



# DPR NEWS



July - December 2013

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## DIRECTOR'S COLUMN

Our country has continued to witness higher growth (8-10%) in poultry sector inspite of economic slowdown, higher feed prices and disease threats. This increase in demand is largely driven by the increasing population, increasing consumption (2.8kg meat and 54 eggs per person per year) and preference for poultry meat and egg. Backyard poultry farming has contributed immensely in availability of poultry and poultry products particularly in rural and tribal areas of the country. Directorate of Poultry Research is playing pivotal role in improving the productivity of backyard poultry farming by developing improved crosses and varieties and their supply to the farmers in different parts of the country. However, the low input free range system of farming is yet to be fully explored for increasing the productivity. The demand for improved native chicken varieties for low input free range/backyard poultry farming has impelled the Directorate to take up the works on improvement of native chickens for growth and production traits.

We have achieved one of the remarkable moments in the history of the Directorate when our Hon'ble Director General inaugurated the Silver Jubilee Block of laboratory building in the presence of Prof. K. M. L Pathak, Deputy Director General (Animal Science), and other dignitaries on 20<sup>th</sup> July, 2013.

Recently, improved variety of Aseel breed was introduced in a village

for assessing the performance under field conditions. The performance of improved Aseel birds revealed by the farmers' acceptance seems to be encouraging

as they were able to perform better under low input free range system. Work on nutritional intervention for improving semen quality showed encouraging results by feeding organic zinc at the rate of 100 mg/kg diet for enhanced sperm fertilizing ability in PD-3 line. Detoxified solvent extracted Karanj cake in the diet of layer chicken may be included as protein supplement upto 9% without affecting the performance of layer birds. Poultry health experiments revealed that the continuous screening of parent lines for avian leucosis virus (ALV) and removal of ALV positive birds from the breeding programme reduced the incidence of ALV drastically in successive generations. The Directorate is pursuing the public-private partnership to solve some of the problems of poultry industry. The current issue of DPR news briefly highlights the research and extension activities of the Directorate carried out during July to December, 2013.



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

## CONGRATULATIONS TO

- Dr. T. K. Bhattacharya, National Fellow and Dr. R. N. Chatterjee, Director received ICAR Hari Om Ashram Trust Award
- Dr. R. N. Chatterjee, Director received NAVS Fellowship
- Dr. S.V. Rama Rao, Pr. Scientist received CLFMA Appreciation Award
- Dr. T.R. Kannaki, Scientist received Avitech Young Scientist Award

## FLASH NEWS

- Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR inaugurated the newly built Silver Jubilee Block at Project Directorate on Poultry, Rajendranagar, Hyderabad
- Dr. R. N. Chatterjee has taken over the charge of regular Director, DPR on 12<sup>th</sup> September, 2013.

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## RESEARCH HIGHLIGHTS

### Field evaluation of improved Aseel variety under free range system of rearing

A total of 150 chicks of improved Aseel variety weighing about 700g at 10 weeks of age was distributed to 28 farmers of KVK adopted village, Timmareddyguda, Shabad mandal of Ranga Reddy district, Andhra Pradesh. Birds were reared under free range system with supplementing a little input. During lean period (July and August), farmers offered left over kitchen waste and birds survived mostly on scavenging in villages. During harvesting season (December and January), farmers provided paddy, rice, jowar etc. as supplementary feeding to these birds. Body weight and shank length recorded at 20 weeks of age were 1100g and 107mm, respectively on combined sex basis. At 29 weeks of age, body weight was 1798 and 1448g in male and female birds, respectively. Birds started laying eggs at 199 days of age and egg weight recorded at 29 weeks of age was 46.07g. Body weight and shank length at 34 weeks of age were 1722g and 102mm in female birds while those in male birds were 2037g and 122mm, respectively. Improved Aseel birds seem to be the promising native chicken for low input free range system of rearing for meat and egg production in rural and tribal areas.

Santosh Haunshi, Sudhir D. (KVK, CRIDA), M. K. Padhi and M. Niranjana



Improved Aseel birds at farmers' field

### Effect of dietary organic zinc supplementation on semen quality in Dahlem Red

Zinc, an important component in a number of metalloenzymes plays significant role in maintenance of normal sperm functions. An experiment was conducted to evaluate organic zinc supplementation on semen quality in Dahlem Red chicken. A total of thirty two adult Dahlem Red roosters randomly divided into four groups were supplemented with organic zinc (0, 40, 70 and 100 mg/kg diet) for eight weeks. Semen was collected at 4<sup>th</sup>

and 8<sup>th</sup> week of supplementation and evaluated for volume, appearance, sperm motility, sperm concentration, MTT dye reduction test, live and abnormal sperm percent. Seminal plasma was separated and assessed for superoxide dismutase activity and lipid peroxidation. At 8<sup>th</sup> week, sperm were assessed for nuclear maturity by aniline blue staining. At the end of the experiment, serum superoxide dismutase activity and lipid peroxidation was evaluated. The roosters supplemented with 100 mg/kg organic zinc in the diet produced significantly ( $P<0.05$ ) higher MTT formazan indicating higher metabolic activity of sperm. No significant differences were observed between the treatments for other semen parameters. Thus, it can be concluded that supplementation of organic zinc at 100 mg/kg improves sperm metabolic activity.

M. Shanmugam, B. Prakash and A.K. Panda



Sperm nuclear maturity assessment by aniline blue staining

### Solvent extracted Karanj cake as a source of protein in layer chicken diet

A feeding experiment was conducted for evaluating the nutritional value of solvent extracted karanj (*Pongamia glabra*) cake (SKC) at graded levels (0, 6, 9 and 12%) in the diet of layer chicken on *isocaloric* and *isonitrogenous* basis. A total of 160 White Leghorn laying chickens of 50 weeks age were fed the diets for 3 laying periods of 4 weeks each till 61 weeks of age. The hen day egg production was significantly ( $P<0.01$ ) low in the groups fed SKC at 9 and 12% during the 1<sup>st</sup> laying period (50-53 wks). During the 2<sup>nd</sup> laying period (54-57 wks), the hen day egg production was significantly depressed only at the 12% level of SKC. On the contrary, during the 3<sup>rd</sup> laying period (58-61 wks), no differences could be observed in egg production among the treatment groups. When the egg production of all the 3 laying periods was pooled, the hen day egg production was depressed ( $P<0.01$ ) at 12% level of SKC and the performance at the remaining levels of SKC was similar. The pooled feed intake was low with 9 and 12% SKC but FCR was not affected. Serum alkaline