



PDP NEWS



Volume 11 No. 2

July - December 2011

The challenges of food production, malnutrition, poverty, population growth and environment are more acute in the present times, and the National Agricultural Research System through its cutting edge technologies and human resources gives confidence to the nation for successfully meeting these challenges. National Initiative on Climate Resilient Agriculture is a noteworthy step to address abiotic and biotic stresses affecting agriculture. The public-private partnerships in the National Agricultural Research System (NARS) have traditionally been perceived as a major vehicle to enhance commercialization of technology.

Shri. Sharad Pawar

Hon'ble Union Minister for Agriculture and Food Processing Industries at 82nd AGM of ICAR, 2011

Studies under the ICAR Network Project on Climate Change indicated that naked neck birds performed significantly better than normal birds with respect to thermotolerance, growth, feed conversion efficiency and immunity at high temperatures. The newly developed C1 cross could be another promising dual-purpose variety for rural poultry production; with body weight closer to Vanaraja and with 72 weeks egg production similar to Gramapriya.

Dr. S. Ayyappan

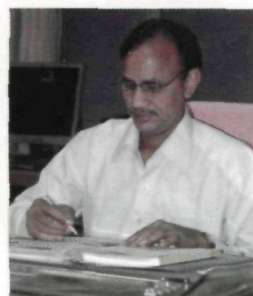
Secretary (DARE) & DG (ICAR)
at 82nd AGM of ICAR, 2011

IN THIS ISSUE

Research highlights	2
Events organized	4
Transfer of technology	5
Meetings conducted	5
Monthly Seminars	6
Human resource development	6
Participation in symposia/ conferences/seminars/workshops	7
Personalia	8
Distinguished visitors	8

DIRECTOR'S COLUMN

Rural Poultry plays a vital role in improving the socio-economic condition of poor masses. Backyard poultry has shown steady progress over the last decade with the introduction of improved rural varieties like *Vanaraja* and *Gramapriya* which acted as a potential tool for subsidiary income generation for several landless and marginal farmers. Backyard poultry farming contributes 21% of national egg production and has always remained as a more holistic and self reliant approach not only in terms of improvement of income, employment and nutritional status but also in terms of fostering community development, gender empowerment, protection of environment and rural development as a whole. The Directorate has always strived to bring out different rural poultry varieties for the benefit of the poorest of the poor. Few new improved varieties are undergoing field evaluation and are in the pipeline for release. The Directorate employs the knowledge of Breeding, Genetics, Biotechnology, Nutrition, Physiology and Health to develop varieties suitable for backyard and small scale intensive rearing in different agro climatic zones.



This issue of "PDP News" provides a glance of research and extension activities of this Directorate conducted during July to December 2011. Development of Four way crosses is in progress which is the new hope for future of rural poultry. Molecular studies on Myostatin promoter polymorphism have been carried out in broiler line with their association to growth traits. Different crosses were produced using the PD-1 line as male parent for development of improved varieties with better growth and shank length. Feeding standards of PD-4 (Aseel) breeders have been established. Transfer of trace mineral Zinc from parent to offspring is validated. The superiority of Quality Protein maize over normal maize and hybrid maize was confirmed by a replacement trial in White Leghorn female chicks. A brain storming session on "Mission on Village Poultry" was organized by the Directorate to emphasize the role and importance of Village poultry in empowerment of rural masses. I am happy that the varieties developed by this Directorate are found throughout the country and their demand is ever increasing. The scientists and staff need special mention for their constant efforts in taking this Directorate to newer heights for the service of this nation.

R.N. Chatterjee
(R.N. Chatterjee)

RESEARCH HIGHLIGHTS

Promising four way cross for rural poultry

Under the testing programme of backyard crosses, 6 two way crosses viz. C1 (CB x PD-3), C2 (PB-2 x PD-3), C3 (PD-4 x PD-3), C4 (PD-5 x PD-3), *Vanaraja* and *Gramapriya* were produced and evaluated for production traits up to 72 weeks of age. Utilizing these two way crosses, 5 four way crosses were produced viz; Cross A (C3 x C1), B (C3 x C2), C (C3 x *Vanaraja*), D (C3 x C4) and E (C3 x *Gramapriya*), in such a way that each cross has 25% inheritance from native breed, 25% from broiler base and 50% from layer base except D cross where 50% inheritance from native breed and 50% from layer base.



Females of E cross

The production traits were evaluated in these five crosses upto 72 weeks of age. The 72 week egg weight ranged from 54.6 to 55.64g in all the crosses except the D cross (52.42g). The B and E crosses produced highest no of eggs (239.75 ± 2.83 and 239.17 ± 2.56 eggs). Though the A cross produced 232.79 ± 5.19 eggs, it was not statistically significant from B and E crosses. The C crosses recorded 204.38 ± 6.05 eggs whereas D cross recorded 218.35 ± 4.05 eggs. The B and E crosses appear to be the promising four way crosses with better egg production and egg weight.

M. Niranjana, R.N. Chatterjee, U. Rajkumar, M.K. Padhi, A.K. Panda, Santhosh Haunshi and M.R. Reddy

Polymorphism in myostatin promoter and their association with growth traits in broiler chicken

Myostatin is a member of transforming growth factor- β family gene, negatively regulates skeletal muscle growth in animals. An experiment was carried out to explore the effect of polymorphism in myostatin promoter on growth traits in broiler (PB-1) chicken. In broiler line, 4 haplotypes were observed of which the highest haplotypic frequency was found in h1 haplotype (0.76) and the lowest frequency was observed in h3 haplotype (0.05). The haplotypes followed Hardy-Weinberg equilibrium. The haplotypes showed significant ($P < 0.05$) effect on body weights at 6 weeks of age where h1h3 haplogroup had the highest (1350 ± 47.4 g) body weight and h1h1 group had the lowest (1251 ± 21.6 g) body weights. In this line, h1h4 haplogroup showed significantly highest growth rate both between 4-6 (39.8 ± 2.9 g/d) and 6-7 weeks (44.5 ± 7.6 g/d) while h1h2 haplogroup showed the lowest (33.88 ± 2.09) growth rate between 4-6 weeks and h1h3 had the lowest (28.50 ± 8.23) growth rate between 6-7 weeks. In conclusion, it is stated that myostatin promoter having polymorphism showed significant effect on growth traits in broiler chicken.

T.K. Bhattacharya, R.N. Chatterjee, M. Niranjana, U. Rajkumar and K.S. Rajaravindra

Juvenile performance of different crossbreds produced by using PD-1 as male parent.

Four different crossbreds were produced using PD-1 as male parent. The female parents were PB-2, PD-3, PD-4 and IWI. Total chicks hatched were 655 in four cross breeds. Hatchability on fertile egg set basis in F cross (PD-1 x PB-2), G cross (PD-1 x PD-3), H cross (PD-1 x PD-4) and I cross (PD-1 x IWI) were 92.40, 90.50, 86.33 and 98.06%, respectively. Pooled body weight at 4 weeks of age in F, G, H and I crosses were 438 ± 5.75 , 184 ± 4.81 , 213 ± 4.81 , 208 ± 2.94 g, respectively. Corresponding body weight at 6 weeks of age were 942 ± 12.15 , 386 ± 9.81 , 424 ± 9.86 and 416 ± 6.65 g. Shank length at 6 weeks of age in F, G, H and I crosses were 83.05 ± 0.48 , 67.93 ± 0.83 , 66.15 ± 0.68 and 65.33 ± 0.38 mm, respectively. Corresponding keel



A flock of F cross

length at 6 weeks of age were 100.66 ± 0.67 , 71.88 ± 0.89 , 73.70 ± 0.78 , 75.49 ± 0.53 mm. Lowest mortality percentage was observed in I cross (1.61%), followed by H cross (2.56%), F cross (2.56%) and G cross (9.09%). The results indicate that that PD-1 perform well as male line with the PB-2 for higher 6 weeks body weight and higher shank length followed by H cross. Overall performance in respect to juvenile traits was best in F cross which may be used as a mediocre meat type coloured birds. Further evaluation of these crossbreds is in progress.

M.K. Padhi, R.N. Chatterjee, S. Haunshi, S.K. Bhanja, U. Rajkumar, M. Niranjana and K.S. Rajaravindra

Maternal transfer of Zn to broiler chicks

The extent of Zn transfer from parent to the progeny through egg is an important link in determining the hatchability and subsequent performance of broiler chicken. On estimating the Zn content in diets, eggs and chicks, it was observed that Zn concentration in eggs (462 - 568 ug/egg) was determined by its level in the diet (0-100 ppm Zn). Further, it was noticed that irrespective of the Zn level in diet, the percent transfer of Zn from egg to chick was high (85-97%), implying that mineral concentration in egg was critical for optimum transfer to chick. In our experiments, organic Zn supplemented at 60 ppm in breeder diets transferred optimum Zn from egg to chick, which was not different from 80 or 100 ppm and higher than lower levels of supplementation. Between the inorganic and organic sources of Zn tested at 40 ppm, the latter transferred more Zn than the former, though non-significantly. The concentration of Zn in yolk is 8-10 times more than albumen. However, higher dietary Zn levels negatively affected Cu

concentration in egg content, which needs appropriate corrections.

G. Shyam Sunder, Ch. Vijaya Kumar, A.K. Panda, S.V. Rama Rao and M.V.L.N. Raju

Effect of replacement of normal maize with high quality maize on the performance of white leghorn female chicks

An experiment was conducted to study the effect of dietary replacement of normal maize (NM) with quality protein maize (QPM) and hybrid maize Nityashree (HMN) on performance, serum biochemical profile and humoral immune response of White Leghorn female chicks during 0 to 8 weeks of age. A control (D-1) diet based on maize-soybean meal-deoiled rice bran was formulated. Two more test diets were prepared by completely substituting NM with either QPM (D-2) or HMN (D-3). Diet 4 was same as control diet, but supplemented with synthetic lysine to meet the requirement. Each diet was fed ad lib to 10 replicates of 5 chicks each during the entire experimental period. Dietary substitution of NM with either HMN or QPM did not have any effect on body weight gain and feed consumption. However, feed conversion ratio was significantly ($P < 0.01$) improved by substituting NM by either QPM or supplementing Lys to NM based diet. The FCR was intermediate in HMN diet. None of the serum biochemical parameters (concentrations of P, triglycerides, cholesterol and HDL cholesterol) except concentrations of protein and Ca were influenced by the dietary substitution of NM with QPM. The protein and Ca concentration in serum increased significantly ($P < 0.05$) by substituting NM by QPM. However, both the above parameters were intermediate in HMN and NM+Lys supplemented diet. The humoral immune response as measured by antibody titre to SRBC inoculation was significantly ($P < 0.05$) higher in the QPM based and NM + Lys supplemented diets compared to NM or HMN dietary group. It was concluded that nutritional value of QPM is superior to NM and HMN and feeding value of HMN is similar to NM in WL chick diet.

A.K. Panda, G. Lavanya, E. Pradeep Kumar Reddy, S.V. Rama Rao, M.V.L.N. Raju and G. Shyam Sunder

EVENTS ORGANIZED

Independence Day celebrated

The Directorate celebrated the Independence Day on 15th August 2011. The Director hoisted the National flag and addressed the gathering. While narrating the importance of freedom in the development of the nation, the director stressed on the team work, harmony among the staff and good working environment in the directorate. He appreciated all the staff members for their continuous support for taking this directorate to greater heights.

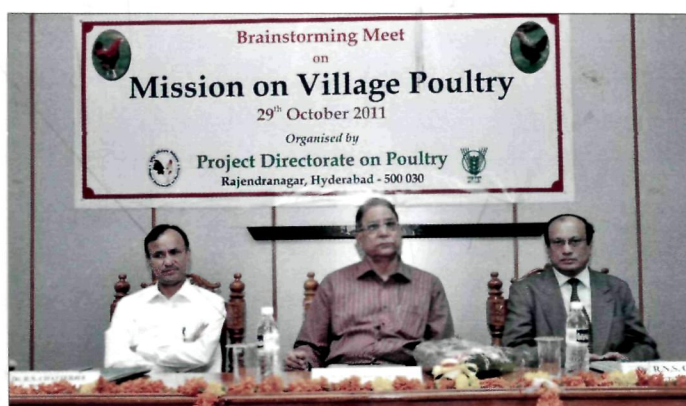


Director addressing on Independence Day

Brain Storming Meet on "Mission on Village Poultry"

Brain Storming Meet on "Mission on Village Poultry" (MVP) was held at PDP, Hyderabad on 29th October 2011. At the inaugural ceremony, Dr. V. Prabhakar Rao, Vice Chancellor, SVVU, Tirupati was the chief guest and Dr. R.N.S. Gowda, Former VC, KVFS AU, Bidar was the Guest of Honour. The inaugural ceremony was presided over by Dr. R.N. Chatterjee, Acting Director of the Directorate. Chief Guest and Guest of Honour emphasized the role of village poultry in alleviating poverty from rural India by generating livelihood income and meeting nutritional requirements. Dr. Prabhakar Rao narrated possible pathway to implement village poultry all around the country. Dr. R.N. Chatterjee narrated the achievements of PDP in backyard poultry and also highlighted the concept of village poultry as well as the role of PDP in implementing this Mission. In

technical sessions, a galaxy of Poultry experts including Dr. V. Ayyagari, Former Director, PDP; Dr. R.P. Sharma, Former Director, PDP; Dr. O.P. Dhanda, Former ADG (AN), ICAR; Dr. V. Bhasin, Principal Scientist, ICAR Head Quarter; Sri Ranga Rao, noted farmer from Andhra Pradesh and ex-member of Planning Commission, Dr. A. Chakravarty, Director of Research, Assam Agriculture University, Jorhat, Assam; Dr. S. Goswami, Assoc. Prof. and Head, Rajasthan University of Veterinary and Animal sciences, Bikaner; Dr. B. Ramesh Gupta, Professor & Head, AGB, SVVU, Hyderabad participated in the deliberations..



Brainstorming meet on MVP in progress

Hindi implementation activities

The Hindi cell of the Directorate is effectively implementing Official Language (OL) policies /orders received from the Council and the Dept. of Official Language, Govt. of India. The Directorate conducted two quarterly meetings of Official Language Implementation Committee on 28th September and 13th December 2011. The O.L. Committee discussed different issues related to effective implementation of Hindi language, mentioned in Annual Programme 2011-2012 of OL Dept, Govt. of India. The Directorate conducted two Hindi Workshops on 28th September and 19th December 2011 to increase the writing skills in hindi, for the staff of the Directorate.

The Directorate also celebrated Hindi fortnight during 1st to 14th September 2011. All the staff participated enthusiastically in different Hindi



Hindi Day celebration at PDP

competitions and winners and runners were awarded on Hindi Day Celebration i.e. on 14th September 2011. Smt. Vaishnavi Devi, Hindi Teacher, Bharatiya Vidya Bhavan School, Rajendranagar, Hyderabad was the chief guest on this occasion Dr. R.N. Chatterjee, Acting PD Presided over the function and emphasized the need to use Hindi in our day to day activities.

TRANSFER OF TECHNOLOGY

Germplasm supply

The two rural chicken varieties developed by this Directorate i.e. *Vanaraja* and *Gramapriya* reached majority states in the country due to their physical characteristics, versatile adaptability to the diversified agro-climatic conditions and their production potential with minimum investment. About 88,181 hatching eggs were supplied to different organizations and NGOs. A total of 1,45,166 day old chicks of *Vanaraja*, *Gramapriya* and *Krishibro* were supplied to the farmers across the country during the period. To meet the larger section of the society in farthest areas, the Directorate has supplied 39,551 day old parent chicks of *Gramapriya*, *Vanaraja* and *Krishibro* to various universities, ICAR institutes and Govt. Departments, where the commercial chicks are being produced and supplied to the farmers of the respective area.

Participated in Kisan Mela, IVRI

The Directorate participated in 10th Kisan Mela and Vigyan Pradarshani organized by IVRI, Izathnagar from 18th - 20th October 2011 by displaying posters, exhibits and video films. Rural chicken varieties *Vanaraja* and *Gramapriya* are point of attraction for farmers of UP. Over 6000 farmers visited the PDP stall.



PDP stall displayed at IVRI

PDP stall attracts visitors at Poultry India 2011

PDP participated in Poultry India 2011 organized by EAC and IPEMA at Hitex Exhibition Complex, Hyderabad from 22 to 25th November 2011. The technologies developed by the institute especially the improved chicken varieties; *Vanaraja* and *Gramapriya* attracted the poultry farmers. About 10 thousand farmers, technocrats, politicians, poultry entrepreneurs and scientists visited the PDP stall in 3 days.



PDP stall displayed at Poultry India 2011

MEETINGS CONDUCTED

Institute Research Committee (IRC) Meeting

The half yearly meeting of Institute Research Committee was conducted on 2nd December 2011, which was chaired by Dr. R.N. Chatterjee, Acting Project Director. All the Scientists of the Directorate participated in the meeting. Respective principal investigators presented progress of the ongoing projects which was critically evaluated in the meeting and necessary modifications to the technical programme were suggested. Two new proposals were presented and discussed.



IRC meeting in progress

Meetings

IJSC	2 nd Meeting of 8 th IJSC was held on 27 th December 2011
IGC	1 st Meeting of 7 th IGC was held on 30 th December 2011
Women Protection Cell	Quarterly meeting for the quarter ending 31 st December 2011 was held on 14 th December 2011

Monthly seminar

During the period under report three seminars were delivered by various scientists and the details are given below.

Sl. No.	Name of the scientist	Topics
1	Dr. M. Shanmugam, Sci.	Alteration of sex ratio in poultry
2	Dr. B. Prakash, Sci. (SS)	Nutrition for optimum production in layers
3	Dr. R.N. Chatterjee, Acting Director	Rural Poultry Development - An experience in India - Can it be applied in Zambia?

HUMAN RESOURCE DEVELOPMENT

Sl. No.	Particulars of training	Official (S)	Duration	Venue
1	Condensed Translation Training Course	Shri J. Srinivas Rao, T-6	4 th - 8 th July 2011	CRIDA, Hyderabad
2	Workshop on "Pay Fixation"	Shri M.S.N. Acharyulu, Asst.	16 th - 18 th August 2011	ISTM, New Delhi
3	15 th Training Program for Capacity Building for Administrative Personnel of S&T Department of Govt. of India	Shri M.S.N. Acharyulu, Asst.	12 th - 30 th September 2011	IIPA, New Delhi
4	Seminar on Direct Taxes Code	Shri R. Sudarshan, L.D.C	22 nd September 2011	ICWAI, Chennai
5	Administrative & Technical Terminology	Shri J. Srinivas Rao, T-6 Shri S.R. Meena, A.O.	1 st - 2 nd November 2011	CRIDA, Hyderabad

Sl. No.	Particulars of training	Official (S)	Duration	Venue
6	Town Official Language Implementation Committee Meeting	Shri J. Srinivas Rao, T-6	23 rd November 2011	NIRD, Hyderabad
7	Training Programme on "Data analysis using SAS"	Dr. T.K. Bhattacharya, National Fellow Dr. A.K. Panda, Sr. Sci.	14 th - 20 th December 2011 17 th - 23 rd August 2011	NAARM, Hyderabad
8	Meeting of Liaison Officers (OL)	Shri J. Srinivas Rao, T-6	16 th December 2011	CRIDA, Hyderabad

PARTICIPATION IN SYMPOSIA/CONFERENCES/SEMINARS/WORKSHOPS

Sl. No.	Conference / Seminar / Workshop / Meeting	Official (S)	Duration	Venue
1	Brainstorming Meet on Mission on Village Poultry	All the Scientists of PDP	29 th October 2011	PDP, Hyderabad
2	XX Annual Conference and International Symposium of Society of Animal Physiologists of India	Dr. M. Shanmugam, Sci.	2 nd - 4 th November 2011	WUAFS, Kolkata
3	Interactive Meeting of Stakeholder	Dr. A.K. Pada, Sr. Sci. Dr. Santhosh Haunshi, Sr. Sci.	29 th October 2011	PDP, Hyderabad
4	CIC and CAC Meeting Under NAIP Project Value Chain on Commercialization of Maize Products	Dr. A.K. Panda, Sr. Sci.	10 th December 2011	UAS, GKVK, Bangalore

Sl. No.	Conference / Seminar / Workshop / Meeting	Official (S)	Duration	Venue
5	Conference on Next Generation Sequencing and Bioinformatics for Genomics and Health care	Ms. N.R. Dhanutha, T-3	16 th - 17 th December 2011	Sci Genome Pvt. Ltd. Tiruvananthapuram
6	IPSACON-2011 and International Symposium on "Rural Employment Generation and Nutritional Security Through Poultry Production"	Dr. T.K. Bhattacharya, National Fellow Dr. M. Niranjana, Sr. Sci Dr. U. Rajkumar, Sr. Sci. Dr. A. K. Panda, Sr. Sci. Dr. K.S. Rajaravindra, Sci. Dr. S.K. Bhanja, T-9 (FM)	22 nd - 24 th December 2011	Bihar Veterinary College, Patna

Personalia

- Shri. S.R. Meena has joined this Directorate as Administrative Officer on promotion from CRIDA w.e.f. 2nd May 2011
- Dr. B. Prakash, Scientist (SS), joined the Directorate on 1st July 2011 on transfer from NRC on Mithun, Jharnapani, Nagaland
- Dr. N.Kondaiah, Principal scientist joined the Directorate on 16th December 2011 on transfer from NRC on Meat, Hyderabad

Promotions

- Shri. D. Pratap, T-5 has got merit promotion to the next higher grade of T-6 w.e.f. 1st January 2011
- Shri. J. Srinivas Rao, T-5 (Hindi Translator) has got merit promotion to the next higher grade of T-6 (Hindi Translator) w.e.f. 29th June 2011
- Shri. Md. Maqbul, T-3 (Driver) has got merit promotion to the next higher grade of T-4 (Driver) w.e.f. 29th June 2011
- Shri. M. Pantulu, T-2 (Driver) has got merit promotion to the next higher grade of T-3 (Driver) w.e.f. 29th June 2011
- Granted financial up-gradation under MACPS to next higher Grade Pay to the following Officials
 1. Shri. B. Gandhi, Supdt. w.e.f. 1st April 2011,
 2. Smt. M. Kamala, UDC w.e.f. 23rd August 2010
 3. Shri. Rajesh Parashar, LD.C w.e.f. 1st September 2008
 4. Shri. P. Shankaraih, S.S.S. w.e.f. 1st September 2008
 5. Shri. L.V.B. Prasad, L.D.C. w.e.f. 17th October 2008

Distinguished Visitors

1. Dr. V. Prabhakar Rao, Vice-Chancellor, SVVU, Tirupati
2. Dr. Gaya Prasad, ADG (Animal Health), ICAR, New Delhi
3. Dr. A. Chakrabarty, Director of Research, AAU, Guwahati
4. Dr. R.N.S. Gowda, Ex. Vice-chancellor, KVAFSU, Bidar
5. Dr. V. Ayyagari, Ex. Director, PDP, Hyderabad
6. Dr. R.P. Sharma, Ex. Director, PDP, Hyderabad
7. Dr. O.P. Dhanda, Ex. ADG (AN&P), ICAR, New Delhi
8. Dr. G.L. Goswami, Assoc. Professor, and Head, LPM, Bikaner Veterinary College. Bikaner
9. Shri. Ranga Rao, Ex. Member, Planning Commission of India

Edited by

Dr. M. Niranjana, Senior Scientist
Dr. S.V. Rama Rao, Principal Scientist
Dr. T.K. Bhattacharya, National Fellow
Dr. A.K. Panda, Senior Scientist
Dr. T.R. Kannakki, Scientist



Published by Project Director

Project Directorate on Poultry

Rajendranagar, Hyderabad - 500 030, Andhra Pradesh, India

Ph.: +91 (40) 2401 5651 / 7000 / 5652 / 8687

Fax : +91 (40) 2401 7002 Email : pdpoult@nic.in

Website : www.pdonpoultry.org

