



Swine Industry and Pig Farming

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Abstract:

While considering a domesticated stock as a food Pig is one of the most efficient food converting animals. It is the only young born bearing animal among meat producing livestock having the shortest generation interval and high food conversion efficiency. It can live on many types of wastes of farm and human food wastes which was otherwise not utilized by other livestock.

Pig provides a valuable animal protein and fat in the form of pork which have high nutritional value in human diet. The rearing of the pig is economically favourable and with minimum expenditure on housing, equipment and labour with quick good return, which serves as an important source of income for rural people. In tribal areas, meat of many kind is consumable without any religious restriction but a special preference is given to pork. In India, 70% of the pig population is reared under traditional smallholder shorter generation interval, faster growth rate, better feed conversion efficiency, high dressing percentage and low maintenance cost. Except for Limited number of semi-commercial pig farms in Kerala, Punjab and Goa. The pig population across the country is not distributed equally. A large population of pigs is recorded in the eastern and north-eastern (6.8 million) states; highest population is in Assam (2 million), followed by Uttar Pradesh (1.35 million), West Bengal (0.82 million), Jharkhand (0.73 million) and Nagaland (0.70 million).

Keywords: Pig farm, Pig Rearing, Pork, Pig Breeds, Piggery

I. Introduction:

The Mammal Pig is a great domestic animal which have the great economic use like other mammals such as cow, buffalo, goat and sheep, therefore, pig farming or piggery nowadays as a small scale industry is gaining fame in India and abroad. Rearing and breeding of swine to obtain meat is known as piggery. Pig farming only requires less capital, small farming space and simple technology that gives advantages over dairy and poultry farming. Pigs can be farmed in free range, they can be allowed to wander around a village, kept in fields, or tethered in a simple house. Pig rearing is one the important activities in the rural

economy of Many State of India, a far while northeastern state of India, providing additional income source to small scale farmers including marginal and landless farm women. Most of the rural women play a significant role in livestock rearing and are directly involved in most of the operations relating to feeding, breeding, management and health care of the animals. Most of the tribal households strengthen their socio-economic status by rearing more than one livestock with minimum investment

II. Breeds of Pig

There are two categories of Pig breeds which are grouped into indigenous breeds and exotic breeds. The indigenous breeds are common country pigs. These swine are black in colour, small in size and produce small litters. The meat called pork, is substandard. The exotic breeds have been used to Indian climate and are largely used in farming. They have advantages over the indigenous breeds.

The exotic breeds belong to the English class and the American class.

A. The common English breed include:

- a) the Berkshire
- b) the Large White Yorkshire
- c) the Middle White Yorkshire.

B. The American breeds include:

- a) The Hampshire
- b) The Chester White
- c) The Duroc.

III. Food and Feeding

The main component to generate The profit in this farming are the male pig (boar) and the female pig (sow) and their number and size the pigs produces which in turn also depends up the food and feeding of the boar and the sow. The males must energetic with good quantity of sperm and for this requires a diet of A protein rich food. The females when fed on protein rich diet produce large number of eggs and healthy litter. The balanced diet of a swine should have the following ingredients:

- a) coarse grains like jowa barley and maize (70 per cent),
- b) wheat/oat (15 p cent)
- c) meat (6 per cent)
- d) soya meal (8 percent minerals (0.5 per cent)
- e) salt (0.5 per cent). The grains and meat should be in ground state.

IV. Breeding

1) Natural Breeding

The Research made in the pig's biology, the Farmers controlling the natural process of reproduction in pig to some extent on scientific lines. This is highly beneficial at commercial pig farms. The oestrus cycle is completed within three weeks' time with heat period extending from 40-65 hours. Under normal conditions, the vulva starts swelling from nine days before the actual heat day. The swelling is due to the oestrum released by the ripening of follicle. It becomes normal after about 18-36 hours. At the end of nine days from the beginning of the heat during the heat period ovulation starts. Mating takes place during the heat period. A female pig may undergo mating once or twice. In case she mates twice, the number of young ones produced is more than when she mates only once. The duration to complete the process of mating is nearly about 5-25 minutes. Mating should not be disturbed to allow complete ejaculation of sperms and efficient fertilization. It has been observed that if the male pig (boar) has low count of sperms during mating, the size of the young ones produced is smaller. This is the reason boars should not be allowed to mate prior to three days of rest. The mature pigs undergoing lactation - usually do not pass through the heat period, Foetal atrophy, which is a genetic disorder controlled by: a recessive allele, causes decreased fertility along with the reduction in the size of litter.

2) Artificial Breeding

Artificial breeding is majorly being used in commercial pig farms and young ones are being produced. Artificial breeding involves two main steps.

A. Artificial insemination

The First Step in the Artificial insemination is to select, a healthy and mature male. The mature male pig is mated with a dummy female pig. During the mating process the semen are collected in artificial vagina with pulsating pressure. A very good volume, i.e., 200 cc, semen is produced by one male at a time. It is always beneficial that a dummy female than a living female for the purpose of collection of semen.

B. Artificial fertilization

The collected semen can be stored for three to four days at about 50°F. If the collected semen is to be used beyond week's time the semen saturated with carbon dioxide is sealed in ampules at 60°F. After collecting the semen the fertility of semen remains constant for up to 24 hours of collection. The collected and stored semen is diluted with 6 per cent glucose solution. The number of young ones produced by artificial fertilisation at farm level is less.

V. Formation and Discharge of Milk

Hormones control the Formation and discharge of milk. Lactogenic hormone controls formation whereas the discharge of milk is controlled by oxytocin. The lactogenic hormone is secreted by anterior pituitary in pregnant pigs. This hormone alters the metabolism of mammary glands which then produce milk. The Hormones oxytocin start to secrete when the young one start the sucking for milk. As soon as the oxytocin reaches the blood stream, the milk is released by the breast. Anterior teats produce more milk than the

posterior teats. The production of milk reaches at its peak in the third week of lactation. The milk of pig is much concentrated with 10 per cent of fat.

VI. Growth

The growth and development of a new born individuals is very important in the pig farming. the weight of 1-6 lbs is considered as healthy for new born. The good growth of young ones is achieved when the young ones is feed by breast feeding and supplementary feeding by way of creep feeding. This feeding is provided about a month of a breast feeding and another one month for supplementary feeding. But care should be taken not to make them obese otherwise the size of the litter becomes smaller. A nutritive diet is fed to the young ones and it is very essential for the proper development of the muscles, growth in length and the weight during the early period. The proportional growth of the body of pigs varies with the age.

VII. Pig Slaughter

Pigs are slaughtered by hitting on head to make them unconscious and piercing a double edged knife in the neck. The neck is pierced to allow the drain of blood through the jugular veins. Afterwards, A hot water is used to wash properly and clean thoroughly the pig's body and cut open, to separate the various parts for various preparations and uses. It is essential that before killing, the pigs are kept on starvation for 24 hours and given complete rest to get good result of a slaughtering process.

VIII. Piggery

1) Pork:

Pig flesh is called as Pork. Different names are given for different parts of the flesh from the back and sides is called Bacon and from the thigh Ham, Production and marketing pork and pork products carried out by number private factories along with few government factories Central Dairy (Bacon Factory), Aligarh, MAFCO Bacon Factory, Borivali, Mumbai: Meat Complex, Alwar, processing plant, Kharar, Punjab and Government Bacon Factory, Kanke, Ranchi are some

2) Bristles

Bristles are wiry and stiff hairs present on the back and neck of pigs, hogs and wild boars, Bristles obtained from flank belly are short bristles. Living pigs produce good quality bristles than the slaughtered pigs. Pigs of U.P. M.P. yield desi bristles whereas pigs Himalayan and Darjeeling district yield Darjeeling bristles. Bristles may be black, white and grey in colour. Bristles are used for painting and washing work.

3) Sausages

For the preparation of sausages, the pork washed and then cooked. To develop taste, spices such as white pepper and paprika are mixed. The pork should be fresh and minced. Usually bacons, ham and shoulder pieces are used for making sausages.

4) Lard

Lard is the pig fat which has been squeezed from the body. To prepare lard, slaughtered animal is cut into pieces, minced and boiled. While boiling the fat gets separated and removed. The pig fat lard is used in making waterproof materials, lubricants, greases, candles

5) Enzymes, Hormones Extracts

Enzyme pepsin, hormones such as thyroxin, pituitrin, insulin and testosterone and liver extract are obtained from different organs

6) Toe-nails

Toe-nails derived from slaughtered pig are used in making plastic material

7) Blood

Blood collected from slaughtered animals is used as a manure and as food for livestock and poultry.

➤ Present Status

Piggery industry developing as cottage industry. Government disbursing loans with subsidies raise the economic condition people pig farming. Indian Council Agriculture research, Delhi is making efforts in the field pig research breeding. Breeding stations bacon factories functioning twenty of the country. Government provides subsidized on very soft terms and conditions encourage to start pig farming.

Pig is the most important livestock in the Mizoram state and plays a major role in the livelihood of the small farmers. A study was conducted on pig farming and 100 farmers were selected from the Mizoram state. The farmers of Mizoram reared the pigs in confinement in raised platform constructed with woods and bamboos and in most of the farms (97%) the floor space was inadequate against per adult animal. Majority (92%) of the farmers' rear cross-bred pigs and (75%) followed artificial insemination practices. All the farmers followed stall feeding and supplied kitchen waste with certain weeds, after boiling, to their pigs while only half (50%) of them offered concentrate feeds (maximum 1kg per pig). Further, majority (61%) of farmers never used any feed supplement like mineral mixture, vitamins etc. They feeds to the pigs twice daily, at morning and evening.

There is also one study conducted in Ranchi district of Jharkhand that compare the knowledge level of organized and unorganized pig farm owners and how they use this knowledge to improved pig rearing practices. There were selected nearly 25 organized and unorganized pig farm owner and performed structured interview. The study revealed that majority of the respondents of both organized and unorganized pig farms were middle aged (64.00% & 60.00%), belonging to SC/ST category (80.00% & 84.00%), having large sized family (68.00% & 44.00%) and possessing large stock size (92.00% & 42.00%). This study showed that the majority of the owners of organized pig farms were having high level of knowledge whereas majority of the owners of unorganized pig farms were having medium level of knowledge about different improved pig rearing practices. majority of the owners of organized pig farms were having high level of knowledge about breeding (60.00%) & feeding (72.00%) practices and different diseases of pigs

likeswine pox, swine fever and FMD (80.00%), while In unorganized pig farms, majority of the farmers were having medium level of knowledgeabout different improved pig rearing practices likebreeding(48.00%), feeding(72.00%).

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