Status of Pig and its Genetic Improvement Programme in India

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Received: 27/04/2016
Revised: 09/05/2016
Accepted: 10/05/2016

Abstract

Pig contributes 2.01% of the total livestock population, comprising 10.29 million in India. Pig farming constitutes the livelihood of rural poor belonging to the lowest socio-economic strata and generates gainful employment in the rural sector, particularly among the landless labourers, small and marginal farmers and women. In view of the importance of pig farming in terms of its contribution to rural poor and possible potentials for pig rearing in our country, Government of India has implemented programme schemes to promote pig farming.

Keywords: Pig, Status, Contribution, Programme/Schemes.

1. Introduction

Animal husbandry is an important sub-sector of agriculture in India and among various animals; piggery is the sector that directly influences the socio-economic status of the poor rural people, more particularly the tribal population of the country as it acts as an insurance coverage for the downtrodden and socially weaker section of the society. Pig production, among other species has a high potential to contribute to high economic gain. This is because of two folds: First the pigs have high fecundity, high feed conversion efficiency, early maturing, short generation interval and relatively small space requirement. Secondly, they are multipurpose animals providing about 40% of meat consumed in the world market, and by-products like pig dung as manure and bristle for brush industry. It is produced under a variety of production systems ranging from simple backyard pigs, pigs living on garbage belts to family operated farms or large scale integrated pig industries with sophisticated bio-safety measures. The total Pigs contribute around 2.01% of the total livestock population (2012 Livestock census). The total number of Pigs in the country as per 2012 Census is 10.29 million numbers and has decreased by 7.54% over the previous census. Assam has the highest population of pig (1.64 million) followed by UP (1.33 million), Meghalaya (0.96 million) Nagaland (0.65 million), West Bengal (0.65 million) Jharkhand (0.54 million), Bihar (0.5 million), Tripura (0.44 million) and Chatisgarh (0.36 million). Fig 1 shows the population trends of both crossbred and indigenous pig from 1992-2012. Pig contributes 8% of the total meat production of the country. The meat production from pig is highest in the State of Uttar Pradesh with 0.172 million tonnes per year. The second and third highest average production of meat is reported by Bihar and Nagaland respectively. States/UTs-wise variation in terms of production of meat from Pig is shown in Fig 2.

2. Improvement Programme of Pig

2.1 All India Coordinated Research Project (AICRP) on Pig

All India coordinated research project was initiated during IVth five year plan (1970-1971) with the main objective of studying the performance of pure breed pigs under existing managemental conditions at the following research centers: ANGRAU, Tirupati, Andra Pradesh, AAU, Khanapara, Guwahati, Assam, JNKVV, Jabalpur, Madhya Pradesh, IVRI, Bareilly, Izatnagar, Uttar Pradesh. During IVth and Vth five year plan, the research work was conducted with the exotic breeds of pig (Large white Yorkshire at Tirupati and Jabalpur, landrace at Khanapara and Izatnagar) with the following objectives:

I. To assess various genetics parameters of economically important exotic breeds of pig genetics available in India with a view to utilize the same in selection index and for making genetic advancement.

II. To investigate the effect of protein energy ratio on production of pig and to conduct nutritional experiment to find out low cost and reasonably economic pig feed for different locations.
III. To study the occurrence of pig diseases and to find suitable control measures against the same.

2.2 Present Centers of All India Coordinated Research Projects on Pig:
1. Assam Agricultural University, Guwahati.
3. Birsa Agricultural University, Ranchi.
4. Kerala veterinary and Animal Science University, Mannuthy.
5. Tamil Nadu Veterinary Animal Science University, Kattupakkam.
6. Sri Venkateswara Veterinary University, Tirupati.
7. Indian Veterinary Research Institute, Izatnagar.
8. ICAR Research Complex for Goa, Old Goa.
9. Central Agricultural University, Aizawl.
10. Nagaland University, Medziphema.

2.2.1 Salient Achievements
Exotic pig Landrace, Large White Yorkshire and Hampshire could be successfully raised and multiplied under organized farm condition. Litter size at birth and weaning registered progressive improvement in growth rate of indigenous pig of Jharkhand from 2002-06 (4.50±0.62 and 2.90±0.85 to 4.02±0.95). The body weight of indigenous pigs at 32 weeks increased from 25.99 kg to 30.67 kg under systematic managerial condition.

1. Crossbred pigs with 75% exotic inheritance (Yorkshire or Hampshire) had higher value of litter trait than their 50% counterpart.
2. Locally available feed resources like root crop (Tapioca, sweet potato etc.), brewery waste, used tea leave and other vegetable waste like cabbage, collocassia etc. could be used to increase the nutrient for developing economic ration for pig.
3. Economic rations were evolved by partial or complete replacement of costly ingredient of the standard ration with the alternate feed sources.
4. Replacement of fish meal by silk worm pupae reduced the cost of pig production.
5. Replacement of maize with 20% molasses increased average daily gain and lower cost per kg gain in body weight.

3. National Research Centre on Pig

National Research Centre on Pig was established by Indian Council of Agricultural Research on recommendation of mid-term appraisal committee constituted by ICAR in 1990 after reviewing the work of the All India Coordinated Research Project (AICRP) on Pig. Accordingly, ICAR approved the institute to be established at Guwahati, Assam located in North-eastern part of country where 28% of country’s pig population is distributed. The piggery farm of the Institute has been started functioning since August, 2007 and currently maintain two exotic (Hampshire and Duroc), two indigenous (Ghungroo and Niang-Megha) pig breeds and their crosses.

3.1 Centers of Mega-seed Projects on Pig
1. Assam Agricultural University, Guwahati.
2. Birsa Agricultural University, Ranchi.
3. Veterinary Department, Govt. of Mizoram, Aizawl.
4. ICAR RC for NEHR, Medziphema.

3.1.1 Salient achievements
• Crossbreeding programme between Hampshire (HS) x Ghungroo (GH) and Hampshire (HS) x Niang Megha (NM).
• Inter-se-mating of 50 % exotic inheritance of NM and GH are maintained for subsequent crossing.
• 50% exotic inheritance of Ghungroo have been crossed with Duroc in order to find out a suitable animal for farmers.
• Development of designer pork with low back fat content, a three breed cross of Duroc x HS x GH has been undertaken.
• Disseminate the superior quality porcine germplasm (Hampshire and crossbred) to farming community and increase the genetic gain among the rural pig population.
• More than 85% of rural farmers adopted this technology.

4. Central Sector Scheme on Pig Development

Government of India launched a Central sector scheme on “Pig Development” with a total outlay of Rs.73.55 crore during the remaining XI Five Year Plan period (2010-11 & 2011-12). The scheme aims to encourage commercial pig rearing by farmers/labourers to improve production performance of native breed through cross breeding by using selected animals of high performing breeds and by providing incentives in terms of capital subsidy for ensuring the viability of the pig breeding, rearing and related activities. This scheme was implemented in 15 states viz, Assam, Bihar, Kerala, Andhra Pradesh, Arunachal Pradesh, Manipur, Mizoram, Meghalaya, Nagaland, Tripura, Uttar Pradesh, Odisha, Jharkhand, West Bengal and Chattisgarh.

The scheme has following four components with the ceilings on capital subsidy for different activities: Pig breeding farms, Pig rearing and fattening unit, Retail outlets and facilities for livemarkets in which incentives of 25% of outlay (33 1/3% in NE states) were given for each component.

4.1 Eligibility
Producer companies, partnership firms, corporations, NGOs, SHGs, JLGs, cooperatives and individual entrepreneurs.

4.2 Promotional Assistance
Funds will be routed through NABARD after approval by State Level Sanctioning and Monitoring Committee (SLSMC). After sanction of the subsidy by the SLSMC, the Regional Office of NABARD shall release the subsidy amount after confirming the availability of funds from NABARD Head Office.

4.3 Repayment
Repayment period will depend on the nature of activity and will vary between 5 to 6 years including grace period of one (1) year.

4.4 Monitoring
Central Monitoring Committee (CMC) at National level Chair by Joint Secretary, DADF, GoI with members from DADF, Planning Commission, Secretaries of Department of AH from three States (on rotation basis), three banks (on rotation basis), M/O
Rural Development, Environment and Forest, Micro, Small and Medium Enterprises D/o Commerce and Industry (Leather Division) and NABARD will review the implementation of the scheme at half yearly intervals. The participating banks should conduct periodic inspections of the units and give a feedback to the SLSMC at regular intervals.

5. Conclusion

Piggery sector has a high potential to contribute to high economic gain especially for the landless labourers, small and marginal farmers and women. Therefore, increase schemes/programme should be generated to popularize the scientific pig breeding cum rearing of meat producing animals with adequate financial provisions.

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