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RICE DISEASES IN SRI LANKA-A REVIEW

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The diseases most commonly observed in Sri Lanka are bacterial leaf blight (*Xanthomonas oryzae*), blast (*Pyricularia oryzae*), sheath blight (*Thanetephorus cucumeris*), leaf scald

(Rhynchosporium oryzae) and the spotting diseases of foliage and seed associated with *Cochliobolus miyabeanus* (*Helminthosporium oryzae*) *Sphaeruline oryzine (Cercopsora oryzae). Alternaria padwickii (Trichoconis padwickii)* and Cercospora spp. Of the virus diseases, yellow dwarf has been occasionally observed. Two diseases recently recorded are sheath rot (*Acrocylindrium oryzae*) and 'Udbatta' disease (*Ephallis oryzae).*

The most severe economic losses have been caused by blast, which in a susceptible variety like Pachchaiperumal 2462 / 11, once extensively cultivated, has reduced the yield to two bushels or less per acre. Diseases like sheath blight also depress yield but severly affected patches in diseased fields are usually confined to small areas.

While the common diseases occur in most parts of the country, some are of greater significance in certain areas. Thus, blast is more widespread in the Batticoloa and Mannar districts, sheath blight in the Kalutara district, and bacterial leaf blight in the Kurunegala district.

In combating rice diseases, two approaches have been adopted-their control by chemical means and the more acceptable method of developing varieties with adequate levels of disease resistance. With the exception of rice blast where fungicides such as Hinosan TCP (edifenphos and tetrachlorophthalide), Benlate (benomyl), Bavistin and Derosal (carbendazim) can raise yields of the order of 2-4 bushels per acre in a susceptible variety like Pachchaiperumal when affected by blast to 35-40 bushels per acre, the economic benefits of adopting agro-chemicals against other diseases have been insignificant.

In developing disease resistant varieties, screening systems have been developed for blast, bacterial leaf blight and sheath blight which subject test materials to severe disease pressures. Good donors of resistance to these diseases have been identified. They include Dissi Hatif, Carreon, H-5, M-302, Tetep and Tadukan against blast, BJ 1, DZ 192, Malagkit Sungsong, RL Gophar and Zenith against bacterial blight, and Nahng Praya

132, Ta-poo-cho-z, Pankaj, Bahagia and Remadja against sheath blight. Varieties emerging from the breeding programmes have also been tested against these diseases under severe pressures and those released for cultivation have, on the whole, been characterised by adequate levels of disease resistance under most conditions. Losses in rice, caused by diseases, have therefore now been reduced to marginal levels.