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Highlights

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Bangladesh Prime Minister emphasized on emergent awareness over agriculture- climate change nexus and food security

The 4th National Convention of Krishibid Institution, Bangladesh (KIB, as Professional Institution in Agriculture of Bangladesh) was held during 11-12 February 2010. The Hon'ble Prime Minister (PM) of the Government of the People's Republic of Bangladesh Sheikh Hasina MP was present as Chief Guest in the inaugural session of the auspicious occasion. Hon'ble Minister for Agriculture Begum Matia Chowdhury MP; Hon'ble Minister for Food and Disaster Management, Dr. Md. Abdur Razzaque MP and Honourable Minister for Fisheries and Livestock, Mr. Md. Abdul Latif Bishwas MP were present as special guests in the inaugural session.

The inaugural session was presided over by Kbd. Md. Wasiuzzaman Akonda, President, KIB. Kbd. A. F. M. Bahauddin Nasim, Secretary General, KIB highlighted the problems and opportunities of the different sectors of agricultural research and development in Bangladesh in his address. About six thousand agriculturists in Bangladesh, honourable ministers and member of parliament, leaders of the professional organizations, national and international institutions attended in the occasion.

The Chief Guest Sheikh Hasina, welcomed the distinguished audience and expressed her gratitude to all the agricultural scientists and development experts in Bangladesh for contributing in poverty alleviation and improve livelihood of the farmers. She underlined on the significance of the professional institution's role as it expected to enhance food

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Agriculture-climate change nexus

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production, poverty alleviation and sustainable development through participatory approaches.

Honourable Prime Minister elaborated the larger context of which agriculture / food security issues are high in agenda and the growing attention over agriculture-climate change nexus that need for a comprehensive approach. She emphasized on paying increasing focus on small/marginal farmers as also on non-crop sectors e.g. livestock, fisheries, forestry and value chain development due to rapidly decreasing of arable land and ensure nutritional security, balance diet and better livelihood of the farmers as well.

Honourable PM also said that scientific, analytical, technology-based agriculture can be considered as the best tool for solving the climate change related problems. She mentioned that agriculture plays a vital role for economic development as well as for ensuring food security and skilled market efficiency of the input delivery system in the agriculture sector and urged for gathering more competence on the basic sector and crop diversification.

Sheikh Hasina expressed her concerns related to gender issues and emphasized for greater empowerment of women in Bangladesh. She highlighted the problems of loss of arable land, population growth, climate change, inadequate management practices, unfair price of produces, imbalance use of fertilizers, inefficient water use, etc. She also mentioned the opportunities that protect arable land, population control, adaptation/mitigation to climate change, fertilizer and water management. These opportunities should be utilized properly by the concerned authorities.

Honourable Prime Minister Sheikh Hasina inaugurated the 4th National Convention of KIB, 2010.

The Seven renowned agricultural scientists and development experts, Professor Dr. Mosleh Uddin Ahmed Choudhury; Kbd. Dr. Shah Md. Hasanuzzaman; Kbd. Dr. Kazi M. Badruddoza; Kbd. Late Md. Mohabubuzzaman; Kbd. Late Dr. Nowajes Ahmed; Kbd. Dr. Mirza Abdul Jalil and Kbd M. Shahidul Islam were awarded crest by the Chief Guest Sheikh Hasina for their valuable contribution in different fields of agriculture in Bangladesh.

In addition, four seminars were organized in the convention. The seminars were i) **Changing Climate and Evolving Agriculture: Challenges and Prospects**- presented by Dr. M. Zainul Abedin, ii) **Promotion e-Agriculture: A new approach for Agricultural Development**- by Kbd. Md. Nazrul Islam, iii) **Institutional Reforms in Agriculture** - by Dr. M. Motlubor Rahman and iv) **Public-Private Partnership in Agriculture: A New look forward**- presented by Dr. Uttam Kumar Deb during 11-12 February 2010. The experts in agriculture sector from Bangladesh participated as discussant in the above presentations. A good number of fellow scientists, extension officials, policy planners, professors, experts, students etc. attended in the seminars.

Hon'ble Minister for Finance Abul Mal Abdul Muhit MP; Honourable Minister for Foreign Affairs Dr. Dipu Moni MP; Dr. Hasan Mahmud MP, Hon'ble State Minister for Environment and Forest; Architect Yeafesh Osman, Honourable State Minister for Science and Information and Communication Technologies of Bangladesh; Mr. H. T. Imam, Adviser to Honourable PM; Dr. Moshiur Rahman, Adviser to Honourable PM; Kbd. Shawkot Momen Shahjahan MP, Chairperson, Parliamentary Standing Committee for Ministry of Agriculture and Kbd. Abdul Mannan MP, Former Secretary General, KIB were present in the technical sessions as guests. Dr. Alauddin Ahmed, Education, Social Development & Political Affairs Adviser to PM was also present in the business session of the Fourth National Convention of KIB. The Secretary General Kbd. A. F. M Bahauddin Nasim gave welcome in the concluding session of the occasion.

Visit

Dr. M. Rafiqul Islam Mondal, Director, SAARC Agriculture Centre attended in the 37th session of the SAARC Programme Committee Meeting in Kathmandu, Nepal during 28-29 January 2010.

Training

Md. Nure Alam Siddiky, Program Officer (Livestock) of SAC attended a training course on Technical Report Writing and Editing held on 07-11 March 2010 organized by Agricultural Information Centre, Bangladesh Agricultural Research Council (BARC), Dhaka. Scientist from NARS institutes participated in the training program.

Low Cost Technology

Water saving rice cultivation in Pakistan

In addition to increasing water shortage, decline in rice harvest is the combined effect of lower area under rice due to decrease in support price, increased urea fertilizer cost and less productive, resource efficient and sustainable rice cultivation system.

Rice traditionally in Pakistan is mainly grown by transplanting 30-days old nursery seedlings in the well flooded and puddle fields. In this cultivation system, primarily rice nursery seedlings are raised on separate, well prepared, fine and manured soil and then manually uprooted and shifted to the main field. Puddling not only destroys soil structure, even after paddy harvest, next crop planting wheat is delayed due to poor soil conditions developed after continuous standing water not favorable for fine land preparation and good stand establishment. In addition, manual and random transplanting of rice seedlings does ensure optimum plant population and is labour and water-intensive operation increasing high production cost and result in low yield.

Alternatively, aerobic rice is new water saving cultivation system in which varieties adaptive to aerobic soil conditions are grown like other wheat and maize crop. This system saves water by 30-50 percent, labour, time, and facilitates timely planting of next coming wheat crop and due to high nitrogen use efficiency up to 50-60 percent; the next crop is also benefited from the residual N. Usually rice seeds are drilled or broadcast in fine seedbed at field capacity level and then subsequent irrigation are applied depending on the crop requirement whenever it is required. To avoid weed competition and vigorous seedling crop stand, water soaked or seed primed with $CaCl_2$ may be used and first irrigation may be delayed until the crop is fully established. For proper weed control, during the final cultivation, pendimethaline as pre-emergence and Nominee or Rhizilon can be applied as post emergence herbicide. To avoid drought stress at panicle initiation, irrigation should be ensured around anthesis till physiological maturity.

Growing aerobic rice does not need growing of nursery, its transportation and transplanting, and puddling operation thereby reducing cost of production. Research trials conducted at Pakistan Agricultural Research Council has shown that using the technology the farmers can get two times more production from existing of 26 Maund to 73 Maund. Nonetheless, they also added that aerobic rice can be successfully grown for the non-traditional rice belt dominantly with non-basmati rice varieties on more than 0.9 million hectares and alternate wetting and drying (AWD) technique in transplanted rice is more appropriate for the basmati rice varieties in the traditional rice belt. AWD is also water saving rice production system in which 2-3 weeks old nursery seedlings are transplanted and field is kept flooded for 35 days and then subsequent irrigation is applied after 2-3 days the disappearance of ponded water and again field is kept under flooding around flowering. This also saves water by 30-35 percent and improves the water productivity without or less compromised on yield.

Both technologies for water saving rice production system have been tested and verified over the last 3-4 years and are now being bolstered in the rice growing areas of Punjab and Sindh and so far have been also proven innovative technologies related to water saving, crop establishment and crop diversification. Aerobic or AWD technologies are being disseminated at different sites in districts Guranwala, Okara, Kasur, Jhang, Thatta, and Larkana of both Punajb and Sindh respectively and total area under cultivation is estimated to be 200,000 hectares. For this purpose, a team of rice experts have been engaged to contact the farmers and accelerate the promotion of water-saving rice production technology at both sites in the area. Through various individual and group meetings with farmers and district agriculture extension officials who have deep roots among the farming community are in close liaison to meet the requirement. The demonstration trials for the technologies have shown grain yield of 6.58 t/ha as against of 6.82 t/ha with flooded and transplanted rice. Likewise, in basmati rice type, the alternate wetting and drying method saved about 7 irrigations over the continuous flooded rice and net monitory advantage in AWD basmati rice are nearly Rs. 9,000/ha.

Under the changing climatic and water scenario, farmers can also practice alternate wetting and drying

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Seminar/Guest Lecture

AVRDC's role and future strategies for vegetable R & D in South Asia

A seminar was organized by SAARC Agriculture Centre (SAC), Dhaka on "**AVRDC-The World Vegetable Center's Role and Future Strategies for Vegetable Research and Development in South Asia** " held on 16 February 2010 at Bangladesh Agricultural Research Council (BARC) Conference Room, Dhaka.

Dr. M. L. Chadha, Director, Regional Centre for South Asia of AVRDC delivered keynote paper in the

seminar. Dr. Sk. Ghulam Hussain, Governing Board (GB) Member, SAC & Member-Director (Planning & Evaluation), Bangladesh Agricultural Research Council was present as Chief Guest. Dr. Md. Rafiqul Islam Mondal, Director of the Centre (SAC) presided over the seminar. Ms. Nasrin Akter, Senior Program Officer (Crop Management), SAC gave welcome address to the audience. Dr. Hemal Fonseka, Senior Program Specialist (Crops) of SAC was responsible for arranging the seminar. Eminent agricultural scientists, vegetable breeders and stakeholder from NARS institutes, universities and public private organizations attended the seminar.

In his speech, Dr. Chadha mentioned the objective of AVRDC which is "alleviate poverty and malnutrition in the developing world through increased production and consumption of safe vegetables". He mentioned AVRDC address the key issues- i. human health and safe food ii. Productivity and income generation iii. Maintaining and enhancing agro-biodiversity. Dr. Chadha highlighted the research directions of the AVRDC which are i. Innovative germplasm enhancement technologies for greater productivity, consumer's acceptance, and bio-fortification ii. Year-round supply of safe and nutritious vegetables iii. Indigenous vegetables for biodiversity, healthy diet and marketing and iv. Interactive and user-friendly information management. He also mentioned the global research and development thurst regarding vegetable that was germplasm conservation, evaluation and gene discovery, genetic enhancement, and varietal development of vegetables, safe and sustainable vegetable production systems, post harvest management and market opportunities, nutritional security, diet diversification and human health. He also said that the priority research of the Center that would be building on crop diversity to deliver better vegetable varieties and produce for farmers and consumers, higher yields, more stable yields under stress, (e.g. heat, drought, flooding, salinization), improved high-value features, better nutritional quality, better resistance to pests and diseases, improving tolerance to abiotic stresses. He mentioned that following research were essential for growing healthier vegetables -developing integrated pest management practices, providing better net house vegetable cultivation technologies, developing and promoting sustainable good agricultural practice (GAP), off season and year round vegetable cultivation technologies, fertilizer and water management technologies. He also emphasized home garden for nutritional security and diet diversification. He has given following recommendations for vegetable research and development in South Asia.

Crop improvement and seed systems

1. Collection, evaluation, documentation, conservation and exchange of germplasm
2. Selection and hybridization for specific traits and molecular breeding for enhancing target based breeding efficiency

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Agro-based Industry

Industrial use of potato

Flakes, starch and chips makers push demand

Potato cultivation for industrial use is gaining a momentum, opening scope for the existing and prospective flakes, starch and chips makers to get supply of raw materials to boost operation. Market insiders in Bangladesh said that a number of business man and big farmers have already started scaling up their stocks and production of industrial potato seeds to cash in on the demand at processing factories at home and abroad. It has a huge business prospect. Big farmers are multiplying seeds of industrial potato for domestic potato processing factories and export.

The varieties are growing in Bangladesh has 25 percent dry matter content. It's higher than the existing varieties'. Most varieties here contain less than 20 percent of dry matter content, which is not good for processing. Dry matter content of potatoes is of key importance for the texture of the final product. Also yield and fat content are affected by dry matter content. Operators said processing factories need higher dry content to get better output.

In Bangladesh more than 50 lakh tonnes of tuber are produced every year, but the available varieties such as Diamond are economically less viable for making flakes, starch and chips, said processors and seed marketers. It requires seven to eight kg of potato of Diamond variety to make one kg of flakes, starch or chips because it has less dry content.

The seed marketers said potato plantation for industrial use is on the rise in the districts such as Rangpur, Dinajpur, Thakurgaon, Joypurhat, Rajshahi and Munshiganj in Bangladesh. Such farming is gradually picking up. But it was quite tough to convince people to cultivate industrial varieties of potato three to four years ago.

The seed marketers and some growers said cultivation of potato for industrial use also offers promise of higher price compared to the potato varieties used for household consumption. Increased farming of potato for industrial use will make our business easier. Apart from export potential, the cultivation will help the farmers get a guaranteed market as well, the processors, will buy a certain amount of potato from them every year to run our factories.Thousands of potato farmers across the country are faceing hard times as they can neither sell their produces nor preserve it for future. As the production rate is higher than the present market rate, the farmers are very anxious about the fate of their produce. This is time to takr immediate steps to export potato, save huge quantities of potato from getting damaged, cultivation potato for industrial use and develop agro-based industry.

Source: The Daily Star, Bangladesh

Adaptation

Farmer's day on seed potato production using tissue culture techniques

A local company Botanix, Bangladesh has initiated a program to produce potato seeds locally using tissue culture techniques with the objectives to cut the cost of production, high yielding and to produce high quality disease free seed material locally. A field day was organized for the farmers of the area to educate them on the advantages of using seed tubers produced using tissues culturally generated mother plants. The meeting was well attended by local farmers and the Representatives from the Company and officers of SAC address the gathering emphasizing the importance of the activity. Farmers appreciated the initiative and it is envisaged that this project would be of great success.

It was observed that use of tissue culture techniques for potato seed production should be promoted as a public-private partnership program.

Technology

Psylla-A key pest of mango orchards in Himachal Pradesh,India

The mango is emerging as the most important commercial fruit crop of lower hills of Himachal Pradesh, India. Presently, it is grown in an area of 32,000 hectares and almost half of the area is concentrated in Kangra district. Hamirpur and Bilaspur districts are also emerging as the important mango growing areas of the State. An appreciable increase in the area of this fruit has been recorded every year with an annual growth rate of about five per cent. Mango plants are attacked by a number of insect-pests viz. mango psylla (*Apsylla cistellata* Buckton), hopper (*Amritodus atkinsoni* Lethiery), mealy bug (*Drosicha mangiferae* Green), shoot borer (*Chlumetia transversa* Moore), fruit fly (*Bacterocera dorsalis* Hendal), stone weevil (*Sternochaetus mangiferae* Fab.), leaf webber (*Orthaga euadrusalis* Walker) and so forth. However, during the last few years, mango psylla has been found to attack the mango plants and causing considerable damage. The survey and surveillance conducted by the scientists of Regional Horticultural & Forestry Research Station, Bhota observed that the infestation of this pest varied between 10 to 90 per cent in different orchards and Jalari area of Hamirpur district was found as hot spot for this pest and almost all the orchards were carrying the population of this insect-pest.

The shoot galls which are formed by the attack of this insect, were first recorded from Dehradun by Kotes in 1891 and the causal organism was described by Buckton in 1896. The infestation of this pest has been reported in almost all the mango growing states of northern India including north-eastern States of Assam, Meghalaya, Tripura, Nagaland and Sikkim.

Nature of Damage

The insect induces apical and axillary buds to form cone shaped green galls on mango shoots 77.4 per cent of which dry, 2.6 per cent produce new growth and 16 per cent produce inflorescences. The yield from heavily infested plants decreases drastically and is only 3 to 7 per cent over a healthy tree.

Biology of the Pest

The female of the insect inserts 140 to 150 eggs in the midrib of a new tender leaf on the underside in two parallel rows during February to April. Freshly laid eggs are white, rectangular block with rounded corners and translucent with its tip partly exposed. The nymphs start feeding *in situ* in embryonic stage starting from mid August and while feeding secrete some chemicals (phenyl amino acids) which initiate the buds to grow and convert into galls. The galls are formed before nymphs hatch out from the midribs in early October and these moult before they crawl into these galls which remain loose until this time. They later feed, develop and mount inside the galls up to March-April and emerge out as adults. The incubation and nymphal periods last for 215-225 and 140-145 days, respectively. There are six nymphal instars. Freshly hatched nymphs are yellowish in colour but change in size and colour with time. The body colour of both the sexes is similar but differs in size and shape of the abdomen. The female and male measure 3.175 $\pm$ 0.126 and 1.723 $\pm$ 0.102 in length and 1.697 $\pm$ 0.096 and 0.876 $\pm$ 0.053 mm in width, respectively.

Management

In order to evolve a suitable technology to combat this pest, a systematic trial was conducted in mango orchard in district Hamirpur. Eight insecticides viz. monocrotophos 0.036% (Monocil 36WSC), dimethoate 0.03% (Roger 30EC), methyl-demeton 0.025% (Metasystox 25 EC), chlorpyriphos 0.04% (Durmet 20 EC), cypermethrin 0.0075% (Ripcord 25 EC), deltamethrin 0.0028% (Decis 2.8 EC), endosulphan 0.035% (Thiodan 35 EC) and quinalphos 0.05% (Ekalux 25 EC) were tested for their bioefficacy against mango psylla. The experimental plants were given two sprays i.e. on August 30th and on Sept. 20th.

On the basis of data recorded, it was inferred that out of the eight insecticides tried, monocrotophos, quinalphos and dimethoate were the most effective insecticides against the pest with 97, 95 and 92 per cent control, respectively.

Other management practices suggested by other workers on the basis of the work done elsewhere are:

- Prune and destroy the galls bearing shoots.
- Application of carbofuran (Furadan 3 G) granules

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Saving Money

Deep placement of USG technology in rice

USG called Urea Super Granule is the large pellet made from prilled urea. It has been reported that 30-50% N is utilized by rice plant when priilled urea is applied. The rest (50-70% of N is lost through volatilization, denitrification, run off and leaching. Deep placement of USG can prevent the above mentioned N loss mechanisms and thus N use efficiency of rice plant is increased. Therefore, large quality of urea can be saved by adopting USG technology.

Procedure of USG technology

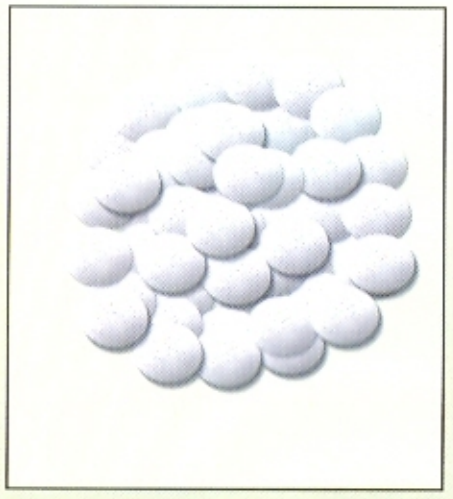
Three sizes recommended for T. Aus and T. Aman is 1.8g and the mega size (2.7g) for Boro rice cultivation. The pre-requisite of USG technology is the transplanting of rice seedlings in two-way lines. The distance between lines will be 20 cm and plants in a line will be 20cm apart. Then one pellet should be placed deeply (8-10 cm) in the soil at the centre of four transplanted plants and covered with soil (clay). In this way, every four plants will enjoy one USG pellet throughout the field. If we use 0.9g USG pellet, the N rate will be 25 kg/ha at that 20 X 20cm spacing. The N rate will be increased to 50 kg and 75 kg/ha respectively for 1.8g and 2.7g pellets. USG placement should be completed with 7-10 days of transplanting. The standing water of 2-3 cm is necessary during USG placement and maintenance of standing water in the field is emphasize throughout the crop growth period.

Advantage of USG technology

- The N1 as will be reduced and increased N use efficiency.
- 100 Kg urea will be saved per hectare
- Crop production cost will be reduce and similar yield will be obtained as per recommended dose

Special Attention for USG Technology

- Transplanting should be done in two-way lines and follow 20X20cm spacing
- Water management is necessary to maintain 2-3 cm standing water in field for avoiding soil cracks
- Light textured soil should be avoided for USG technology
- Undisturbed field is advised up to 30 days of USG application.



AVRDC

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3. Development of infrastructure, standardization of seed production chain and distribution
4. Collaborate for human resource development and capacity building.

Integrated crop production

1. Development of GAPs for rainfed/irrigated condition like healthy seedling raising, rain shelter, net house, plastic houses, tunnels, drip irrigation and other low cost options etc
2. Development of crop specific IPM/IWM/INM techniques
3. Organic/safe farming and home gardening
4. Incorporate IVs in appropriate cropping systems.

Post-harvest, marketing and value addition

1. Establishment of post-harvest standards
2. Develop management practices for proper storage, post-harvest pests and diseases and monitoring of pesticide residue level
3. Standardization of technologies for processing, maximizing quality and market value
4. Developing system for market intelligence, promotion and value chain analysis

In the discussion session most of the participants asked about the exchange of germplasm arrangement , training for human resource development, value chain and climate change tolerant varieties development as well as organic vegetable farming and share information. Chief guest Dr. Sk. Ghulam Hussain emphasized for human resource development and germplasm exchange among the SAARC member countries. Chairperson Dr. Md. Rafiqul Islam Mondal conveyed his deepest thanks and gratitude to Dr. Chadha for his comprehensive presentation and requested him for human resource development, germplasm exchange and to do work in collaboration for vegetable research and development in the region.

Visit

Dr. M. L. Chadha also visited Research and Development Centre (R&D) of Energypac Agro Ltd. (EAL) private seed company at Hotapara, Gazipur Dr. Chadha, in his

comment, emphasized on producing good seeds to boost the country's vegetable production. The per capita vegetable consumption is only 80g/day/person in Bangladesh as against WHO's recommendation of 200g/day/person. The per capita consumption could be increased by using hybrid vegetable seeds. AVRDC can provide germ plasm and advanced breeding lines to EAL to develop hybrid varieties of different vegetables. Dr. Chadha and his group also visited the experimental fields of different vegetables research stations and suggested the breeders to maintain safe and sustainable vegetable seed production system. He also emphasized on good seed processing facility to maintain the quality of seeds.

He also visited Bangladesh Agricultural Research Institute, Joydebpur, Gazipur.

Psylla

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@20-40 g/tree during August in the moist soil also check the population.

- Phosphamidon 0.03% (Dimecron 100) has also been found an effective insecticide, if applied twice during August-September.
- Spray of 2,4-D and 2.4.5-T @100 mg/kg in late September or early October produce abnormal galls in which nymphs of this insect don't survive.

Source: Dr VK Rana, Dr Sunil Kumar, Dr MS Dhiman and Dr Rakesh Mandradia, Dr YS Parmar University of Horticulture & Forestry, Regional Horticultural and Forestry Research Station, Neri, P.O. KhaggalDistrict Hamirpur (HP)-177001 India

Information Resources

SAARC seed forum starts journey

The SAARC Seed Forum (SSF) was launched in a meeting at the Bangabandhu International Conference Centre in Dhaka, Bangladesh during Seed Conference and Fair 2010 organized by Seed Wing, Ministry of Agriculture, Government of Bangladesh and Bangladesh Seed Association.

As per recommendation of the Regional Workshop on "Quality Seed in SAARC countries" held in New Delhi, India during 16-18 December, 2009, an adhoc "SAARC Seed Forum" is being constituted by the SAARC Agriculture Centre.

The objectives of the SSF are:

1. To advocate and support development of harmonized and suitable policies and strategies and regulatory frameworks
2. To help preparing action plan and pursuing of implementation for sustainable development of seed system of SAARC countries.
3. To act as a common flatform to promote business among the countries of the region and
4. To take up any other activities as may be necessary to fulfill the mandate.

A sub-committee headed by Dr Nazmul Huda was also formed to make the draft of the constitution.

The SAARC Agriculture Centre has been entrusted with the responsibility to place the SSF to its ministerial meeting for approval.

The meeting, attended by the members of the SSF with its first Convener and Director General of the Seed Wing of the Agriculture Ministry Mr. Anwar Faruque in the chair, took a five-point decision.

The meeting decided to hold its first congress in Dhaka in February 2011.

As per a decision of the SSF, businessmen, trading houses, researchers public and private research organisations could be the founder member of the forum by paying a fee of $300.

Dr, Malavika Dadlani of Indian Seed Science and Technology, Nepal Seed Association President Mitra Raj Dewani, Convener of Bangladesh Seed Association (BSA) Mahbub Anam, Director of SAARC Agriculture Centre Dr Rafiqul Islam Mondal and Senior Programme Officer Dr Ibrahim Mobammad Syed were also present at the meeting.

Water saving

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irrigation scheduling in aerobic rice to sustain the productivity of this system and keep the weed infestation below the threshold level. Researchers at the University of Agriculture, Faisalabad are also conducting research trials to find the optimum water by nutrient interaction, basmati type evaluation for water saving cultivation and to study the N and Zn dynamics which occur from a drastic shift from flooding to under water saving cultivation. Due to alkaline soils in the country, Zn deficiency symptoms occurs both in flooded and aerobic rice and requires the evaluation of the existing gene pool for the identification of rice varieties with the ability to thrive on Zn deficient soils.

Site specific nutrient management, leaf color chart and split application are some of the technologies to quantify the N application and improve its use efficiency while seed treatment with $ZnS0_4$, soil application or foliar application are some of the ways to alleviate the Zn deficiency and its loading into grains. Thereof, development of rice varieties adaptive to these water saving, nutrient management particularly N and Zn, blast and blight resistance are some of the challenges to the country rice breeding progamme to sustain the rice productivity for future food security. Moreover, demonstration by agricultural extension provides an effective media to educate and convince the farmers toward new technologies. Farmers' field days and farmers' participatory trials should also be conducted to motivate the farmers to adopt new water saving rice production technologies.

Source: Hafeez ur Rehman, Dr. M. Farooq and Dr. M.A. Basra, Department of Crop Physiology, University of Agriculture, Faisalabad-38040, Pakistan.

Fair

Ekushe book fair

"Ekushy February" is the International Language day observed every year to mark the historical Mytires Day for language movement in 1952. Bangla Academy commemorates every year this day with various activities, mainly book fair all over the month of February. The Centre gives emphasis on sharing

information with all stackholders in agriculture sectors of the SAARC member states through publications comprises books, reports, journals, newsletters, annual reports and seminar/workshop proceedings and CD as well. To spread out this theme the Centre took part in the Ekushe fair.

The fair was inaugurated on 1st February 2010 by the Hon'ble Prime Minister Sheikh Hasina. Large number visitors appreciated the Centre's stall. Dr. Rafiqul Islqm Mondal, Director, Professionals, Officers and GSS of the Centre described details about the SAC activities to the visitors and the Centre received a good response from the booklovers.

In this year the Centre sold 70 books/ country study reports, 300 CD-ROM during fair.

Incursion of avian influenza in Bangladesh : the lessons experienced

A annual scientific conference of Bangladesh Society of Veterinary Education and Research (BSVER) was held at 6-7 February at Bangladesh Agricultural University, Mymensingh. Chairman, University Grant Commission Professor Nazrul Islam attended as a chief guest and Vice Chancellor Dr. M. A. Sattar Mandal, Bangladesh Agricultural University attended as a chief patron. The BSVER annual lecture 2009 entitled "Incursion of avian influenza in Bangladesh: the lessons experienced" was delivered by Dr. Md. Mansurul Amin, Professor, Department of Microbiology and Hygiene, BAU.

The theme paper presenter said that public private partnership offer unique opportunities to leverage comparative strengths between government, industry, NGO and academia. More than 30 academic oriented scientific paper were presented by researchers, scientists, and teachers. Most of the paper was related to animal health and production.

Md. Nure Alam Siddiky, Program Officer (Livestock) of the Centre (SAC) attended the conference.

Contribute to SAARC AgriNews

SAARC AgriNews is a widely circulated Newsletter devoted for disseminating agricultural research and development findings as well as information on applied technology for the farmers of South Asian region.

SAARC Agriculture Centre has been publishing this Newsletter (formerly SAIC Newsletter) since 1991 and distributing it to about 7,000 readers in SAARC member countries. The Centre has been distributing SAARC AgriNews to the relevant agricultural institutions, scientists and extension service providers of SAARC member countries for better livelihood of the farmers free of cost. Please send your articles, success stories and news on applied research, extension activities, proceedings and/or recommendations of seminars, symposia, consultations and workshops in the field of agriculture with relevant photographs either by post or through e-mail. Please note that unaccepted articles are not returned to the authors.

New Initiatives

Training course

(from page 12)

testing facilities of agricultural machinery were shown to the participants. Mr. V.N. Kale, Director, CFMTTI, Budni delivered a lecture and discussed with the participants regarding testing of tractors and farm machinery. During the visit to Central Institute of Plastic Engineering and Technology (CIPET), Bhopal, the participants were shown various moulding facilities of plastic component. They were also exposed to making of dies for plastic. The material testing facilities were shown during the visit at AMPRI. The practical visits and trainings within the Institute on prototype production, soil bin test facilities, feed plant, soya milk *paneer* plant and agro processing centre were also organized. Field demonstration and testing of class combine harvester was arranged in the nearby farmers field on wheat crop. The computer aided manufacturing (CAM) of critical components through vertical milling centre was shown to the participants in the CIAE research workshop.

The concluding session of the training programme was organized on 29 March, 2010 and was Chaired by Dr. S. D. Kulkarni, Project Director, SPU. Dr. H. S. Biswas, Head, Technology Transfer Division gave a detailed account of the training programme organized. The major issues emerged during group discussion and feedback from the participants were as follows:

i) The testing facilities developed in India can be useful for SAARC countries for testing and evaluation of small machines. SAC may develop a common standard for these countries.

ii) The small tools, implements, equipment and technology available in India can be suitable for SAARC member countries. Some of these machinery can be taken up through exchange programme for adaptation and popularization through exchange programmes. There is also need to strengthen testing and standardization facilities in SAARC region. The Centre may play a role in this.

iii) The training programme has been very useful for promotion of manufacturing and agricultural mechanization requirements of SAARC countries. There is a need to standardize agricultural machinery that may also help reduce accidents. A common platform for SAARC countries for collaboration, standardization, testing and exchange of improved agricultural machinery shall be very useful. There is also a need in collaborative research. A set of prototypes may also be made available from CIAE.

iv) The Centre may strengthen exchange programmes, collaborative research and formulation of common standards.

v) No such training programmes, exchange of prototypes, exchange of scientists for study visits and exchange of technical literature may be helpful.

The participants took keen interest in every lecture, practical and visit programme. The initiative and efforts exerted by SAARC Agriculture Centre, Dhaka was highly appreciated and expected to benefit the member countries in mechanization promotion for sustainable agriculture, food security and economic growth.

Obituary

Dr. K.B. Shrestha, Deputy Director (Policy Planning) SAARC Agriculture Centre (SAC) died of cancer on 3 February 2010 at the age of 62 years in New Delhi, India. He left behind his wife, one son, one daughter and a lot of well-wishers.

Dr. Shrestha joined SAC as Deputy Director (Policy Planning) on 22 January 2009. He came from Nepal before joining here, he was working as Joint Secretary in the Ministry of Agriculture and Co-operatives, Government of Nepal. He started his career in 1970 in the Department of Agriculture Research and Education under the Ministry of Agriculture, Nepal. SAARC Agriculture Centre organized a condolence meeting on 7 February. Scientists, representives from Nepal Embassy, staff of the Centre were present in the meeting. The meeting expressed deep condolence and paid rich tributes to his memory.

The Centre New Initiatives

Training course on "Manufacturing, testing and standardization of agricultural machinery'

A short training course on "Manufacturing, testing and standardization of agricultural machinery" was organized during 18-29 March 2010 for the participants from SAARC member countries. The training programme was sponsored by SAARC Agriculture Centre (SAC), Dhaka. The training programme was inaugurated on March 18, 2010. The inaugural session was chaired by Dr. Pitam Chandra, Director, Central Institute of Agricultural Engineering (CIAE), Bhopal. Dr. H.S. Biswas, Head, TTD, CIAE gave a brief account of the proposed training programme. Dr. Pitam Chandra in his inaugural address highlighted the importance attached to SAARC programmes by the Government of India. The key issues highlighted by him were increased productivity through efficient use of input, processing and value addition for food security, nutritional security and rural employment opportunities. There was also need for sustainable agricultural production and economic growth. The training may be a key factor among the SAARC member countries for sustainable development of agriculture and economic growth. Dr. Muhammad Nurul Alam, Senior Programme Specialist, SAC, Dhaka was Guest of Honour in this occasion. He highlighted the importance of mutual cooperation among the SAARC member countries for overall development of agricultural scenario and economic upliftment. He also stressed on the need for information dissemination among the member countries.

The training programme on manufacturing, testing and standardization of agricultural machinery was a need based training identified in the earlier Regional Workshop on Farm Mechanization of SAARC countries. The training was participated by four participants from Bangladesh, two participants from Bhutan, four participants from India, three participants from Nepal and three participants from Sri Lanka. The major objective of the training programme was to strengthen, manufacturing, testing and standardization of agricultural machinery for mechanization promotion in the SAARC member countries. The major course content included introduction to CIAE technologies, machinery for precision farming and field testing, field production pilot plant, ISAO 9000 certification, harvesting and threshing machines, computer aided manufacturing, material for critical components, standard components and materials, soya processing equipment and technology, ergonomics and safety consideration in agricultural machinery design, production process of selected critical components, jigs and fixtures, dies and punches etc. In addition there were industrial visit to EICHER Tractors Factory at Mandideep, Kirloskar Pumps at Dewas. The participants could see the modern assembly line in the EICHER tractor factory, CIPET and AMPRI, Bhopal. The manufacturing technology and facilities of Kirloskar Pumps at Dewas was seen and appreciated by the participants. The participants were also exposed to the testing facilities of tractor and farm machinery at CFMTTI, Budni. The laboratory testing of IC Engines/Tractor Engines under ordinary and high ambient conditions, the pto power tests, engine break horse power test, hydraulic test and various other test facilities as per Indian standards were seen by the participants. The engine power test facilities, the traction test facilities, the noise test, the vibration test and other

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