

Past Events

First West Bengal State SRI Symposium, organized by the Banglar SRI in collaboration with Bidhan Chandra Krishi Viswavidyalaya (Organizing Secretary Prof. R. K. Ghosh) and Directorate of Rice Development (DRD), Ministry of Agriculture was held at State Youth Centre, Moulali Yuva Kendra, 142/3, A.J.C. Bose Road, Kolkata- 700014 on 12.04.2010.

Biennial Conference of Indian Society of Weed Science (ISWS) on "Recent advances in weed science research- 2010"



was held at Raipur, India on 25-26.2.2010). Prof. R. K. Ghosh presented the second lead paper on "Weed management in transplanted and direct seeded rice".

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Information:

Improved Cowpea Varieties in Nigeria's Savanna Region

Two new cowpea varieties IT89KD-288 (now SAMPEA-11) and IT89KD-391 (now SAMPEA-12), developed by scientists working at the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria have been released to Nigerian farmers. The varieties are superior over the current improved lines as well as possessing other traits that could overcome the problems in growing cowpea. IT89KD-288 has large white seeds, a rough seed coat and resistance to septoria leaf spot, scab, bacterial blight and nematodes, and tolerance to Nigeria's strain of *Striga gesnerioides* (a parasitic weed that severely lowers yield). IT89KD-391 (now SAMPEA-12) has medium-to-large brown seeds and a rough seed coat preferred for commercial production in northeast Nigeria. The varieties were developed in collaboration with the Institute for Agricultural Research of the Ahmadu Bello University, Zaria, the University of Maiduguri, Borno, and the Agricultural Development Programs of Borno, Kaduna, Kano, and Katsina States. [http://www.iita.org/cms/details/news_feature_details.aspx?articleid=3488&zoneid=342]

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Materials intended for publication in the News Letter may please be submitted to the Editor, Prof. A. P. Patra, Deptt. of Agronomy, BCKV, Mohanpur, Nadia, W.B., India.

Editorial Desk

The agriculture over the last five decades was largely government policy aided with a goal of increasing yields and cutting down production cost -a story of metamorphosis of agriculture to large-scale, high-energy input, industry driven farming from small-scale; low-energy, family-based enterprise. And it held out the promise of feeding the hungry. It was introduced to the developing nations through Green Revolution coming out of agricultural research, extension, and infrastructure, promoted and funded by external aids. Remarkable productivity increases stimulated export markets in developing countries. Increased productivity, in the developed countries, helped low food prices and many spend less than 10 percent income on food. The benefits came with environmental and social costs and with increased dependency of the developing world on the developed world.

Industrial agriculture has promoted the monopolistic nature of corporate control of agriculture. A small number of corporations are eventually dominating the agricultural market. Global food and beverage companies declined from 180 in 1980 to only 60 in 2001; 5 organizations control 65 percent of the global pesticide market and 10 seed firms control 30 percent of the global seed market (Halwell, Brian, 2002. Home Grown, World Watch Paper 163, November, p. 24.) While farmers were being encouraged to

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State Parthenium Management Week [February 3rd Week (15-21), 2010]

Awareness Camp on "Invasive weed and System of Intensification" was organized by Prof. R. K. Ghosh, Area Coordinator, National Invasive Weed Surveillance (NIWS) Project, Department of Agriculture and Cooperation, Government of India through, Directorate of Weed Science Research (DWSR), Indian Council of Agricultural Research (ICAR), BCKV Centre, Department of Agronomy, Faculty of



Agriculture, Bidhan Chandra Krishi Viswavidyalaya (BCKV), Mohanpur at:

- Goaldove, Nagarukhra, Haringhata, Nadia on 17.02.2010 in collaboration with Haringhata Saphalya Development Society, Nadia.
- Charsarhati, Kalyani, Nadia, on 20.02.2010 in collaboration with Muratipur Sporting Club, Charsarhati, Kalyani, Nadia.
- Pradip Banerjee Community Hall, Gurap, Hooghly on 21.02.2010 in collaboration with Gurap Palli Samity, Gurap, Hooghly.

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Biofortified Maize: Cure for Children Malnutrition

To further help the poor nations provide nutritious food to their people, biofortified maize called quality protein maize (QPM) was produced by the International Maize and Wheat Improvement Center (CIMMYT). Consumers would not recognize the difference in the flavor of regular maize from QPM. However, QPM has a naturally-occurring mutant maize gene that enhances the production of amino acids necessary for protein synthesis in humans. In a study on nutrition it was explained that when maize-dependent malnourished children consume QPM, their growth rate for height boost by 9 percent, while their growth rate for weight increased by 12 percent. [<http://www.cimmyt.org/english/wps/news/2010/apr/kernels-qpm.htm>].

GM Papaya Gets the Nod in Japan

Japan gave its approval for the import of genetically modified papaya from Hawaii. The fruits will be available in Japanese supermarkets this year. This was announced by Dr. Dennis Gonsalves, director of the U.S. Department of Agriculture's Pacific Basin Agricultural Research Center in Hilo, Hawaii, and professor emeritus of plant pathology at Cornell University.

Gonsalves was the project leader of a research on GM papaya that saved the state's \$47 million papaya industry. Papaya, the second largest fruit crop in Hawaii, is commercially grown for export to the U.S. mainland and Japan. About 25-30 percent of Hawaiian papaya is exported to Japan. [<http://westernfarmpress.com/citrus/gm-papaya-wins-approval-0421/>].

Pigeonpea Hybrids Provide Food Security to Asians and Africans

Pigeonpea (*Cajanus cajan* [L.] Millsp.) hybrids have resulted to better yields, nutrition, and pest resistance which guarantee food security to both Asians and Africans who use pigeonpea in their daily diets.

The International Crops Research Institute (ICRISAT) and the Indian Council of Agricultural Research have developed genetically diverse experimental hybrids like the ICPH 2671 which produces 3,250 kilograms per hectare of seed under irrigation. Amidst the effects of climate change, pigeonpea hybrids have exhibited fast growth, heavier root and shoot biomass, and improved resistance against drought, disease and salinity. This promising crop provides good nutrition to consumers, and also improves the soil fertility and structure. [http://www.cgiar.org/enews/april2010/story_09.html].

Smoke Brings Seed Germination Stimulants that Activate Light Response

Smoke contains a group of seed germination stimulants called karrikins (KAR). Seed germination and seedling development both require significant quality and quantity of light. Steven M. Smith of the University of Western Australia together with other scientists have reported that KAR stimulate the expression of a group of light-dependent genes in the absence of light. KAR induces cotyledon expansion and hypocotyl elongation of *Arabidopsis* seeds specially when there is less amount of red light, which usually occurs after forest fire. [<http://www.pnas.org/content/107/15/7095.full>].

Positive Link Between Population Growth and Emissions of Greenhouse Gasses from Agriculture

Developing countries, together with countries in transition, classified as non-Annex I by United Nations Framework Convention on Climate Change (UNFCCC) are on the way

towards achieving their required agricultural production level. However, as agricultural production practices increase, so is the emission of greenhouse gases (GHG) particularly nitrous oxide and methane. Thus, a team of researchers from Alterra and Plant Research International in Netherlands conducted a study about the relationship of agriculture production, population growth and emission of nitrous oxide and methane in order to sustain food production while limiting the effects of climate change. The non-Annex I countries included in this study were China, India, Vietnam, Brazil, Argentina, Mexico, Mongolia, Nigeria, Tanzania and South Africa.

Results of the study verify that as the population of most countries increases, the amount of emission from agricultural operations also increases. But in South Africa, China and Mexico, this association was not evident. Since there are vast differences in the farming procedures of the countries studied, then the researchers recommend farming strategies that could lessen the negative effects of agriculture on the environment.

The abstract of this study is available at [<http://www.sciencedirect.com>]

INDIAN SOCIETY OF WEED SCIENCE,

Electronic news letter started from Oct- Dec. 2009

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Brown Rice in USA

The USA Rice Federation submitted a petition to FDA to allow brown rice to qualify for the whole-grain health claim. To encourage the consumption of brown rice in USA, ARS food technologist Harmeet Guraya developed a brown rice with reduced cooking time. Traditional brown rice usually takes up almost an hour to cook; but this new treated rice only takes 20 minutes, just like the cooking duration of white rice. [<http://www.ars.usda.gov/is/AR/archive/apr10/rice0410.htm>].

National Parthenium Management Week in 2009

Awareness Programme was organized on 10.09.2009 at Nandigram, Purba Medinipur; 12.09.2009 at Alaiapur, Nadia; 18.12.2009 at Milan Sangha, Uttar Chandamari, Nadia; by Weed Science, Department of Agronomy, BCKV. Prof. R. K. Ghosh,

Prof. P.

Bandyopadhy

ya, Dr. D. Pal of

Agronomy,

BCKV and

many others

from WB State

Department of

Agriculture and

NGOs were

present.



For membership of the society please contact Secretary, Crop & Weed Science Society, Deptt. of Agronomy, BCKV, Mohanpur, Nadia, West Bengal, India.

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become more competitive, the companies that sold them the inputs and purchased their crops became increasingly monopolistic. Even when farmers have experienced severe financial problems, agribusiness has recorded record profits (National Farmers Union, 2005. The Farm Crisis and Profits, November 30 www.nfu.ca/new/corporate_profits.pdf). Developing economies saw increased dependence of farmers on off-farm vocations and rural communities have declined. Increased stress for farmers (including suicide) due to financial problems and the loss of their independence (Vandana Shiva. cf. Shiva, Vandana 2000. The Violence Of the Green Revolution, Zed Books Ltd., London, and Shiva, Vandana, 2000 Stolen Harvest, India Research Press, New Delhi). In developed world surplus production contributed to declines in crop prices, associated farm income, and increases in government subsidies for farmers.

Reduced biodiversity and a smaller number of enterprises increased risks in food security; small-scale agriculture is in crisis around the world; environmental costs of new agriculture; food production is dependent on fossil fuels and synthetic fertilizers; significant contributor to the production of greenhouse gases; contamination of water by fertilizer and pesticide-laden runoff; soil degradation from wind and water erosion, the use of synthetic fertilisers and pesticides, compaction by heavy machinery, depletion of organic matter, and the salinisation of irrigated soils; decline in genetic diversity from animal and plant breeding programmes that emphasise only the traits linked to production; depletion of water sources due to irrigation Deforestation to clear land for crop production and associated loss in biodiversity. A high dependence on new agriculture signifies a high sensitivity to changes in the environment, such as drought and floods (Economies at risk - disasters, poverty and agricultural dependence. (2005) <http://maps.grida.no/go/graphic/economies-at-risk-disasters-poverty-and-agricultural-dependence>).

A stated goal of the new agriculture was elimination of hunger. While production increased hunger was not greatly reduced. Hunger has been a problem of politics rather food scarcity. Hybrid seed, genetically modified seed, fertiliser and fuels are expensive and controlled by fewer monopolistic companies. Inputs are unaffordable to farmers in poor countries without subsidization by foreign aid. Again, farmers ability to overproduce what is actually needed, results in the dumping of food and actually disenfranchises developing world farmers to produce competitively at low, subsidized, developed world prices. In the years to come hunger will be an even greater challenge with degraded environments.

Organic agriculture holds the promise of change in the long term. Its objective is to grow healthy food that conserves the soil and water resources. Organic agriculture can reduce fossil energy inputs by up to 30%, conserves soil organic matter, genetic biodiversity protected, has similar crop yields compared to conventional agriculture (though cash crops cannot be grown as frequently over time), has reduced soil erosion, pest problems and pesticide use and has increased biodiversity (aiding in the biological control of pests and increased crop pollination by insects) "Environmental, Energetic and Economic Comparisons of Organic and Conventional Farming Systems," by Bio-Science, July 2005/Vol 55 No 7 pp. 573-582. Sustainable agriculture may reverse the trend of industrial agriculture but with a caution against monopolistic corporate control. Please ponder.

Events Abroad Attended

16th International Plant Nutrition Colloquium 2009, organized by the IPNI and University of California, Davis, CA (USA) was held in Sacramento Convention Center (UC, Davis), Sacramento, CA (USA) on 26-30.08.2009.

Seminar on 'Nitrogen Deposition, Critical Loads and Biodiversity' was held in the George Hotel, Edinburgh (University of York), Scotland (UK) on 16-18.11.2009.

Dr. A. M. Puste, Prof. of Agronomy, attended and presented research papers in the above seminars.

'Inception Workshop of The SAARC Initiatives on Regional Food Security' Project organized by Asian Development Bank, Manila, Philippines) of the SAARC countries was held in Pan Pacific Sonargaon Hotel. Dhaka (Bangladesh) on 19-20.05.2010, which was attended by Dr. Puste as SAARC Agriculture Specialist.

News from Japan

The Best Paper Award

The Weed Science Society of Japan conferred the Best Paper Award of the Weed Biology & Management for 2008 on the following authors:

Tran Dang Khanh, Tran Dang Xuan, Hl Min Chung, Shinkichi Tawata. Allelochemicals of barnyardgrass-infested soil and their activities on crops and weeds Vol. 8, No.4: 267-275.

Barnyardgrass is one of the most noxious paddy weeds in the world and causes great trouble to many crops. In a bioassay, the aqueous extract of paddy soil infested with Barnyardgrass showed phytotoxic action against the growth of the tested crops and paddy weeds, of which rice was the most suppressed among the crops. In contrast, Barnyardgrass was the least affected paddy weed.

By the use of a separation resin, 18 compounds belonging to terpenes, derivatives of cinnamic acid and ferulic acid, long-chain fatty acids, and steroids that were potentially involved in the phytotoxic activities in Barnyardgrass-infested soil were isolated and identified by gas chromatography-mass spectrometry analysis. Of these, the quantities of linalool, 4-terpinenol, coumaran, methyl phenethyl ketone, and methyl ester cinnamic acid were 1.42, 0.37, 0.02, 3.12, and 4.59 mg g⁻¹ of the wet soil, respectively.

The herbicidal activity varied among these qualified test compounds, in which methyl phenethyl ketone and methyl ester cinnamic acid were more herbicidal than coumaran, linalool, and 4-terpinenol. A mixture of these compounds was also the least inhibitive against the growth of Barnyardgrass, but exerted strong suppression against that of rice and Monochoria. The study demonstrates that Barnyardgrass possesses strong phytotoxic properties and releases plant growth inhibitors into the soil to compete with rice and other paddy weeds in its vicinity by a chemical pathway.

A Request to Publish Papers in the Journal

Dr. Tohru Tominaga, Editor in Chief of "Weed Biology and Management" has sent a request for the weed science community to publish papers in the journal, which is the official English-language journal of the Weed Science Society of Japan (WSSJ). It is published with cooperation and encouragement of many of the national weed science societies affiliated with the Asian-Pacific Weed Science Society (APWSS). [tominaga@kais.kyoto-u.ac.jp or <http://www.weed.kais.kyoto-u.ac.jp/>]

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22nd Asian Pacific Weed Science Conference on *Judicious Weed Management- Road To Sustainability* was held at Government College (G.C.) University, Lahore, Pakistan on 8-12.03.2010. [www.wssp.org.pk]

Half Yearly Review Meeting of National Invasive Weed Surveillance (NIWS) Programme, Department of Agriculture and Co-operation (DAC), Ministry of Agriculture, Government of India (GOI), New Delhi through Directorate of Weed Science Research (DWSR), Indian Council of Agricultural Research (ICAR) was held on 12-13.01.2010 at FTC (Lake Hall), Kalyani, BCKV, West Bengal

"National consultation on weed utilization" was convened at Directorate of Weed Science Research, Jabalpur on 20-21.10.2009. Prof. R. K. Ghosh (BCKV) discussed various aspects of weed utilization such as food, fodder, compost, medicine and household items in his invited lecture.

Awareness programme on, "Utilization of Weed Plants at System of Intensification and Prospects of Sri Cultivation" was held on 18.12.2009 at Milan Sangha Ground, Uttar Chandamari, Nadia, organized by the National



Invasive Weed Surveillance (NIWS) Project, Department of Agriculture and Cooperation, Government of India through, Directorate of Weed Science Research (DWSR), Indian Council of Agricultural Research (ICAR), BCKV Centre, Department of Agronomy, Faculty of Agriculture, Bidhan Chandra Krishi Viswavidyalaya (BCKV), Mohanpur in collaboration with Chandamari Sannidhya Rural Welfare Society (CSRWS), Nadia.

Future Events

Biogas Europe seminar will be held on 22-23.06.2010 in the Marriot Hotel in Milan, Italy. Over 150 biogas professionals will be attending to debate, discuss and develop growth strategies and technical advances in biogas production. Biogas 101 training course will be organized as a primer before the main conference.

12th IUPAC International Congress of Pesticide Chemistry will be held in Melbourne, Australia on 4-8.07.2010. [Elizabeth@raci.org.au, or www.iupac.org/web/act/Melbourne_2010-07-04].

Agrigenomics World Congress will be held in Brussels, Belgium on 8-9.07.2010 [http://www.selectbiosciences.com/conferences/AGWC2010/].

50th Annual Meeting of the Aquatic Plant Management Society will be held at the Hyatt Regency Coconut Point; Bonita Springs, Florida, USA on 11-14.07.2010 [http://www.apms.org/2010/2010.htm].

15th European Weed Research Society (EWRS) Symposium will be held in Kaposvar, Hungary on 12-15.07.2010 [ewrs@asszistencia.hu. or www.asszistencia.hu/ewrs].

27th Brazilian Weed Science Society Congress will be held in Ribeirão Preto, São Paulo State, Brazil on 19-23.07.2010 [rapitelli@ecosafe.agr.br].

2nd Workshop on Invasive Alien Plants In Mediterranean Type Regions of the World co organized by EPPO, Council of Europe and the Igdur University in Samsun, Turkey, on 2-6.08.2010 [http://archives.eppo.org/MEETINGS/2010_conferences/mediterranean_ias.htm]

17th Australasian Weeds Conference on 'New Frontiers in New Zealand', sponsored jointly by the New Zealand Plant Protection Society Inc and the Council of Australian Weed Societies Inc, will be held in Christchurch, NZ on 26-30.09.2010. [www.17awc.org]

17th Australasian Weeds Conference Sponsored jointly by the New Zealand Plant Protection Society Inc and the Council of Australian Weed Societies Inc, will be held in Christchurch, NZ. [Contact details for further information : The Conference Secretariat, Professional Development Group, PO BOX 84, Lincoln University, Canterbury, 7647, NZ, or www.17awc.org].

8th International Workshops on Biological Control and Management of *Chromolaena odorata*, other Eupatorieae and Parthenium, organized by the IOBC and hosted by CABI will be held in Nairobi, Kenya on October 2010. [ZachariadesC@arc.agric.za and asad@uq.edu.au].