



PIG HUSBANDRY FOR SUSTAINABLE RURAL DEVELOPMENT IN ASSAM

K. Ahmed, N. Ahmed* and D. Kalita

Department of Animal Reproduction, Gynaecology and Obstetrics, College of Veterinary Science,
Guwahati, Assam

*Corresponding author

ABSTRACT

Pig husbandry is one of the integral components of traditional animal husbandry system in Assam. People of this region are mostly non vegetarian and prefer pork hence the swine industry has a tremendous scope. Indigenous breeds with lower reproductive potentialities occupy majority of pig population in Assam. Up grading of local pig can be done by crossbreeding with superior germplasm through artificial insemination (AI). This study was carried out to know the status of swine husbandry in Assam and feasibility of AI. A base line survey was conducted and total of 200 households owing pigs were selected randomly and interviewed in Kamrup and Darrang districts of Assam. The most prevalent diseases in pig were swine fever, diarrhoea, pneumonia, piglet anemia, mange, hemorrhagic septicemia and FMD. There were no reports of the use of Artificial Insemination in the area under survey and household without a boar use one from neighboring household. The service fees vary from Rs. 200-1000. Majority of farmers who kept native pigs were house wives (60%) or day labor (21%). Pigs were reared by neck/girth tethering (83%) followed by straw shed housing (12%), fencing (4%) and penned system (1%). Lack of scientific knowledge, mal nutrition, lack of breeding boar, lack of veterinary and extension service, non availability of vaccine were the major constrains. Semen collected from Hampshire boar by simple fist method and extended with Modena extender was preserved at 15°C at BOD incubator. The mean volume, initial motility, concentration, live sperm and intact acrosome in boar semen was 239.28 ± 17.37 ml, 86.85 ± 1.31 per cent, 339.28 ± 17.37 million per ml, 83.76 ± 0.79 per cent and 86.82 ± 1.08 per cent respectively. Estrus sow was inseminated twice and obtained viable piglets.

Keywords: Pig husbandry, Management system, Socio-economic status

I. INTRODUCTION

Pig husbandry is one of the integral components of traditional animal husbandry system in Assam. Assam shares 15.89 per cent of the total pig population in India (19th Livestock census 2012). People of Assam are mostly non vegetarian and prefer pork in their meal. For the majority tribal population, livestock keeping especially pig keeping is integral to their way of life in the Region. Therefore, people have ample of opportunity to develop through this sector. In Assam, indigenous pigs share the majority of the pig population of 16,18,937 against the exotic or crossbred pig population of 6,06,062 (19th Livestock census 2012). Hence, improvement or upgrading of this pig population is necessary which can be done only by crossbreeding. In this context, this study was carried out to evaluate the status of swine industry in Assam and feasibility of Artificial Insemination (AI).

II. MATERIALS AND METHODS

The study was conducted randomly at 3 villages of Kamrup district and 5 villages of Darrang district of Assam. Villages are selected according to pig population. A questionnaire was prepared in accordance with objectives of the study before collection of data. Later on, the questionnaire was validated against field conditions. The study was conducted from 1 to 31 September, 2015 for 30 days. A total of 200 pig owning households were randomly selected and interviewed. A Hampshire crossbred boar was maintained and trained in AICRP on Pig, Khanapara, Guwahati, Assam. Semen samples were collected by simple fist technique and diluted in Modena extender in the ratio of 1:4 and preserved at 15°C in BOD incubator. The fresh semen was evaluated for mean volume, initial motility, concentration, live sperm and intact acrosome. Sows in estrus were inseminated with 100 ml of extended semen twice in second and third day during estrus. Data related to socio-economic status of pig rearers and the managerial system of native pig population were collected, compiled and analyzed by using software Microsoft excel 2007 and Snedecor and Cochran (1994).

III. RESULTS AND DISCUSSION

Disease prevalence: It was found that swine fever, diarrhea, pneumonia, piglet anaemia, mange, haemorrhagic septicaemia and foot and mouth disease were the mostly prevalent diseases encountered by the pig rearers of the region. Peter *et al.* (2007) and Ritchil *et al.* (2013) reported abscess, botulism, brucellosis, bursitis, coccidiosis, cystic ovaries, diarrhoea, haematoma, laminitis, lameness, listeriosis, mastitis, meningitis, pneumonia and haemorrhagic septicaemia were the most common diseases in pigs. Only 8.5% people used vaccine against anthrax, foot and mouth diseases, haemorrhagic septicaemia and others. Deworming of pigs was recorded by 40% of people (Hossain *et al.* 2011).

Breeding: There were no reports on AI to upgrade the pig population in these areas. Mostly household without a breeding boar used boar from neighbour for breeding. The service fees were varied from Rupees 200-1000 depending on the different conditions.

Rearers: Majority of rearers who kept native pigs as an occupation were house wives (60%) or day labor (21%) or crop cultivator (19%). These findings were in concurrence with the observation of other (Ritchil *et al.* 2013). However, there records were comparable to the remarks given by Chiduwa *et al.* (2008) on native pig management system in different parts of the worlds. It was obtained that major proportions of the farmers own other livestock specieses like cattle, goat, poultry and others.

Rearing system: Pigs were reared by neck/girth tethering in 83% cases, followed by straw shed house, fencing and penned system in 12, 4 and 1% cases respectively. Free range system was almost nil at those surveyed area. Ritchil *et al.* (2013) opined that girth tethering was the most widely accepted and popular system of rearing where rope was used at the chest girth to keep the pig nearby any hard pillar such as bamboo or tree.



Figure 1. Neck tethering system



Figure 2. Housing of pig

Constraints of swine industry: Lack of scientific knowledge, lack of breeding boar, lack of veterinary and extension service and non availability of vaccine were the major constrains in pig production of the surveyed areas. Whereas, Malnutrition seemed to be the major problem facing by pig rearers. Pork had a good demand in these areas even though there was no such pork market establishment as Pegu *et al.* (2014) clearly indicated that major constraints faced by piggery entrepreneurs were lack of quality breeding stock followed by lack of linkage with financial institute, lack of training, lack of time, outbreak of disease, lack of proper marketing channel, seasonal fluctuation of price, lack of proper veterinary support, lack of easy access to extension services and scarcity of space in market place.

Semen characteristics and Artificial Insemination: The mean volume, initial motility, concentration, live sperm and intact acrosome in boar semen was 239.28 ± 17.37 ml, 86.85 ± 1.31 per cent, 339.28 ± 17.37 million per ml, 83.76 ± 0.79 per cent and 86.82 ± 1.08 per cent respectively. The various semen characteristics recorded in the present study were within the normal range suitable for artificial insemination. Similar findings were reported by Bora (2009) and Khan (2009). Estrus sow was inseminated twice and obtained viable piglets.

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