

Head smut of barnyard millet : a new disease in Karnataka

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Barnyard millet [*Echinochloa frumentaceae* (Roxb)] locally called as oodalu, is grown for both grain and fodder purposes in India. It is quite popular in the hills of Uttarakhand as a component of tribal agriculture. Barnyard millet is grown over an area of about 73,000 ha with annual production of 87,000 ton (Kumar *et al.*, 2007) under rainfed conditions by small and marginal farmers in difficult cultivation conditions of mid hill regions in Uttarakhand (Fig. 1). Although its large scale cultivation is confined to

Uttarakhand, the genotypes received for testing under coordinated trials of the All India Coordinated Small Millets Improvement Project are evaluated in Karnataka state as well. The grain smut is a common disease in the barnyard millet growing areas. However, the head smut has been observed for the first time during kharif 2007 in the Barnyard millet Advanced Varietal Trial at ZARS, GKVK, Bangalore.



Fig. 1 : Healthy head of barnyard millet



Fig. 2 (A & B) : Gall like swellings on leaf axils and stem due to *Ustilago crugalli* showing head smut.

The disease appeared as deformation of the inflorescence with gall like swellings on the stem, the nodes of young shoots and in the axils of the older leaves. The gall like swellings was covered by a hairy rough membrane of host tissue (Fig. 2, A&B). After the rupture of membrane black powdery mass of spores could easily be seen on the infected ear head. The disease was caused by the *Ustilago crusgalli* Tracy and Earle (Nagaraja *et al.*, 2007) and the disease occurred late in the season, when the crop was about to mature. The smuts are the important diseases, which cause considerable losses to barnyard millet. The head smut (*U. crusgalli*) had been recorded from Madhya Pradesh (Mundkur, 1943) and more recently from Uttarakhand (Bijender Kumar *et al.*, 2008). The head smut on the barnyard millet recorded during *kharif* 2007 is the first report from the state of Karnataka.

However, the details of etiology, mode of transmission, and management are to be initiated.

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