

Trip report:

2nd Regional Yellow Rust Conference, 22th March – 26th March 2004, Islamabad, Pakistan.

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The 2nd Regional Yellow Rust Conference for Central & West Asia and North Africa was held at the National Agricultural Research Centre in Islamabad. The aims of the meeting were to follow up on the success of the 1st Regional Yellow Rust Conference (Iran 2001) and to report on subsequent progress. Over 100 participants attended the meeting with national individuals coming from 26 institutions throughout Pakistan and representation of international scientists from 18 countries.

The meeting was divided into 4 broad themes, 1) General Approaches, 2) Disease Epidemiology, 3) Genetics and Biotechnology and 4) Breeding for Disease Resistance. There were also 2 discussion sessions focused on yellow rust monitoring and vulnerability of resistance. A field trip to the Crop Disease Research Program Murree Station at Sunny Bank Murree Hills was also organised. Many of the conference participants were national scientists concurrently attending a traveling seminar series that is regularly run within Pakistan to broaden the experience and knowledge base of agricultural scientists within Pakistan. There was much dialogue between the international and local scientists with tangible benefits being obtained through this interaction.

During the meeting I presented a paper entitled “Development of Molecular Markers for Slow-Rusting Resistance to Stripe Rust”, outlining the approaches and progress that has been made so far in identifying slow rusting resistance genes within the plant. This paper was nicely complemented by the keynote presentation for this session where the genetic variability of yellow rust was discussed by Dr. M. Hovmoller. I also chaired and reported on the “Genetics and Biotechnology” session.

There were a number of remarks, recommendations and future plans identified during the conference. These are summarized below:

- 1) Extend and include the Cereal Rust Trap Nursery to South Asia.
 - a. Include 5 varieties per country for India, China, Pakistan, Nepal
 - b. Extend beyond the winter/facultative wheat growing areas to include spring wheat areas.
 - c. Maintain yellow and leaf rust in the same nursery.
- 2) Disseminate available data on the nursery
 - a. Summarise last 5 years of data
 - b. Publish information on Asia YR web site.
- 3) Maintain pure seed sources
 - a. Complete set of 3rd CRTN-CWA SA to be distributed.
 - b. New additions multiplied for incorporation.
- 4) Yellow rust pathotyping

- a. Completed in Iran, Pakistan, Egypt, China, Ethiopia, India, Nepal, Syria, Mexico, Denmark, Europe.
- 5) A series of questions were raised throughout the conference that require further thought.
- a. Potential problems with released varieties
 - i. Small number of varieties are spread over a large area within a country or region
 - ii. Varieties (same genotypes) with different names planted over large areas.
 - iii. Information on new releases is limited
 - iv. Susceptible varieties are sometimes released.
 - b. Exchange of information:
 - i. Information on race situation and defeated genes needs to be collated
 - ii. Specific information required on advanced germplasm
 - iii. Germplasm needs to be diversified
 - iv. Information from NARS on varieties released in each country (i.e. name, pedigree, year of release, area planted)
- 6) Recommendations from the conference
- a. Assemble information on cultivated wheat varieties in each country with detailed pedigrees.
 - b. Obtain data on precision cropping patterns within each country (date of planting, harvest, varieties)
 - c. Encourage use of race non-specific resistance in breeding programs.
 - d. Make segregating populations available to NARS
 - e. Distribute advanced lines on request from IARC
 - f. Genetically characterise wheat varieties used on large areas
 - i. Molecular markers
 - ii. Pathotyping
 - g. Regional zoning for diversification of cultivars (seed production system, educate farmers, establish contacts with decision makers)
 - h. Disseminate information through web sites, annual reports, newsletters.
 - i. Liase with regional IARC scientists (feedback and to disseminate information).
 - j. Improve cooperation between internal breeders and pathologists.
- 7) Future Plans
- a. Papers from meeting will be published in the near future.
 - b. The next meeting will be held in 2007.

On the Saturday after the conference, another field trip was organised where we visited the Fateh Jang sub station of the Barani Agricultural Research Station, and the CCRI Pirsabak Nowshera. These national programs were mostly well organised and had CIMMYT nurseries growing. Valuable advice was given by some of the international scientists and this was greatly appreciated and should facilitate better scientific results in these stations.