such as habit, stem, leaf-shape, etc., except in the shape of ear-head (Fig. 1). The following measurements made on 100 plants in each of these strains amply support this view, *viz.*, that the plant has arisen only by mutation.



E.C. 593.

R. 42.