

Rice-Wheat Information Sheet

No.9

Hello

This issue of the RWIS is later than usual because the Interim Facilitator has been very busy helping to prepare the Rice-Wheat IPM proposal, and also because some items arrived late.

Logo

The first draft of the logo was circulated among Consortium members for their comments and inputs. Although most responded that they would accept the suggested logo, several felt that we could do better. The designer in the Economics Program of CIMMYT has provided some rather attractive alternatives which will also be re-circulated for comment. We expect the next RWIS will carry the new logo.

Facilitator

Dr I P Abrol has agreed to become the Facilitator for the Rice-Wheat Consortium. He will officially assume responsibilities on 6 April, 1995. Dr Abrol is presently Deputy Director General (Soils) of the Indian Council of Agricultural Research (ICAR) in New Delhi. He brings extensive experience and prestige to the Facilitator's position and we are very fortunate to have him in this position.

The Interim Facilitator, Dr G Faris, will finish on 4 May, and return to Canada.

National Convener

Welcome to Dr R P Sapkota, the new Rice-Wheat Convener for Nepal, who is the Director of Crops and Horticulture Research at the National Agricultural Research Council (NARC) in Kathmandu. A 'thank you', goes to Dr S L Shrestha, the out-going Convener, for his able leadership at the Kathmandu Regional Technical Coordination Committee (RTCC) Meeting.

Research Proposals

As mentioned in RWIS No.8, the Regional Steering Committee (RSC) suggested that, following the RTCC recommendations, research proposals should be drawn up to strengthen research on soil fertility, water management, and integrated pest management. They also suggested that work be continued on the agenda already in place under the R-W Initiative supported by the Asian Development Bank (ADB), that includes research on crop establishment. Based on the RSC suggestions the following progress has been made:

Integrated Pest Management (IPM)

The RSC suggested that Dr S Nagarajan take the lead role in producing the research proposal for IPM in the R-W system. He met with D G Faris, and it was agreed that because Dr Nagarajan would be at CIMMYT in Mexico for much of April, D G Faris would visit all the NARS to develop a draft research proposal with them. This proposal will be sent to all Consortium participants in early April for their input, before a proposal is finalized at a meeting to be held at the ICRISAT Asia Center, Hyderabad, 26-29 April. Some major issues being considered for inclusion in the proposal include: farmer input into the severity of pest problems, why are they serious in some fields and not in others? Which IPM strategies already being used by farmers can be extended to others? biological control through build up of natural enemies, and use of botanical agents in storage; the pest situation as a result of intensive R-W cropping; agronomic practices and pest severity; such special situations as zero till and surface seeding associated with the R-W system; the build up of *Phalaris* minor populations and its resistance to herbicides; to build up of diseases and nematodes; increase in rat damage; tapping into indigenous control measures; and breeding for pest resistance.

Nutrient Management

IRRI has identified Dr K F Bronson to head their work on nutrient management for the R-W system starting in June. They are currently in the process of identifying the major research issues in nutrient management, and Dr Bronson will pull together a detailed proposal in consultation with their NARS and IARC partners. Their soil nutrient work is expected to focus on: long-term nitrogen dynamics in intensive R-W systems; farm-level methods for matching nitrogen supply to crop demand; cost-effective methods of augmenting soil-N supply, including the influence of cropping patterns; and nutrient disease interactions.

Dr J M Duxbury of Cornell University, USA is committing \$100,000 for soil fertility research in connection with the R-W Consortium. He will be integrating his activities with those of the Consortium (see Page 4)

Water Management

IIMI has started work on preparing a proposal, and will report progress in the next RWIS.

Crop establishment

This is one of the thrusts identified to be carried forward from the previous project. Dr P R Hobbs is presently preparing a proposal for the new phase for consideration by Consortium members.

GIS Workshop

All the Consortium countries; Bangladesh, Nepal, and Pakistan sent representatives to the GIS Workshop at Bangkok (see RWIS No.7). Reports are that these participants were very enthused and worked from early morning to very late at night to produce many maps showing R-W production and edaphic conditions in their countries. The staff of the Workshop also spent long hours ensuring that the databases could be effectively accessed. The participants now

have the knowledge to fill the gaps and complete their databases. The Executive Director of NARC in Kathmandu, Mr S B Nepali participated in the administrators' part of the meeting. He is enthusiastic about its potential to assist agricultural decision makers by providing a strong basis for planning the activities of their departments.

Facilitator's Visits

ICRISAT Asia Center, Hyderabad 8-14 February, 1995

On 9 Feb, Dr Faris presented a report on the progress of the R-W Consortium, for which ICRIAT is the Convening Center, to the Technology Exchange Committee of ICRISAT's Governing Board. He also presented the proposal for funding the Facilitation Unit and the R-W Consortium activities that is being presented to the Technical Advisory Committee (TAC) of the CGIAR.

IARI and Pantnagar

The Facilitator accompanied CIMMYT agronomists Dr P R Hobbs and Dr Ken Sayre, in visits to the Indian Agricultural Research Institute (IARI) and Pantnagar. The wheat plots look outstanding this year, and yields should be very high. Dr Sayre explained the system of ridge (bed) and furrows that Mexican farmers use to grow wheat. This system works well for land preparation, irrigation, weed control, and fertilizer application. The extra light penetration between the ridges increases straw strength to allow high rates of fertilizer applications. It is as if the whole field were growing like the edge of the plots. Average yields of 7 t ha⁻¹ are common on the CIMMYT plots and Dr Sayre has even harvested 11 t ha⁻¹. Farmers in the Yagui valley in Mexico are harvesting average yields of 5.5 t ha⁻¹. Pantnagar has started experimenting with the Mexican system, and their plots look very good.

Mail

CIMMYT R-W activities

The following reports have been received from Peter Hobbs, CIMMYT R-W agronomist in Nepal.

Rooting studies

Dr P Gajri, a senior soil physicist from Punjab Agricultural University, Ludhiana, India was funded as a consultant by CIMMYT to look at rooting profiles at the Bhairahawa R-W site in Nepal from 13-17 Feb. A long -term experiment using a rice-wheat rotation was sampled. The check plot-100-0-0 without any organic amendments-had the lowest root length and poorest crop growth. Root length was increased 50% by the addition of phosphorus (P) and *Sesbania* green manure separately, 3 times when P and *Sesbania* were used together, and more than 3 times by the addition of FYM. The root growth was reflected in above-ground growth. The rooting depth in this Terai soil was only 50 cm, or just above the water table. The consultancy will allow better root studies in future research by Bhairahawa scientists.

Bangladesh travelling seminars

Five Nepali and two Indian scientists traveled with Peter Hobbs to Bangladesh from 19-26 Feb on a traveling seminar, funded by CIMMYT, that allowed them to visit various ecological situations in Bangladesh where wheat follows rice. The trip was organized jointly by Dr M A Razzaque, the Director of the Wheat Research Centre at Nashipur and Dr C A Meisner, the CIMMYT bilateral wheat agronomist based in Dhaka. The scientists had an excellent opportunity to interact with many Bangladesh scientists on various aspects of wheat research and production. This year's wheat crop in Bangladesh was excellent because of the cool weather, and should break production records. The group saw a large surface seeded areas of farmers fields in Kustia District, and good trials on agronomy, soils, pathology, and breeding at the various stations they visited. Each scientist wrote a list of recommendations and observations and these will be printed in a short publication in the near future.

Nepal traveling seminar

Five Bangladeshi and five Indian scientists traveled to Nepal accompanied by Dr Meisner and Dr Sayre to participate in a traveling seminar funded by CIMMYT. Their visit was organized by Dr Hobbs, with the help of Nepalese scientists at Bhairahawa, Lumle Agricultural Center (LAC), Pokhara, the Naldung rice-wheat hill site, and the NARC station at Khumaltar in Kathmandu. The visit resulted in good interactions among scientists. Highlights included excellent wheat crops established by surface seeding in farmer fields in Bhairahawa, good rice-wheat experiments at the Bhairahawa farm, and a good systems approach to solving farmer production problems in the mid-hills by the LAC and Naldung stations. Hopefully, these scientific exchanges will be able to continue in the future.

Cornell University

The following message has been received from Dr J M Duxbury of Cornell University, USA.

“I am pleased to report that the Cornell International Institute for Food, Agriculture, and Development (CIIFAD) will fund Cornell's involvement in rice-wheat at the level of \$100,000 for the next year. I hope that we will be able to make useful contributions to the productivity/sustainability issues, and as you know we would like to do this collaboratively within the Rice-Wheat Consortium. Perhaps our interactions can be the first example of the GREAN (Global Research on the Environmental and Agricultural NEXUS- the acronym is better than the actual title!) Initiative, which is being promoted within the US Universities with the CG System and the NARS to address problems of post-green revolution agriculture.

At the moment we are considering hiring an Indian scientist who is just finishing his PhD at Cornell to be a 'Cornell Representative' in the region. His area of expertise is seed science and general agronomy. Hence we would expect him to establish work on seed quality and to help facilitate other collaborative activities.

We are also pulling together literature on the use of legume green manures in rice, wheat, and rice-wheat cropping systems as a prelude, we hope, to beginning research in this area. An Agris Search came up with more than 700 citations so there is plenty to digest.

I was pleased to see that Dr Abrol will be the next Facilitator”

Next RTCC Meeting

On the basis of suggestions just received from Professor Guo Yixian we are proposing to hold the next RTCC Meeting 30 Oct-3 Nov, 1995 at Nanjing in Jiangsu Province, China. Jiangsu, located in the Yangtze river basin, is one of the R-W production centers of China. It has a long history of R-W production and produces average yields of 7 t ha⁻¹ of unhusked rice, and 4t ha⁻¹ of wheat. This venue can provide plenty of good information for members of the R-W Consortium.