



DSR / AICSIP activities during 2009 -10

February, 2009

Certificates received for plant variety protection: The protection of Plant Varieties Protection and Farmers Rights Authority (PVP&FRA) New Delhi, on the eve of “Second *National Genome Savior*” award function, distributed first batch of certificates for protection of three nationally released extant varieties: CSH 13, CSH 16 and CSH18. The certificates were distributed by the chief guest, Shri Sharad Pawar, Union Minister for Agriculture, GOI. The DSR delegation consisting of Drs. N Seetharama, SL Kaul, Vilas A. Tonapi and scientists from AICSIP centres namely Drs. Usha Saxena from RVRSAU, Indore and Uttam Chavan from MPKV, Rahuri attended the function.

FAO team visits DSR: FAO delegation under the leadership of Dr. Michael Larinde, AGPS Division, FAO, Rome visited DSR on February 8, 2009. The delegation designated as “Seed Alliance without Boundaries (SAWIB)” consisted of 12 delegates from Afghanistan, Iraq, Kazakistan and south East Asia. The delegation had detailed discussion with the Director and scientists. The delegates were appraised on ongoing research and commercialization activities, apart from value-addition and plant variety protection. They had a chance to see the video films on sorghum and sweet sorghum. They also visited sorghum field experiment and breeding nurseries. This visit was facilitated by Dr. Vilas A. Tonapi.

Training programme on “Preparation of sorghum foods for rural women/farmers”: Training programme on “*Preparation of sorghum foods for rural women/farmers*” was organized by DSR jointly with ITC Limited on February 2, 2009 at Parbhani, Maharashtra. This programme was attended by a large gathering of 250 participants including 150 small farm-women & entrepreneurs. Director, DSR, briefed the role of DSR in the promotion of sorghum cultivation at the national level and its strenuous R&D efforts for the development of improved cultivars for higher yields. He also underlined the continuous efforts of DSR for the promotion of sorghum based foods. The technical bulletin on “Packages of practices for improved rabi sorghum cultivation (English)” was released by SD More, Director of Extension, MAU Parbhani. Dr. B. Dayakar Rao, CPI, presented an overview of the project and highlighted the importance of sorghum foods consumption in daily human life for the nutritional benefits. Dr. C V Ratnavathi and the team, DSR, demonstrated preparations of sorghum based foods and snacks. Some of the rural women have given hand-on training by DSR team on the same occasion. The response of rural women was recorded and feedback was elicited on changes needed in recipe, if any. Dr. B Dayakar Rao coordinated this programme jointly with ITC Ltd.

Sorghum stall at *Kisan mela*: DSR set up a sorghum stall during “*Kisan Mela*” organized by RARS, Palem of ANGRAU, at ARS, Tandur during 17-18 February, 09. More than 250 visitors including Dr. Raghava Reddy, Vice-Chancellor and Dr. Giri Rao, Director of Extension, ANGRAU, Farmers, farm-women, students, dignitaries and Officials of ANGRAU, Officials of Department of Agriculture, visited the stall and showed keen interest in the newly developed cultivars, food products, and other innovative products developed from sorghum grain and stalk. The importance of sorghum as health and nutritious food was explained to the visitors. Dr. Ch, Sashidhar Reddy organized the stall with the help of Mr. E Krishna Rao both from DSR.

Sorghum field-day organized at Akkalkot: The sorghum field-day was organized on February 3, 2009 by DSR at Akkalkot, Solapur district in association with Sri Swami Samarthak Gandul Khet Utpadak cooperative society, Akkolkot and the State department of agriculture, Solapur district. The dignitaries participated were: Dr. Ramchandar, I/c Director, NRC Pomegranate, Solapur (Chief guest) and Mr. SV Joshi, Taluka Agriculture officer, Akkolkot (Precedent), Dr. Prof. BD Koli, I/c Associate Director of Research, MPKV, Solapur, AN Jevurkar, Chairman, Sri Swami Samarthak Gandul Khet Utpadak cooperative society, Akkolkot and Mr. CS Lokapure, progressive farmer, Akkolkot (Guest of honors). Apart from this, 275 participants comprising of farmers, farm-women, and officials from state department of agriculture, ZARC, Solapur, scientists and technical staff from DSR, Hyderabad participated. Newly released sorghum cultivars, production technologies, and value-added products were exhibited. The farmers also visited the seed production plots of CSV 216R, CSV 22, CSV 18, M 35-1 and Phule Chitra.



The methods for preparation of some of the sorghum foods was explained and demonstrated by Mr. D. Gopalakrishna, Hyderabad and his group from DSR. Farmers' queries on various issues were answered by Drs. MS Raut, AV Gadewar, Prabhakar, Chari Appaji, HS Talwar, and Prof BD Koli. The field visit at Akkalkot was coordinated by Mr. AR Limbore, Technical Officer, DSR, Solapur.

Two sorghum varieties identified for release: The Varietal Identification Committee meeting was held at Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Indore on 27th February, 2009 during the 39th Annual Sorghum Group Meeting and identified following two varieties for release:

SPSSV 6: Sweet sorghum variety SPSSV 6 has significantly higher juice yield than the checks. It has higher fresh cane and ethanol yield, and total soluble sugars. Also this variety has 18% more grain yield as compared to the check. The variety response is to higher fertility for juice yield. Stem borer damage is relatively less than the check, SSV 84. The variety is identified for all sorghum growing states of the country for use as sweet sorghum particularly for biofuel production.

SPV 1746: The kharif sorghum grain mold tolerant variety SPV 1746 yields were very high for grain and fodder which is on par with the check variety CSV 15 in hybrid sorghum growing states in Zone II. This variety has grain mold tolerance on par with CSV 15 and is resistant to downy mildew as compared to the check. The variety is superior for roti quality as compared to the check CSV 15. It has good spreading quality and good aroma and other roti qualities. The grain of the variety was significantly higher crude protein percentage. This variety has medium lustrous white grain, which fetches higher market price as compared to CSV 15, the check. Based on the performance, this variety is identified for cultivation in the states of Karnataka, Maharashtra, Madhya Pradesh and Southern Gujarat.

March, 2009

Directorate of Sorghum Research (DSR): It gives us a great pleasure to announce that the Council (ICAR) has upgraded DSR into a Directorate. Henceforth, the erstwhile NRCS will be "Directorate of Sorghum Research" (DSR).

Work plan development meet on collaborative project on bioenergy: A meeting on 'Development of appropriate technology for bioconversion of sorghum/sweet sorghum biomass/bagasse to biofuel' was held on March 20, 2009. Prof. Ashok Pandey, Dy Director & Head, Biotechnology, National Institute of Interdisciplinary Science and Technology (NIIST), CSIR, Thiruvananthapuram, Dr Soumitra Biswas, Adviser & Head-Bioprocess & Bioproducts Programme, and Dr Nirmala Kaushik, Principal Scientific Officer DS&T, TIFAC, GOI, New Delhi participated the meeting. Director, DSR highlighted the research, extension and commercialization efforts on sorghum. The discussion meeting was organized to finalize the project scope; networking with other institutes for shared deliverables under various work packages including IPR Issues based on the approach paper submitted by DSR. The project is net-worked under Joint Centre proposal of Indo-US Science & Technology Forum (IUSSTF), New Delhi. Dr SS Rao, who is leading the bioenergy research programme at DSR, coordinated this meeting. Drs IK Das, Umakanth and Monika Dalal also actively participated.

Brainstorming session on agronomic research: A brainstorming session was held on March 7, 2009 at DSR (formerly NRCS), Hyderabad to review the work done during past 5-8 years in Agronomy at Hyderabad and Solapur and to formulate the strategies for agronomical research in future at DSR as well as at different AICSIP centres. Following special invitees attended the meeting: Dr. J Venkateswarlu, Ex-Director, CAZRI, Jodhpur, Dr. KPR Vitthal, Director, CAZRI, Jodhpur, Dr. B Venkateswarlu, Director, CRIDA, Dr. DM Hegde, Director, DOR, Dr. Srinivas Raju, Head of Deptt. (Agronomy), ANGRAU, Dr. Vanaja, representative of NGO, and the agronomists Dr. G Ravindrachari, CRIDA, Dr. Mahendra Kumar, DRR, Hyderabad besides scientists from DSR. At the outset, Director, DSR presented the brief review of work done in agronomy at DSR including AICSIP during the past 5-8 years. Dr. MS Raut presented the salient research findings of agronomy of rabi sorghum at Solapur Dr. Ravi Kumar discussed on the modeling, seed production for revenue generation and extension activities in collaboration with CRIDA KVKs. Dr. H.S. Talwar discussed on the drought-tolerant genotypes. Dr. Chari Appaji, highlighted the extension activities being done by for last 10 years. Dr. Angadi, presented the work done in sorghum agronomy at Dharwad center.



Rabi sorghum germplasm and field day for AICSIP researchers: The “Sorghum field day and review meeting” of AICSIP researchers was conducted at DSR (formerly NRCS) on March, 26, 2009, with a view to discuss and review various sub-projects. Participants from AICSIP centres, and DSR participated. The programme started with a field visit of rabi experimental plots at DSR and NBPGR (Regional Station) Discussions were held on national crossing programme, exchange and registration of genetic stocks, and sub-projects of 5 thematic areas were reviewed.

April, 2009

Farmers’ meet and field day organized: A farmers’ meet and field day was organized at Ananthavaram village near Tenali town in Guntur district on April 7, 2009 to make farmers aware of the improved technologies of sorghum production in rice-fallows and other innovative ways of its utilization. A total of 50 progressive farmers from nearby villages participated in the meeting. Scientists from DSR, Hyderabad namely Drs. JS Mishra and B Subbarayudu appraised the farmers about the improved production technologies and utilization of sorghum stover as organic manure by incorporating it into the soil and requested them to avoid burning of stover. Farmers told that the area of sorghum in rice-fallows is increasing in the Guntur district as it requires less irrigation as compared to maize. Farmers are getting 60-70 q grain yield per hectare in zero till rice-fallows. Farmers of the area need high yielding hybrids suitable for the region. Among different sorghum cultivars tested in rice-fallows by the DSR, CSH 16, C 43, Laxmi, MJ 4334 and Sudama333 were most preferred by the farmers.

Sorghum seed procurement for entrepreneurship development: During April 8 and 9, 2009, twenty tons of rabi sorghum grain consisting 10 tons each of M35-1 and CSV 216R was procured as per MSP successfully from 29 farmers under on-farm production of NAIP activity in 8 villages (selected e-Choupals) in Parbhani district of Maharashtra. The ITC Ltd has facilitated linking of farmers with DSR and arranged the buy-back by ascertaining the quality of grain jointly with ITC and presently stored in ITC godown at Choupal Sagar at Parbhani for entrepreneurship development and popularization activities under NAIP.

ESI certificates distribution: The Directorate of sorghum continues to follow the rules and regulations of employment related to temporary labour and other staff as per the guidelines from central labour commissioner. Dr. SV Rao, Director in-charge, distributed the ESI certificates to the farm labour working on short-term contractual basis at our institute on April 8, 2009. The Employees’ State Insurance (ESI) Scheme performs a dual role - provides health protection and income maintenance to the employee. It tries to support the employee when his or her income is interrupted. With a better health protection, greater vitality, and assurance of income-maintenance in times of need, it makes the employee a better, a healthier, secure worker and therefore, a happier person. Earlier to this, our institute implemented payment of wages through bank cheque and PF and other benefits to its contractual staff. DR. G Shyam Prasad and Sh. Ashok Reddy, Principal Scientists coordinated distribution of the certificates.

Quality seed production under BSP and mega seed project: DSR has produced the quality breeder seed of 296A/B, 2077A/B, 2219 A/B, AKMS 14 A/B, 27A/B, 7A/B, CS 3541, RS 29, RS 627, AKR 150, C 43, CSV 15, CSV 20 under BSP and Certified as well as labeled seed of CSV 17, CSV 20, CSH 23 and CSH 22SS for popularization of new cultivars. The entire seed production was organized under farmer participatory seed production in rabi season in Adoni, Kurnool, Mantralayam, Nandyal and Bellary areas of Andhra Pradesh and Karnataka. The quality seed production was organized by Vilas A Tonapi, Principal Scientist and Nodal officer for BSP and Mega seed projects and P Subhakar Rao in liaison with Sampoorna Seeds, Adoni.

Monitoring of grow-out test (GoT) plots: The grow-out test plots of CSH 23, CSH 22 SS and their parental lines to ascertain their genetic purity were monitored by Dr. Vilas A Tonapi, principal scientist, DSR and Dr. Yogeshwar Rao, Vikky’s Agri-sciences Hyderabad on April 22, 2009. The GoT plots of all these hybrids and varieties located at Ramachandrapuram farm of Vikky’s Agri-Sciences were confirmed to threshold genetic purity standards.

Officials from NIOPR, Nigeria visits DSR: Dr (Mrs) C O Okwuagwu, Director, R&D and Dr. O Asemota, Asst. Director from the Nigerian Institute for Oil-Palm Research, Nigeria along with Dr. Aneja, Scientist from NAARM, Hyderabad visited DSR on April 23, 2009. This visit was organized as a part of their training programme at NAARM, Hyderabad to interact with senior functionaries to understand the



process of research management in the ICAR institutes. The visitors had detailed discussion with Dr. SV Rao, Director In-Charge, and other scientists. The delegates were appraised on ongoing research and commercialization activities, apart from value-addition and innovative food products. They had a detailed discussion on various disciplines with Drs. S Audilakshmi, TGN Rao, Vilas A Tonapi, VR Bhagwat and SS Rao. This visit was facilitated by Dr. Ch Sashidhar Reddy.

May, 2009

Farmers' day organized at Tenali: A Farmers' Day was organized by the DSR (Directorate of Sorghum Research) at Ananthavaram village, near Tenali, Guntur district, AP on 18 May, 2009. For the first time, grain sorghum field-day was organized in a non-traditional area of sorghum consumption and cultivation. The main theme of this field day was to introduce sorghum as a rice-fallow rabi crop in central coastal districts of Andhra Pradesh. In this event, along with 300 farmers, scientists from Regional Agricultural Research Stations, Lam; Agriculture College, Bapatla and District Agricultural Training centres, State agricultural department officers, Panchayat-raj personnel, Fertilizer distributors, Press and TV media actively participated. Dr. SV Rao, In-charge Director, DSR, emphasized the importance of sorghum as health and nutritious food. Dr. Rama Subba Reddy, Agronomist, Lam, briefed farmers on the sorghum cropping pattern with reference to rice-fallows. Dr. Satyanarayana, Breeder and Dr. Raghavaiah, Entomologist from AG College, Batpatla gave detailed information on the sorghum varieties and the importance of mixed cropping in rice-fallows. Scientists from DSR interacted with farmers and clarified their doubts on the sorghum diseases and their management. They also explained the importance of sorghum diet. Many farmers, who cultivated sorghum recently as rice-fallow crop, shared their experiences. They also requested DSR to initiate establishment of ethanol and syrup processing units in their village. The services of the farmers from Ananthavaram village Sri M Sambasiva Rao, V Ramakrishna Prasad, and Jetty Sambasiva Rao and support from Sh. Ch. Subba Rao, Village Executive Officer, and Head Master of the ZP School helped a lot for successful conduct of this event. Dr. B Subbarayudu was the chief organizer of this event. Drs. A Ashok Reddy, JS Mishra, Ch Sashidhar Reddy, and TGN Rao also participated actively.

NAIP annual review workshop at ANGRAU: NAIP Annual Review workshop for component II sub-projects was organized at ANGRAU, Hyderabad during 21-22 May 2009. Dr. Mrithyunjaya, National Director, NAIP, Dr. KV Raman Chairman, RPC, JP Mittal CAC Chairmen, senior ICAR officials and many dignitaries participated in the workshop. Dr. JP Mittal presented the salient information on processes followed in component-II. Dr. B Dayakar Rao, CPI, presented the Environmental and Social factors management framework of millet value chain. The members appreciated the matrix presented by him and recommended for all the sub-projects as a model matrix. Mr. Devendra Kumar, Director (Finance) and Mr. Kumar Rajesh suggested solutions to overcome the problems which would occur in the procurement & implementation of project. They further clarified various doubts and way-out for the constraints faced by the partners. On the second day, Dr. B Dayakar Rao presented the annual progress report of NAIP sub-project entitled "Creation of demand for millet foods through PCS value-chain". The session was chaired by Dr NGP Rao. Dr. Rao asserted that the goal convergence is important aspect and also suggested that ITC should involve in food product development. He also recommended strategy for improvement of 51 sub-projects under component-II. The progress made by DSR (Directorate of Sorghum Research) during 2008-09 was appreciated by the team. Drs. CV Ratnavathi, G Shyam Prasad and Ch. Sashidhar Reddy also participated in the deliberations. The workshop was jointly organized by ANGRAU, DSR and ICRISAT.

Sorghum food kiosk at ANGRAU: Directorate of Sorghum Research set up a food kiosk during "NAIP review meeting", which was held at ANGRAU, Hyderabad on 21-22 May, 09. More than 150 participants including Dr. NGP Rao, CAC, chairman, Dr. Mrithunjaya, National Director, NAIP, Dr. JP Mittal, National Coordinator, NAIP - Component – II, Dr. KV Raman, Chairman, RPC and Dr. Sidhu World Bank representative, 51 PIs of sub-projects and 50 CACs, and other scientists from public and private sector visited the sorghum stall. The importance of sorghum as health and nutritious food was explained to them and the relevant literature was distributed. They were explained about the acceptability of sorghum foods as health food in urban areas, and how these products are becoming popular for diabetic and obese persons. The visitors showed keen interest in sorghum food products. Dr. Ch Sashidhar Reddy from DSR organized this stall and event.



Meeting on model training courses (MTCs): A meeting on “Model Training Courses” (MTCs) was held at DSR (DSR) on May 13, 2009 under the chairmanship of the Dr. Wasnik, Director (Extension & Training), Ministry of Agriculture, New Delhi. Other members present were: Drs. VK Reddy, Director (HRD), MANAGE, Hyderabad, Mangal Sen, Principal Scientist, DRR, Dr. Padmaiah, Sr. Scientist, DOR, Drs. SV Rao, In-charge- Director, DSR, B Dayakar Rao and CV Ratnavathi. All the issues related to conduct of model training courses to the officials from various state agricultural departments and adoption of new modalities in organizing the training courses, finance, and other related issues were discussed. The minutes were sent to the Council for approval.

Lecture on insect pests of sorghum and their management: A training programme on “Integrated Pest Management and Production Technologies of Sweet Sorghum” was organized by ICRISAT under ICRISAT -IFAD project during 26-29 May, 2009 at ICRISAT and at Agronomy Seminar Hall ANGARU. Dr VR Bhagwat, Pr. Scientist (Entomology) was invited by ICRISAT for delivering lectures on “Insect pests of sorghum and their management” along with Dr HC Sharma, Principal Entomologist (ICRISAT). The lectures were delivered on 27 and 29 May, 2009. Total 100 farmers from Nanded District (Maharashtra) participated in the training programme.

June, 2009

Workshop on “Intensive cultivation of kharif sorghum specific end-products” at Adilabad, AP: A workshop for farmers on “Intensive cultivation of kharif sorghum specific end-products” was held at Indervelli village, Adilabad district on June 1, 2009. This pre-sowing meet was organized by DSR in collaboration with e-choupal, ITC under NAIP program. This meet was attended by a large gathering of 400 farmers. The other officials who participated were: Sh. Nirmal Reddy, General Manager, ITC Ltd, Hyderabad, Md. Raisuddin, Assistant Director of Agriculture, Utnoor, Sh. Rajesh Kumar, MAO, Utnoor, Sh. Ashraf, MAO, Indravelli, Sh. Chohan Shankar Rao, President, Enda village, Sh. Seetharama, Progressive farmer, Bhimpur, Sh. Manish, ITC, Yavathmal and Sh. Indrakumar Reddy, Hub In-charge, Indravelli. Drs Dayakar Rao, CPI (NAIP), Ch Sashidhar Reddy and VR Bhagwat represented the DSR and addressed the farmer’s gathering on mandate of NAIP, production technology of sorghum, Insect pests’ management and information on CSH16 and CSV20. Sh. Mr Indrakumar Reddy from ITC explained the role of ITC in NAIP program. Mini-kits of seed (packets of CSH 6 & CSV20; 3 kg each) were distributed to the farmers by Md. Raisuddin, The farmers shared their experiences on sorghum cultivation.

Visit of 85th batch of ARS Scientists to DSR: Newly recruited 75 ARS scientists of ICAR belonging to 85th batch of the FOCARS visited DSR on June 2, 2009. Director, DSR briefed them about the profile of the Institute and other project. A film on “Sorghum production technology” and “Sweet sorghum for ethanol production” were also screened for them. The discussions were mainly on sweet sorghum utilization and entrepreneurship development, and strategies to promote millet foods, and biotechnology. Later, they discussed with thematic area leaders and other DSR scientists. They also visited marker-assisted selection (MAS), and sorghum food quality laboratories. The team was led by Kum. Aneesa, Technical Officer and PRO, NAARM. The visit was facilitated by Drs. M Elangovan and Rajendra Chapke.

Sorghum photo-exhibition-cum-stall at Biodiversity workshop: The International workshop on convention of biological diversity was organized by Andhra Pradesh Biodiversity Board from June 14 -19, 2009 at MCR Human Resource and Development Institute, Hyderabad. During the occasion DSR organized a stall depicting significant achievements of the institute through display of specimens, live plant samples and seed and sorghum food material. About 200 international participants visited the sorghum stall. The visitors showed keen interest, especially on the innovative products developed from sorghum grain and stalk. The importance of sorghum as health and nutritious food was explained to the visitors. They also tasted the sorghum foods being popularized by DSR. Dr. M Elangovan, Smt, A Annapurna, Mr. K Ravindrababu and Mr. HS Gawali organized and managed the sorghum stall.

Technology dissemination through NGO: A programme to disseminate and popularize the sorghum production technologies has been taken up by DSR in collaboration with Watershed Support Service and Activities Network (WASSAN), a non-government organization (NGO). Dr. M. Vanaja from WASSAN met the Director on June 15, 2009 to finalize the work-plan. Initially, performance of national and private



hybrids will be assessed in the farmers' fields in the Mahboobnagar district of AP. The scientists associated with this programme are: Drs. AV Umakanth, B Subbarayudu, RR Chapke, M Elangovan and JS Mishra.

MoA with Kirtiman Agro Genetics: The memorandum of agreement (MoA) was signed between DSR and Kirtiman Agro Genetics Ltd, a private sector Seed Company located at Jalna, for promoting the use of forage sorghums on June 8, 2009. Director, DSR and Dr. FB Patil, Director (seeds) from Kirtiman Agro Genetics Ltd signed the MoA. The initial discussions were facilitated by Drs. Vilas A Tonapi and M Elangovan.

July, 2009

Annual rabi sorghum review meet : The seventh annual rabi sorghum research planning meeting was held on July 24, 2009 at Centre on Rabi Sorghum (CRS) (DSR), Solapur. The meeting was organized to review the centre-wise progress in rabi sorghum research during 2008-09, finalization of Rabi plan for 2009-10 and discussions on basic and strategic research on specific problems related rabi sorghum, AICSIP special sub projects, IPR issues, progress towards, registration, BSP, seed multiplication, and others. A total of 45 rabi sorghum scientists from Akola, Bijapur, Dharwad, Kovilpatti, Parbhani, Rahuri, Phaltan (NARI), Surat, Tandur and DSR – (Hyderabad & Solapur) participated in the meeting. The research work being carried at various AICSIP centres were reviewed and rabi plans for 2009-10 were finalized. Other issues dealt with are: Need for emphasis on development of parental lines, sharing of responsibilities to produce new materials, and accessing, documenting and the exchange of germplasm materials. A publication entitled “Distribution and utilization of sorghum genetic resources in India: 2000-2007 by M Elangovan et.al., was released by SR Gadakh, Senior Sorghum Breeder, MPKV, Rahuri during this meeting.

III CAC meeting of NAIP subproject on “Creation of demand for Millet foods through PCS value-chain”: The III Consortium Advisory Committee (CAC) meeting was organized by ANGRAU at the Home Science College, ANGRAU, Hyderabad on July 10, 2009 under the chairmanship of Dr. NGP Rao. In his introductory remarks the Chairman reiterated that there is a need for goal convergence of all the partners in the consortium to increase demand for millets through product development thereby stimulating sorghum production. Director, DSR advised that the group should ensure that the deliverables have high visibility. He exhorted that, through branding millets as health foods demand can be increased. All the consortium team (DSR, ITC Ltd, NIN & ANGRAU) presented the technical progress (2008-09) and work plan for the period from June 2009 to Dec 2009. Dr JP Singh, Director, DMD, Jaipur & member of review committee stated that high productivity environments should be selected for interventions for further increasing productivity. Dr Pakki Reddy and Dr Vijaya Khader pointed that greater efforts on commercialization is important which should be reflected from increase in production. Mr Vinayak Rao Patil, member (farmer) also shared his experiences. A digital video film on sorghum DSR (in four languages) cultivation practices, produced jointly by ITC and was released by the Chairman who expressed his happiness over this accomplishment.

DBT review meetings: The two review meetings of the DBT-sponsored network projects on “Development and application of biotechnological tools for millet improvement” and “Biotechnological approaches towards forage crop improvement” were held at Directorate of Sorghum Research (DSR) on July 13 and 14, 2009. Dr. RP Sharma (millet biotech network) and Dr. KK Narayanana (forage biotech network) chaired the review meetings, while other expert committee members provided technical inputs. The principal investigators presented the research progress made under their sub-projects. There were 40 participants from various organizations of the country. Director, DSR coordinated and organized the review meetings while Dr. R Madhusudhana, Senior Scientist, DSR assisted the Director. Final reports have been submitted to Dr. RR Sinha, Advisor, DBT.

Biotech forum activities: Biotech Forum at DSR has initiated a discussion series involving all the Biotechnologists from the sister ICAR institutes at Hyderabad and Biotechnology Department, ANGRAU. The group meets periodically and discusses the latest developments in biotechnology, and related issues and sharing information on new technology on exploring opportunities. Dr. CN Neeraja, Principal Scientist (Biotechnology), DRR, made a presentation on “Marker-assisted backcross breeding – Case studies in rice” at the Seminar Hall of DSR on July 7, 2009. Scientists and students from DSR,



DRR, DOR and NBPGR attended and actively participated in the discussions, which centered on the efficiency of marker-assisted backcross breeding (MABB). Dr P Rajendra Kumar from DSR coordinates these meetings.

Visit of 86th batch of ARS scientists to DSR: Newly recruited 75 ARS scientists of ICAR belonging to 86th batch of the FOCARS visited DSR on July 29, 2009. Dr. SV Rao, Principal Scientist briefed them about the profile of the Institute and other project. The discussions were centered around sweet sorghum utilization and entrepreneurship development, strategies to promote millet foods, and biotechnology. Later, they discussed with thematic area leaders and other DSR scientists. They also visited the food processing activity unit at DSR, and operation of automatic roti making machine. The team was led by Kum. Aneesa, Technical Officer and PRO, NAARM. The visit was facilitated by Drs. Rajendra Chapke, and Ch Sashidhar Reddy.

Registration of DSR with APEEDA for export of sorghum *atta* and pops: The process for registration of milled sorghum products for export with Agricultural and Processed Food Products Export Development Authority (APEEDA), Hyderabad has been initiated by DSR. Dr. CV Ratnavathi, Principal Scientist and in-charge, promotion of food products of sorghum is coordinating the registration process.

August, 2009

Inauguration of Jowar Rath: DSR held an exhibition of sorghum products and publications on Sunday, August 23, 09 at the premises of the Agri Biotech Foundation campus, ANGRAU which was inaugurated by the Hon'ble Chief Minister of Andhra Pradesh Dr. YS Rajasekhara Reddy. On this occasion, Sh. Ponnala Lakshmaiah, Minister for Major and Medium Irrigation, AP inaugurated 'Jowar Rath', a mobile van to popularize sorghum and other millet foods. On this occasion he asserted that there is a great need to create awareness about the health benefits of sorghum consumption among the rural masses and urban population. Mr. Prakash Goud, MLA, Rajendranagar, Prof. Raghava Reddy, VC, ANGRAU and Dr. MV Rao, MLC & Chairman, Agri biotech Foundation were also participated in this programme. DSR had undertaken a unique effort to popularize sorghum and other millet foods through 'production to consumption system' through value chain linkage under the support of NAIP. The mobile publicity van would create awareness on sorghum foods among the 'health conscious' consumers. It will also provide training in entrepreneurship development to small scale processors, women self-help groups and NGOs located in rural areas. We plan to conduct at least eight to ten events or exhibitions each month. This inaugural function was organized and coordinated by Drs N.Seetharama, B. Dayakar Rao and CV Ratnavathi.

Training cum learning workshop on “Legalities in the protection of plant varieties and EDVs”: Training cum learning workshop on “Legalities in the Protection of Plant Varieties and EDVs” was organized by DSR Hyderabad from August 27-28, 2009, to create awareness on IPR issues, EDVs and PPV Acts, for the benefit of seed industry and scientists from centres of All India Coordinated Research Project on Sorghum. This event also stimulates interaction between public and private sectors. The training was attended by 40 delegates representing the cross-section of the major private and public sector seed companies, and agricultural universities. The delegates studied the process of filling the PVP forms and discussed intricacies involved. Dr. DM Hegde, Director, DOR, inaugurated this programme and released the training manual entitled “Plant variety protection made easy”. The training programme encompassed following major themes: The concept of EDVs under PPV and FR Act 2001; Approaches to differentiate EDVs from the IVs; including the provisions under UPOV; The Technical and legal aspects of protection of New varieties and EDVs; FAQs and critical issues on legal aspects of plant variety protection; plant patent litigations in India and abroad; Seed industries role and future; practical session: Modalities for Registration of plant varieties and EDVs: Filling up of the form of extant, new, EDV, transgenics, variety of common knowledge, variety in public domain and Farmer's varieties: precautions to be taken; Molecular basis of differentiating EDVs and plant varieties. This training programme was coordinated by Drs. Vilas A Tonapi and M Elangovan.

Special planning meeting on rabi sorghum: A special planning meeting rabi sorghum was held at Directorate of Sorghum Research (DSR) Hyderabad, during August 20-21, 2009 to review the present situation of sorghum cultivation and its management under present scenario. Scientists from AICSIP, ICRIASAT, CRS - Solapur, and DSR, Hyderabad participated. It was hoped that about 30% sorghum area



in rabi will increase looking to fodder constraints in kharif due to deficit in rainfall. The issues like exchange of materials, patent application, IPR, and inter-and-intra institutional collaborative research activities were also discussed. Dr. VR Bhagwat facilitated this programme.

First regional work plan meeting of HOPE project at ICRISAT: The first regional work plan meeting of the project “Harnessing Opportunities for Productivity Enhancement “(HOPE) of Sorghum and Millets in Sub-Saharan Africa and South Asia was held during August 11-12, 2009 at ICRISAT, Patancheru. Twenty scientists and research managers from Indian national program, and private sector, and 25 members from ICRISAT participated in the meeting. Out of six objectives of the HOPE project, two objectives - on improvement and management of sorghum cultivars and enable technology adoption of sorghum were related to DSR and AICSIP. Director, DSR and IS Khairwal, Project Coordinator (Pearl Millet) participated in the discussions and suggested the necessary modifications. Drs MS Raut, VR Bhagwat, MY Samdur and RR Chapke (DSR) and, Drs SS Ambekar, DG Daware (MAU, Parbhani) Drs SR Gadakh and JV Patil (MPKV, Rahuri) - from AICSIP centres were participated in this meeting.

September, 2009

Tributes to Norman Borlaug: Dr. Norman Borlaug (95), Scientist and Nobel Peace Prize (1970) winner for his role in combating world hunger and saving millions of lives, breathed his last on 12 September 2009 at Dallas, USA. He was known world-over as the father of the "green revolution." His gift of high yielding disease resistant varieties transformed agriculture through high-yield crop varieties to lead in an era of food security by helping to achieve more than double world food production between 1960 and 1990. He developed disease-resistant varieties of wheat that produced much more grain than traditional strains at USA and later took those varieties and improved strains of rice, corn and sorghum to Asia, the Middle East, South America and Africa. The DSR family recollects his long association with India which epitomized the best tradition of international collaborative research and pays rich tributes to Dr. Borlaug. A 2-minute silence was observed on September 14, 09 by all DSR scientists during field IRC meeting in his honour.

Seed industry and researchers meet at DSR: DSR organized a “Seed sector - researchers’ meet-cum-Sorghum field day” on 30 September 2009. Twenty delegates representing ICRISAT, AICSIP centres and private seed enterprises participated in this event besides 25 scientists of DSR. The participants were taken to the field and shown the trials of sweet sorghum, early grain hybrids, dual-purpose and forage cultivars. Participants also visited the trials aimed to compare performance of most popular sorghum cultivars marketed in India under different brands, including the trial characterizing cultivars for DUS traits. The interactive session covered discussion on new policies on plant registration, provisions for licensing cultivars bred with public funds, and issues related to commercialization and marketing of sorghum seeds. The prime issues related to develop sorghum cultivars with specific traits for different markets, promoting alternate uses and value-addition for food, feed, sweet stalk, and fodder type sorghums were deliberated. Discussions were also held on provisions for contract research and services, consultancy and training, formation of consortia based on specific product, region and service. This programme was coordinated by Drs S Rakshit, Monika Dalal and AV Umakanth.

Workshop on “Entrepreneur development of sorghum foods preparation” at Indervalli, Adilabad: A workshop cum training programme for women and sorghum farmers on “Entrepreneur development of sorghum foods preparation” was held at Indervelli village, Adilabad district on September, 24, 2009. This meet was organized by DSR in collaboration with e-choupal of ITC under the NAIP program. It was attended by >400 rural women, 20 selected ITC sanchalaks and 100 sorghum farmers. The other officials who participated were: Sh. Nirmal Reddy, General Manager, ITC Ltd, Hyderabad, Sh. Indrakumar Tagade, and Sh. Sashikanth Gaiki, Hub in-charges, Indravelli besides DSR scientists. The protection technologies and grain management at the time of harvest and post-harvest demonstrated through the LCD system equipped in the Jowar Rath (DSR’s new publicity van). The farmers visited various fields where performance of sorghum cultivars was demonstrated. They also shared their experiences on sorghum cultivation. Drs Dayakar Rao, CPI (NAIP), Ch Sashidhar Reddy and Pramod Kumar were the key personnel from DSR organizing this programme.

Training programme on “Enhancing skills in preparation of value-added products from sorghum”: DSR organized a training programme on “Enhancing skills in preparation of value-added products from



sorghum” at the Centre on Rabi Sorghum (DSR), Solapur on 10 September 10, 2009. The training programme dealt with value-added products of sorghum to enable to popularization of sorghum through enhancement of skills in preparation of ready-to-eat sorghum products. The event was organized in association with Shri Swami Samartha Gandul Kheth Utpadak Cooperative Society, Akkolkot, and Shabri Pratasthan Krishi Vigyan Kendra, Solapur. A total of 32 women delegates from the Solapur district participated in this programme. The Director, DSR in his message said that people prefer ready-to-eat products and hence focus should now be on the value-added products made from sorghum that can compete with similar products from other crops. Jowar products have great demand if marketed skillfully. These initiatives not only help to generate employment for rural women but also stimulate higher sorghum production and profitability to the farmers. Drs. MS Raut, Officer in-charge, Prabhakar, Ashok Gadewar and MY Samdur, CRS (DSR) Solapur also addressed the participants. The hands-on training was imparted in the preparation of value-added products such as bakery items like cake, sorghum rava ladoos and other products. This training was conducted by Dr. CV Ratnavathi, and Shri Promod Kumar, DSR, Hyderabad In collaboration with CRS scientists at Solapur. Dr. Chari Appaji coordinated this entire programme from Solapur centre of DSR.

October, 2009

Sorghum field day-cum-AICSIP review meeting: Sorghum field day and review meeting of AICSIP were organized at DSR on October 1, 2009, to discuss and plan various sub-projects and research modules for operation during XI plan period. A total of 15 participants from AICSIP centres, and DSR participated in the deliberations. The meeting started with a field visit of DSR scientists’ experimental plots. Discussions were also held on national crossing programme exchange of plant material, self-evaluation of AICSIP staff, off-season nursery requirements, and status of genetic management records, DUS testing, and improvement needed in trials testing. The director stressed on the need for submitting the reports and financial statements in-time from all the individual centres.

Monitoring of BSP-NSP: The NSP’s monitoring team for southern zone consisting of NSP Special Officers (Seeds) of following universities: Dr. Rajendra Prasad (UAS, Bangalore), Dr. L Krishna Naik (UAS, Dharwad), Dr. R Sai Kumar, (ANGRAU, Hyderabad) and Dr. Prabhakar (TNAU) visited DSR on October 12, 2009. The team members reviewed the seed production activities and progress made at DSR under the BSP. Dr. Vilas A Tonapi explained the progress at DSR in the presence of Dr. SV Rao, In-charge Director.

Distribution of rabi sorghum seeds for water-shed experiments: DSR supplied 2.5 tonnes of rabi seed of sorghum cultivars M 35-1 and CSV 216 R to ICRISAT, for cultivation in water-shed areas of Karnataka under the research project led by Dr SP Wani. This seed was supplied under the auspicious the NAIP project entitled “Creation of demand for millet foods through PCS value chain”. This was coordinated by Dr B Dayakar Rao. DSR entomologist, Dr Kalaisekar, will undertake a specific survey to evaluate the status of crop and insect attack (cold at seeding stage inviting sucking pests) in these watershed areas to document insect dynamics under unusual crop-climate.

Demo on file tracking software: The team from National Informatics Centre (NIC), Hyderabad visited DSR on 7 October, 09 to demonstrate file tracking software. This software would be helpful to identify the file and hard bound register’s movement pattern, location and status. The team demonstrated the software and had a detailed discussion with the Director. The administrative officials Sh. G Krishna (AO), NVRN Murty (AFAO), WS Bhat (AAO) and A Venkateswara Rao (AAO) participated in the discussions.

Farewell to Sh. Ashok Reddy: DSR organized a farewell party on October 1, 2009 to Sh. A Ashok Reddy, Principal Scientist (Entomology), who opted for voluntary retirement and superannuated from council’s service on September 30, 09. Director and other staff recollected his services to the organization especially to the OSN centre at Warangal. The staff wished him very happy and healthy retired life.

Visit of 87th batch of ARS scientists to DSR: Newly recruited 39 ARS scientists of ICAR belonging to 87th batch of the FOCARS visited DSR on October 07, 2009. Director briefed them about the profile of the Institute and other projects at DSR. The discussions centered on sweet sorghum utilization and entrepreneurship development, strategies to promote millet foods, and biotechnology. Later, the visitors discussed with thematic area leaders and other DSR scientists. They also visited the food processing



activity unit at DSR, and saw operation of automatic roti making machine. The team was led by Mr. Avtaar Rana, RA, NAARM. The visit was facilitated by Drs. M. Elangovan, and Monika Dalal.

November, 2009

Research advisory committee meeting: The 10th Research Advisory Committee (RAC) meeting was held under the Chairmanship of Dr. S Raghuvardhan Reddy, Former Vice-Chancellor, ANGRAU, Hyderabad at DSR during 13 – 14 November 2009. ICAR was represented by Dr. SN Shukla, ADG (FFC). Other distinguished members present were: Dr. Dr. Sithanatham, Ex- Entomologist, ICRISAT and Ex-FAO expert in Africa, Dr. HP Singh, Ex-Director (CRIDA), N Seetharama, Director DSR and Dr Sujay Rakshit, I/c, Member-secretary. The Director highlighted the progress made at DSR during 2008-09, and projected short-term plan for sorghum R&D which was fully supported by relevant documents submitted to the committee. The task-force leaders presented the progress achievements and expected outcome from their projects. There were special presentations on documentation and registration of genetic stocks, network projects under AICSIP, collaborative project of ICAR-ICRISAT and NAIP projects. All scientists participated in the deliberations. The Chairman appreciated the overall efforts being made in developing new programme. The members were delighted to note increased number of quality research publications and recognitions to scientists at DSR. They further suggested the means of improving the quality of publications. The minutes are being finalized.

Launching of “Take-away packets of multigrain rotis” : DSR has organized the sale of multigrain roties in take away packets as part of their nutritious millet food popularization programme under NAIP. Director, DSR launched the multigrain roti sales at M/s. Bakers Point, a popular food court at Rajendranagar, Hyderabad on November 17, 2009. Multigrain roti is made from blended flour of millets and cereals viz. wheat (gehu), sorghum (jowar), finger millet (ragi) pearl millet (bajra) and soybean, a protein rich pulse. These rotis are very good to have a control over body mass and to ensure balanced nutrition. Multigrain rotis at DSR are made under hygienic conditions with automated high-capacity machinery specially acquired for this purpose. Rotis are hygienically packed and sealed at controlled temperatures. These roties are ready-to-eat, and can be kept for 24 hours without refrigeration. DSR makes it possible for caterers, restaurants, and event planners to purchase in bulk at highly attractive prices under the promotional activity. Currently, these roties and other jowar products like Pasta, Noodles, Flakes, Jowar grain, Rawa are marketed by M/s Bakers Point, Hyderabad, Soon we are planning to make many more products available from various outlets across the twin cities.

Smart card identification system: DSR has introduced “Smart card personal identification system”, which can be used for identification, authentication, and data storage. Smart card is the youngest and cleverest one in the family of identification card. Its characteristic feature is in an integrated circuit embedded in the card, which has components for the transmission, storage and processing of data. Smart card offers many advantages compared to plastic ID cards with magnetic-strip, the information on these cards can be modified easily. One of the important advantages with smart card is that storage data can be protected against unauthorized access and modification. The smart card readers will replace the current biometric attendance machines at DSR and will be functional from December 1, 2009. It is a significant achievement towards development of suitable management information system. Soon the system will be used to control access to sensitive facilities like seed storage and transgenic glass house.

Orientation for new scientists: Drs. Sunil S Gomashe and KN Ganapathy, the two newly joined scientists at DSR in plant breeding discipline attended orientation sessions with all the task force leaders and the scientists in different disciplines to acquire the first-hand knowledge on ongoing programmes, the research issues and the problems and prospects in production, productivity and utilization of sorghum. They were appraised in detail about the current issues, cutting edge technologies, Intellectual property rights, seed production, DUS testing and plant variety protection. They were also appraised about technical and administrative issues, each ICAR scientist is expected to be familiar with. Dr. S Audilakshmi, Principal Scientist is organizing this orientation for newcomers.

December, 2009

Dr S Ayyappan is new Secretary (DARE) & Director General (ICAR): Dr. S Ayyappan has joined the Council as the Director General (Crop Sciences) and Secretary (DARE) on January 1, 2010. The Director



and the staff of DSR, Hyderabad extends their hearty congratulations to Dr. Ayyappan on his new assignment.

Outstanding partnership award: The “Outstanding Partnership Award” from ICRISAT was conferred to Dr. N Seetharama, Director, Directorate of Sorghum Research, in recognition of his valued contribution towards global sorghum research. He received this awarded from Dr. William D Dar, Director General, ICRISAT on December 1, 2009, during the annual day celebrations of ICRISAT.

Seminar on genetic strategy to control nitrification: Dr GV Subbarao, senior researcher and group leader of Biological Nitrification Inhibition Research, JIRCAS, Japan, delivered a seminar on December 11, 2009 at DSR on the topic, “*Biological Nitrification Inhibition (BNI) – a potential genetic solution to control nitrous oxide (N₂O) emissions from agricultural systems*”. He explained that BNI compound release from sorghum roots is a physiologically active process and is stimulated by the presence of NH₄⁺. This release of BNI compounds increases with growth stage. Dr Subbarao and his colleagues had identified and purified an active constituent called methyl propionate, which is the first compound purified from the root exudates. This is an important step towards better understanding BNI in sorghum. Dr. HS Talwar, Senior scientist organized the seminar.

Best poster award: DSR bagged the “Best Poster award” at the National Symposium on “Recent global development in the management of plant genetic resources, held at NBPGR, New Delhi during December 17-18, 2009. The title of the award winning poster poster is “*IP Protection, Licensing and Commercialization of Germplasm for National Food, Livelihood and Consumer Security,*” submitted by Drs. Vilas A Tonapi, M Elangovan, N Seetharama and Mr. Raghunath Kulkarni. Dr. M Elangovan received the award from Dr. Bhag Mal, President, Indian Society of Plant Genetic Resources, New Delhi.

New genetic stocks registered: One high biomass, high grain yield and drought tolerant variety PEC 17 (Registration number INGR 09089), four multiple foliar disease resistant lines EC 1, EC 31, EC 32 and SEVS 6 (INGR 09103 to 09106), one shootfly resistant line DSRFR 06-1 (INGR 09088) and 5 improved MS lines MS 3042 A &B, MS 3051 A&B, MS 3062 A&B, MS 3009 A&B and MS 3182 A &B (INGR 09098 to 09102) were registered at NBPGR, New Delhi. Earlier, 8 Germplasm lines DSR-GM-25, 83, 92, 98, 124, 169, 170 and 203 (IGNR 09090 to 97) were also registered in the month of September, 09.

Sorghum food kiosk at NASC complex, New Delhi: DSR set up a sorghum food kiosk during the ICAR's 81st Annual General Meeting of the ICAR Society held at NASC complex, at New Delhi during December 23, 2009. More than 300 dignitaries including the Hon'ble Agricultural Minister Shri Sharad Powar and Dr. Mangala Rai, Director General, ICAR and scientific fraternity from ICAR participated in this meet. The visitors showed keen interest especially on the innovative products developed from sorghum grain and stalk. The importance of sorghum as health and nutritious food was explained to the visitors and relevant literature was distributed. They also tasted the sorghum foods, served with the lunch and appreciated its quality. Sh. Pramod Kumar, N Bikshapathi and B Narasimha organized the DSR stall.

January, 2010

Sorghum seed industry and researchers' meet: DSR (ICAR) organized a “Seed Industry and Researchers' Meeting” on January 23, 2010. Representatives from 12 public and private seed enterprises and Dr. BVS Reddy from ICRISAT participated. The participants visited trials of sweet sorghum, early grain hybrids, dual-purpose and forage sorghums, new genetic stocks, most-promising parental lines and new hybrids and varieties in the pipeline. The second session involved discussions on sorghum cultivars with specific traits for different markets, promoting alternate uses and value addition for feed, sweet stalk, fodder, and biofuel. In his introductory remarks the Director emphasized the need to establish active link with private industry, particularly seed industry and to jointly discuss the priority issues for sorghum research. He further stated that all could benefit under the already approved guidelines for IPR management by the ICAR. The points of deliberations also encompassed the aspects relating to provision of contract research and services, consultancy and training. Formation of consortia based on specific product/region/service to pave the way for best possible public-private sector partnership platform was also considered. The issues relating to new regulatory systems under TRIPS and PVP regime, exchange of germplasm and licensing of advanced product lines were discussed. Other issues including marketing of sorghum seeds, and the mechanisms for implementing new regulatory systems under the framework of



ICAR guidelines were also deliberated. This programme was coordinated by Drs. VA Tonapi, Sujay Rakshit, M Elangovan and Shyam Prasad.

Institute management committee (IMC) meeting: The 19th Institute Management Committee (IMC) meeting was held at DSR on January 23, 2010 under the Chairmanship of the Director, DSR. ICAR was represented by Dr. SN Shukla, ADG (FFC). Other members of IMC present were: Drs. KS Vara Prasad, O/I, NBPGR-RS, Ch.Srinivasa Rao, PS, CRIDA, D Rama Rao, Head, ICM Div, NAARM, Hyderabad and MS Raut, PS, CRS, Solapur. Sh. NVRN Murty, AFAO and Sh. G Krishna, AO, WS Bhat (AAO-Stores) and A Venkateswara Rao (AAO-Est) were special invitees. The agenda Items encompassed issues related to administration, finance, works, and commercialization.

DSR felicitates Dr. SN Shukla: On the eve of his superannuation on January 31, 2010, the Assistant Director General (Crop Sciences) Dr. SN Shukla was felicitated by the staff of DSR on January 23, 2010 during his recent visit to Hyderabad. The Director and the staff recollected his services and thanked him for his guidance and help to DSR. Speaking on this occasion, Dr. Shukla emphasized on the need to rededicate ourselves for the cause of Indian farmer and to enable the food security in the country. He expressed his thanks to one and all for their help and co-operation during his tenure. On this occasion Mrs. Shukla was also felicitated.

Farmers training programme on “Rabi sorghum production, utilization & value-addition”: Farmers training programme on “Rabi sorghum production, utilization and Value-addition” was organized at DSR on 18 - 19 January, 2010. This programme was attended by 40 farmers from Parbhani district of Maharashtra. The training course dealt with production, utilization and marketing aspects of sorghum. The Director emphasized the interest of DSR in promoting the rabi sorghum cultivation. Dr. Chari Appaji, JS Mishra, VR Bhagwat, IK Das (DSR) and Dr. Sanjana Reddy (ICRISAT) briefed the research and development efforts for the development of improved cultivars for higher yields, crop improvement, varietal recommendations, health management and marketing linkages. Sorghum foods and its preparation were demonstrated by Smt. A Annapurna and her team at food processing lab. The participants were taken to ICRISAT on January 19, 2010 as a part of this course. Dr. NGP Rao former-Chairman, ASRB was the chief guest for the valedictory session and distributed the certificates to the farmers. This programme was coordinated by Drs. Ch. Shashidhar Reddy and B Dayakar Rao under NAIP sub-projects Millet foods and value-chain.

'Jowar- the fad diet' a nutrition counseling programme: DSR in association with ITC's “e – Choupal” initiated a month-long in-store nutrition counseling programme. Sale of multigrain roties and other sorghum foods in take-away packets was organized in the first event at e – Coupal's “Fresh”, a popular hyper market outlet at Shivam road, Hyderabad on January 10, 2010. The theme of the event was 'Jowar- the fad diet' so as to create awareness about sorghum, and communicating the propositions of nutritional benefits. Dr MP Rajendra Prasad, Professional nutritionist from NIN and others from DSR participated in this counseling programme. Shoppers expressed their happiness to get this opportunity to interact and learn more about the health benefits that can be derived from sorghum foods. Drs. N Seetharama, S Audilakshmi, B Dayakar Rao, Mrs A Annapurna, Mr. HS Gawali, Ms. Kiranmai, Mrs. Shylaja, Mr Pavan Kumar, and Mr Kistaiah and their family members from DSR family actively participated in the programme.

February, 2010

Institute biosafety committee (IBSC) meeting: The Institute Biosafety Committee (IBSC) meeting was held on February 10, 2010 under the Chairmanship of Director, DSR to discuss the implementation of the biosafety issues at the institute. The other members of the committee were, Dr. V Dashawanth Reddy, Director, CPMB, Osmania University (DBT-Nominee), Dr SV Rao Principal Scientist, DSR (Member-secretary). Drs. KBRS Visarada, PG Padmaja, D Balakrishna, BV Bhat, R Madhusudhana, IK Das, G Shyam Prasad and Sujay Rakshit (DSR Scientists). The committee reviewed the on-going biotechnology research projects and biosafety measures implemented by the institute.