SHORT COMMUNICATION

Sources of Resistance to Barley Stripe Rust from Uttaranchal

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In the Northern hills of India, Barley (*Hordeum vulgare* L.) is an important cereal as regards total area and production. The Northern hills of India extend from Jammu and Kashmir, Himanchal Pradesh to the Northern hilly region of Uttaranchal. The area occupied by barley in Northern hills is about 0.12 m ha. It is grown under rain fed as well as in irrigated condition. Its production is effected by several fungal diseases. Stripe rust caused by *Puccinia striiformis* Westend is an important disease responsible for losses. The disease can be controlled by using different fungicides (Brahma and Asir 1988; Singh 1984b). Keeping in view, the seriousness of the disease and limited use of fungicides due to poor economic condition of farmers, an attempt was made for screaming of barley lines under natural condition to identify resistant once against stripe rust disease. Earlier, Khanna *et al.* 1968 and Singh 1984 a have reported some varieties resistant against *P. striiformis*.

The present study was conducted at NBPGR Regional Station Bhowali, which is situated at an altitude of 1660 m. asl, and known as a hot spot for disease development. Generally yellow rust and powdery mildew of wheat and barley appear in an epidemic form.

A set of 500 collections of barley was grown in field during crop seasons 1998-99 and 1999-2000 and 179 collections during 2003-04 and 2004-05 under irrigated condition in 2 m rows. Mixture of highly susceptible barley cultivars *viz.*, DL 269, P 662 and RS 6 was used as infector rows around nursery.

The artificial epiphytotic was created to ensure the maximum development of the diseases using phytotypes G 19 and 57.

The rust intensity was recorded using modified cobb's scale. Final observations were noted at the time of maturity. Out of a total 679 accessions under investigation only eight accessions *viz.* NC58178, NC60599, NC60607, NC60602, NC26553, EC492354, EC492370 and EC492346 were completely free from yellow rust. Other entries were highly susceptible to this rust. Therefore, these accessions could be utilized in the breeding programmes as a donor for resistance to stripe rust.

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