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Pig Management System in Organized and Unorganized Farm in Jaipur and Alwar District of Rajasthan, India

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A B S T R A C T

The study attempts to investigate the social status and husbandry practices of pig farmers in Jaipur and Alwar district of Rajasthan state, where 10 organized and 20 unorganized farms were selected. Population and production trend of pig husbandry in India and around the world reveled that pig population in India had consistently decreasing trend from 13.29 million (1997) to 10.29 million (2012) whereas world population showing increasing trend from 830.37 million to 969.89 million. Regarding socio-personal variable in present study it was shown that in organized sector maximum respondents (75%) were middle aged and had Graduate (80%) level of education whereas in unorganized sector maximum respondents (65%) were middle aged and illiterate (65%). Regarding housing practices the type of housing system was intensive (65%) in organized farm with single slope roof (70%) whereas in unorganized farm (100%) respondents had semi- intensive system with flat roof (100%). In feeding practices, stall feeding were practiced by (100%) respondents in organized farm whereas in unorganized farm (72.5%) respondents were followed the scavenging feeding practice. Regarding breeding practices in organized farm the breed of animals were crossbred (100%), twice farrowing in a year reported by (100%) respondents whereas in unorganized farm undescriptive breed was reared by (92.5%) respondents, twice farrowing in a year reported by (82.5%) respondents. Regarding healthcare practices, in organized farm deworming was irregular by (80%) respondents, the most prevalent diseases were diarrhea reported by (45%) respondents whereas in unorganized farm deworming was never done by (100%) respondents, the most prevalent disease was diarrhea reported by (77.5%) respondents. In organized farm the market weight of 100 kg recorded by (75%) respondents, the market age of 10 -12 month reported by maximum (80%) respondents, marketed through middleman and pig were mainly marketed in North eastern regions of India (55%) whereas in unorganized farm the market weight of 50 -60 kg and market age of 5-7 month were reported by (100%) respondents, and the main marketing area was local market.

Introduction

Animal products plays an important part in food security for its contribution as source of high quality, balanced bioavailable protein and numerous critical micronutrients, including iron, zinc, and vitamins. Thus, moderate consumption of animal-sourced food plays an

important role in achieving a nutritionally balanced diet, especially in the developing world.

Pigs have been described as one of the most prolific and fast growing livestock species which can convert food waste to valuable products, excel in converting feed to meat compared to other red meat animals, such as cattle, sheep and goats (Vicente *et al.,* 2011).

Rearing of pig in our country was earlier considered as the practice adopted by only economically and socially weaker (low caste) section of the society particularly in the mainland of the country, but with the passing of time, advancement of science and technology, problem of unemployment, increase gap between demand and supply of meat, other section of the society also started developing favorable attitude towards pig rearing.

In Rajasthan state, highest population was in Jaipur and Alwar district as 21.2 thousand and 15.1 thousand, respectively. So far no systematic study has been conducted in the region regarding husbandry practices and marketing in piggery sector in the state of Rajasthan. Considering the importance of pig rearing, the present study was conducted to find out the existing management practices and major constraints in pig farming in the selected areas.

Materials and Methods

The study was undertaken in two selected districts i.e. Alwar and Jaipur of Rajasthan. A total of 10 organized farms and 20 unorganized pig farms were randomly selected from each selected district for the study. The pig farms were categorized as organized and unorganized farm according to their pig rearing patterns. The organized pig farm for this study has been considered to be those pig farmers who adopted following criteria i.e. rearing more than 100 pigs and have a housing system and unorganized farmers were selected, irrespective of pig numbers. A questionnaire incorporating all the variables were designed in consultation with animal husbandry experts, to study the breeds of animals possessed by the respondents, variety of management practices under which pigs are reared had been incorporated in the questionnaire.

Results and Discussion

Salient observations of production and management practices followed by the farmers are presented in the Tables.

The results represented in Table 1 revealed that the majority of the respondents in organized and unorganized farm were belonged to middle age group (75% and 65%) followed by old (15% and 15%) and young age group (10% and 20%), respectively. Similar findings were also reported by Kumar *et al.,* (2004). It was observed that 80 % of the respondents were graduate level and above while 20% upto intermediate in organized farm whereas in unorganized farm the respondents were illiterate (65%), primary level (7.5%), middle level (17.5%), and high school level (10%) as presented in table 1. These finding is in conflicts with that of Sasikala *et al.,*(2012) and Fualefac *et al.,*(2014).

Regarding the housing practices it was observed that in organized farm the major housing type was intensive system (65%) in which pigs were housed in separate pens according to their age group. About 35% respondents were followed the semi intensive type of housing system whereas in unorganized farm the semi intensive type housing followed by 100% respondents (table 2). The above findings were in consonance

with the findings of Machebe*et al.,* (2009). The type of floor was concrete (Pacca) in both organized and unorganized farm 100 % and 80%, respectively. Roof type was Flat (100%) in unorganized farm whereas single slope was provided by 70% respondents. These findings were in line with the findings of Ajala *et al.,* (2007).

Most of the respondents (92.5%) in unorganized sector were rearing indigenous / desi breed whereas in organize sector it was mostly (100%) carried out with exotic and crossbreed (Middle white Yorkshire) animal (Table 3). It was shown that there was lack of artificial insemination for breeding and only natural service was the mean of breeding in both organized and unorganized sector. The present study was also supported by findings of Fualefac *et al.,* (2014) and Deka *et al.,* (2007). In organized sector 80% of the respondents had the ability to detect the heat whereas in unorganized sector 65% respondents only (Table 3).

The results as presented in table 4, shown that the stall feeding was practiced only in organized farm by all the respondents whereas in unorganized sector most of the respondents 72.5% were followed the scavenging type of feeding practices and 27.5% respondents followed the scavenging with morning and evening ration to pig as observed by Njuki *et al.,* (2010).

Table.1 Distribution of respondents according to their personal attributes

Personal attributes		Organized (N=20)	Unorganized (N=40)
		Per cent	Per cent
Age	Young (Up to 30 years)	10	20
	Middle (31 to 50 years)	75	65
	Old (Above 50 years)	15	15
Education	Illiterate	0	65
	Upto Primary level	0	7.5
	Upto Middle level	0	17.5
	Upto High school level	0	10
	Upto Intermediate level	20	0
	Graduate & above	80	0
Occupation	Agriculture	45	0
	Service in government sector	20	0
	Trade & commerce	35	45
	Labour	0	55
Family Size	Small (< 5 members)	20	7.5
	Medium (6- 9 members)	50	67.5
	Large (> 9 members)	30	25
Herd Size	Small (upto 150)	40	-
	Medium (150 – 250)	45	-
	High (more than 250)	15	-
	Small (upto 3)	-	25
	Medium (3 – 8)	-	52.5
	High (more than 8)	-	22.5

Table.2 Percentage of housing practices in the area

Variables		Organized	Unorganized
		Per cent	Per cent
Type of house	Intensive	65	0
	Semi- Intensive	35	100
Floor	Kutcha	0	20
	Pacca	100	80
Type of Roof	Flat	30	100
	Single slope	70	0
Roof Material	R.C.C	30	0
	Tin Shad	70	37.5
	Stone Slab	0	62.5
Material used in walls	Brick with lime/ cement	100	67.5
	Brick with mud	0	32.5
Manger Feeding	Yes	100	27.5
	No	0	72.5
Ventilation	Low	20	100
	Optimum	80	0
Bedding material	Yes	35	0
	No	65	100
Light in farm	Low	35	65
	Optimum	65	35
Presence of guard rail	Yes	0	0
	No	100	100
Drainage system	Efficient	90	27.5
	Non – efficient	10	72.5

Table.3 Percentage of breeding practices in the area

Variables		Organized	Unorganized
		Per cent	Per cent
Breed of swine	Yorkshire	100	7.5
	Non- descript	0	92.5
Service of sow	Natural service with boars	100	100
	Artificial insemination	0	0
Heat detection	Yes	80	65
	No	20	35
Castration	Yes	100	42.5
	No	0	57.5
Sow farrowed in a year	Twice	100	82.5
	More than twice	0	17.5
Litter size (in numbers)	4-6	55	72.5
	6-8	45	27.5
Time of weaning	in 1 month	35	-
	in 1-2 month	65	-

Table.4 Percentage of Feeding Practices in the area

Variables		Organized	Unorganized
		Per cent	Per cent
Feeding of animal	Stall feeding	100	0
	Scavenging feeding	0	72.5
	Scavenging with morning and evening ration	0	27.5
Type of feed	Kitchen waste	0	27.5
	Hotel waste	35	-
	Hostel waste	40	-
	Mix. Of Hotel and Hostel waste	25	-
Process of purchasing	Direct Purchasing	45	-
	Presence of middleman	55	-
Quantity of feed provided (kg)/day	20 -30	35	-
	40-50	55	-
	50-70	10	-
Additional Feeding	Vegetables	50	-
	Cereal grain	5	-
	Mill by products	25	-
	Mixture of all	20	-
Frequency of feeding	Once	0	-
	Twice	100	-

Table.6 Percentage of marketing area and pattern

Variables		Organized	Unorganized
		Percent	Percent
Selling weight(kg)	50-60	0	100
	100	75	0
	120	25	0
Selling age (month)	5-7	0	100
	9-10	20	0
	10-12	80	0
Sale price (Rs/kg)	≤100	80	30
	>100	0	70
Quantity of animal in a batch	50	25	0
	100	60	0
	150	15	0
Presence of middle man	Yes	100	0
	No	0	100
Transportation of animal	By Train	55	0
	By Truck	45	0
Marketing Area	North eastern area of India	55	0
	Delhi	30	0
	Gurugram	15	0
	Local Market	0	100

Table.5 Percentage of healthcare practices in the area

Variables		Organized	Unorganized
		Per cent	**Per cent**
Deworming	Regular	20	0
	Irregular	80	0
	Never	0	100
Vaccination	Yes	0	0
	No	0	100
Fe injection/ tablet to piglets	Yes	65	0
	No	35	100
Removal of needle teeth	Yes	70	0
	No	30	100
Veterinary Aid available	Satisfactory	15	0
	Poor	85	100
Mortality of pigs	Upto 1 month	60	55
	1-3 month	30	22.5
	Above 3 month	10	22.5
Causes of piglet mortality	Piglet anaemia	45	0
	Crushing of piglets	35	0
	Unknown diseases	20	100
Prevalence of disease	Diarrhea	45	77.5
	Skin disease	25	22.5
	Influenza	30	0
Isolation of sick animal	Yes	100	0
	No	0	100
Cleaning of pig sty	Daily	85	0
	Alternate day	15	25
	Weekly	0	75
Burial of carcass	Yes	100	100
	No	0	0

In organized sector, feeding of hotel waste, the hostel waste and combination of both were provided as feed by 35 %, 40% and 25% respondents respectively and those feeds were consist of damaged vegetables, bread, chapatti, Rice and mixture of leftover food. Regarding the purchasing of the food in organized sector it was carried out by direct purchasing (45%) and by involvement of the middle man (55%). The quantity of the feed provided to the pig was 20 -30 kg, 30 – 50 kg and 50 – 70 kg / day by 35%, 55% and 10% of respondents, respectively. Regarding the healthcare practices it was observed that the respondents followed the deworming practices in organized sector only in which 80% respondents had irregular deworming schedule and only 20% did deworming regularly. The Vaccination was also practiced by respondent of organized sector. Supplementation of iron injection was also practiced in organized sector only by 65% respondents (Table 5). In organized farm the practice of removal of needle teeth done by 70% of respondents and in unorganized farm this is not practiced by any farmer. The disposal of carcass by burial method was practiced by all the respondents irrespective of organized and unorganized sector. The present findings more or less were in support

of Kumar *et al.,* (2004), Deka *et al.,* (2007), Roy (2014) and Ritchil *et al.,* (2013).

According to the result findings (Table 6) it was observed that the selling weight of the pig in organized farm were 100 kg and 120 kg and majority of respondents (75%) sell their pig at 100 kg body weight whereas 25% respondents sell at 120 kg body weight, in contrast with unorganized farm where 100 % respondents sell their pig at 50- 60 kg body weight, according to their need. The marketing age of pig in organized farm was 9-10 months and 10 -12 months. 80% of the respondents were selling their pig at 10 -12 month of age because of the market weight of pig was achieved at this age (10-12 month) whereas in unorganized sector the market age of the pig was 5-7 month as well as their need.

It is concluded from the present study among various livestock species, pig is considered as one of the most meat producing animal around the world, pork contributes highest (36.57% of total meat production) towards the meat basket of the world, Share of meat production from livestock sector (1.96%) of India towards world meat production is very less and contribution of piggery is even very negligible. Lack of knowledge about scientific breeding, feeding, healthcare management etc. along with unorganized marketing facility and various severe constraints faced by farmers. Piggery sector has not come up well, despite of many more advantages, benefits and huge demand of pork in the country.

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