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CONSTRAINTS TO EFFECTIVE PIG PRODUCTION IN ORLU AGRICULTURAL ZONE OF IMO STATE

Obiora, Charles Chukwuma (PhD)
charlesobiora113@gmail.com
07032472530
Department of Agric. Edu. Federal College of Education (Technical) Asaba
Nigeria

Ojogbane, Joseph Adams
Department of Agricultural Economic and Extension Delta State University Abraka

ABSTRACT
The study investigated pig production with the view to proffering possible solutions to the identified problems. All the 101 register pig farmers in Orlu agric zone of Imo State make for the population of the study and the sample size. The data for the study was obtained through the use of structured interview and the data obtained use analyzed using the percentage method. The study revealed among other things is constrained with inadequate agricultural informative/education in pig production, poor financing and it was recommended among other things that pig farmers should be subjected to adequate agricultural education/information on pig production by agricultural extension agents in the state and locality. Pig farmers should be subjected to adequate agricultural education/information on pig production by the agricultural extension agents in the locality.

Introduction
Pig farming or big production is the raising and breeding of domestic pigs as livestock, and is a branch of animal husbandry. Pigs are farm ed principally for food (e.g. pork: bacon, ham, gammon) and skins. Pigs are amenable to many different styles of farming: intensive commercial units, commercial free range enterprises, or extensive farming (being allowed to wander around a village, town or city, or tethered in a simple shelter or kept in a pen outside the owner's house). Historically, farm pigs were kept in small numbers and were closely associated with the residence of the owner, or in the same village or town. (Flisser et al 2011). They were valued as a source of meat and fat, and for their ability to convert inedible food into meat and manure, and were often fed household food waste when kept on a homestead. (Lander and mindi 2020). Pigs have been farmed to dispose of municipal garbage on a large scale.(Jane 2021) All these forms of pig farm are in use today, though intensive farms are by far the most popular, due to their potential to raise a large amount of pigs in a very cost-efficient manner.(Hullis 2014) In developed nations, commercial farms house thousands of pigs in climate-controlled buildings. (Swine extension 2020). Pigs are a popular form of livestock, with more than one billion pigs butchered each year worldwide, 100 million in the United States. The majority of pigs are used for human food, but also supply skin, fat and other materials for use in clothing,

ingredients for processed foods,(Mother earth news 2012) cosmetics,(Ingredient lard 2017) and medical use.(Materials from pigs 2018)

Significant Characteristics of pigs

- It has a short gestation period of 114 days, i.e., three months, three weeks and three days
- They mature very early; a piglet gets to 60-90kg market weight in 6-9 months.
- Pigs are good converters of feed into meat. They can easily convert industrial, agricultural and compounded feed into meat more cheaply and rapidly than most other domestic animals.
- Pigs have an excellent dressing percentage, i.e., the proportion of flesh to bone is high.
- Pigs require a very little investment in terms of building and equipment
- Pigs are polyestrous animals. This means that pigs can be bred at any time of the year.
- The salvage value of pig is high. That is, the price at which an old pig can be sold off is high.
- The initial investment in getting into the enterprise is small and returns come very quickly.
- Pork is a good source of protein. It is high in energy, attractive, nutritious, tasty and tender.

Major Systems of rearing pigs

There are three systems of rearing pigs. These are Extensive, semi-intensive and intensive systems.

Extensive system: In this system, the pigs are allowed to roam about and fend for themselves. This system has little or no capital investment and the cost of production is low. However, disease incidence of worm infestations is very high. The animals are exposed to adverse weather conditions. **Semi-intensive system:** In this system, housing is provided for the animals and they are allowed to move out produced on natural vegetation. The system needs less capital investment but the labour requirement, disease incidence and parasite infestations are slightly high. Concentrated feeds are also provided. **Intensive system:** All the pigs are confirmed within a building and are not allowed to move out. The pigs are raised inside the pens of either concrete or iron slated floors. Feeds, water and medications are supplied daily in adequate quantity and good sanitation is maintained. The system saves labour, provides condition for good management standards and easy control of internal parasites, there is also protection from extremes of climate, predators and thieves. The feed efficiency is high, thus the growth rate is also very high. The system requires high capital investment in terms of building and feeding.

Pig Housing has the following features: Pig houses are sheds which provide shelter against harsh weather as well as provide proper hygienic conditions required to maintain healthy growth of the animals. Pig houses should be constructed along the direction of the wind but should be far from residential areas. Pig houses should have low walls made with bricks, stones or concrete cement with low walls to allow free flow of air. The floor should be hard, impervious to water but easy to clean.

It should be cement concrete, iron or concrete slabs. The floor should slope towards the drains with a gradient of 1:40, to ease cleaning. The surface of the floor should be slightly rough to prevent pigs from slippering. The roof should be made from either asbestos, galvanized iron or aluminum sheets. All pens, except farrowing pens, are constructed the same way, with the provision of feeders and drinkers. Farrowing pens, in addition to the feeders and drinkers, should have rail guards so as to prevent the sow from lying over the piglets. The farrowing pens should also have creep areas where the food of the piglets is kept. Such partition prevents the sow from eating up the nutritious food for the piglets.

Processes of pig Feeding are: Feed cost represents 70-80% of total cost of producing swine. Feeds given to all categories of pips should be balanced in nutrients, i.e., it should contain all nutrients required for growth and production. Breeder's mash (15% protein) should be fed t9o breeders to prevent body fat deposition but keep them thrifty. Flushing of the breeder should be done 7 to 10 days before breeding and maintained until the animals are bred. Flushing is the process by which the feed intake of the gilt or sow is increased so that it can produce more eggs or ova and consequently more number of fertilized eggs or ova and large litters or piglets. Pregnant or in-sows should not be overfed during gestation period to prevent fat deposition which leads to small litter size and difficulty in parturition. Laxatic, diet, rich in high fibres (grasses) should be given to in-sows to aid easy parturition and lactation. The young piglets should be given creep feed (22%) protein as from two weeks of gate to promote rapid growth of the piglets. As soon as the piglets are weaned, they should be given weaner's mash which contains about 18% protein for about 14 weeks at an average rate of lkg for a pig per day. The pigs are also fed on fatteners' mash (1496protein)) during the fattening stage when pigs do not require high proteinous feed. The pigs are fed at an average rate of 2kg per pig in a day till they reach market weight of 60- 90kg at seven months of age. Pigs, being omnivorous animals, can feed on kitchen wastes, grasses, remains of hotel food and other by-products of brewery and dry wastes.

Health management practices in pig productions included: Clean pig pens regular by scrubbing the floors. Disinfect the pigs house at regular intervals to make it germ-free. Clean the feeders and watering troughs to prevent contamination. Isolate any sick animal for treatment to prevent spread of diseases. Remove and bury dead animals. Deworn the pigs with drugs and vaccinate them against disease.

Common diseases of pigs: common diseases of pigs include: brucellosis, anthrax, brvine mastitis, hog cholera or sine fever, pleuripnemonia, enterits or swine dysentery and transmissible gastro-enteritis: **Brucellosis or contagious abortion:** this disease is caused by a bacterium called **Brucella abortus.** Symptoms include: high fever, diarrhoea and dysentery, posterior paralysis and premature

abortions. The disease is transmitted through contaminated feed, water and infected animals. **Control measures** include: isolation of infected animals, proper sanitation and regular vaccination. **Anthrax**: This disease is caused by a bacterium and transmitted through contaminated feed, water, equipment and infected animals. **Symptoms** include: high fever, depression, blood oozing from nose, mouth, anus, or carcass, lack of appetite and sudden death. Control is by proper sanitation, vaccination and isolation of infected animals. **Enteritis or swine dysentery**: this is a bacterial disease that causes seriuous digestive traodisorder. Symptoms include high temperature, loss of appetite, frequent passage of water, foul smelling faeces (which may be bloody) and loss of weight. **Control** measures include the administration of sulphur drugs and antibiotics such as teramycin and aureomycin. **Hog cholera or swine fever**: This disease is caused by a virus. It affects pigs of all ages. **Symptoms include**: High body temperature, diarrhaea and vomiting. The only control measure is to kill affected animals and bury them. **Transmissible gastro-enteritis**: This disease is caused by a bacterium and attacks piglets mostly. **Symptoms** include diarrhoae, vomiting and sudden death. The faeces of affected piglets are usually white or green. Antibiotics and sulphonhamide drugs are used to care the disease. **Management and care of pigs:** The management of pigs from breeding to market size can be grouped into three phases, these are. **Breeding to farrowing or birth:** breeders (gilts and boars) are housed in the breeders' house, made of concrete floor, low wall and galvanized iron roofing sheets. Boar and gilt should be at least eight months before they are bred. The gilt must have, at least, twelve well-spaced functional reats and good temperament and should not be obese. Two weeks before mating, the gilt must be dewormed and sprayed with insecticide to remove internal and external parasites. **Flushing:** should be done 7 to 10day before breeding and maintained until the animals are bred. Flushing is the process by which the feed intake of the gilt or sow is increased so that it can produce more eggs or ova and, therefore, more number of fertilized eggs or ova and large litters or piglets. The gilt or sow is mated on the second day of hear and second mating is done 24 hours later. The gilt or sow should be well fed during gestation period but not overfed because there is the tendency for fat deposition which leads to a small litter size, insufficient milk production and difficulty in parturition.

They should be fed on Breeder's mash breeders should be given sufficient exercise to prevent the deposition of fats. Sows and gilts should be given blaxative diet, rich in high fibre (grasses) to aid easy parturition and lactation. Three to four days before farrowing, the sow or gilt should be taken to the farrowing house where it will give birth to piglets farrowing creates, rail guards, beddings, feeding and watering troughs and heating devices should be provided in the farrowing house. An attendant must be present to give a helping hand during farrowing, in case of any difficulty.

Birth of piglets to weaning: When piglets are born, the mucus membrane is wiped from their nose to prevent suffocation. The naval cord is cut and dipped in iodine solution to prevent infection. Heat is provided for the piglets to prevent them from chill. The needle teeth of the piglets are clipped or cut off to prevent injury to the mother's teat and piglets during fighting. The piglets are given first dose of iron dextran injection at two or three days of birth and the second dose two to three weeks later to prevent pig anaemia.

All male piglets, not required for breeding, are castrated at about two weeks after farrowing.
Creep feeding also starts at about two weeks after farrowing Creep feed is high in protein (22%) and other nutrients. It supplements milk in-take from the sow and also aids the growth of the piglets and their early weaning Despite the huge investment in pig production due its dietary value and for general food security, employment and overall economic development, there is still relatively low productivity in the sectors is what spurs this research.

Objective of the study

- To identify the constraints to effective pig production in Orlu Agricultural Zone.

Research question

- What are the constraints to effective pig production in Orlu Agricultural Zone?

Area of the study

The areas of the study in Orlu Agricultural Zone of Imo state Nigeria with 12 Local Government Areas of which all of them engage in agricultural to farming.

Population of the study

All the 100 Pig Farmer in Orlu Agricultural Zone farmers in Imo State make up the population of the study.

Method of data collection

The data was collected through structured interview technique which ideals border on constraints.

Method of data analysis

The data obtained was analysis using the percentage method.

Constraints to effective pig production				
Responses	**Agree**	**Disagree**	**% agree**	**% disagree**
Agric Information (EDU)	96	4	96%	4%
Poor infrastructure	83	17	83%	17%
Poor labour supply	90	10	90%	10%
Poor financing	94	6	94%	6%
Wrong farm location/public complain	92	8	92%	8%
Culture/Religion	2	98	2%	98%
Inadequate marketing	86	14	86%	14%
Feed availability	90	10	90%	10%
Incidence of particite/dishealth challenges	95	5	95%	5%
Breeding challenges	92	8	92%	8%

Result Discussion

The table of data analysis above shows that 96% of the pig farmers in the area are lack adequate while only 4% of them do not lack it. 83% of the pig farmers have poor infrastructure for pig farming while only 17% do not. 90% of the farmers suffer poor labour supply while only 10% do not. 94% of the farmers are poorly financed while only 6% are not poorly financed. 92% of the farmers have their farm in wrong locations and suffer public complains while only 8% do not. Only 2% of the farmers are constrained with religion/culture while 8% of the farmers are not. 86& of the farmers faced with the constraint of inadequate marketing while only 14% are not 90% of the pig farmers have challenges in feed supply access while 10% do not. 95% of the farmers face constraint in managing pig health while only 5% do not. Finally, 92% of the farmer face constraint in breeding of the animals while only 8% do not.

Conclusion

Pig farming in Orlu is of Imo state is confronted with numerous challenges as identified by the study: such as inadequate agricultural information and education, poor infrastructure, inadequate labour, poor financing, wrong farm location/public complaint, poor marketing, inadequate feed supply, animal health management challenges and breeding problems. These identifies problems pose as serious threat to effective pig production and agricultural development. The challenges need urgent attention by the various stakeholder in agriculture.

Recommendations

The study recommends that:

- Pig farmers should be subjected to adequate agricultural education/information on pig production by the agricultural extension agents in the locality.
- Public lectures on pig farming should be organized for the pig farmers both by the agricultural extension agents and school agricultural science teachers to be sponsored by the state government and non-governmental oragnization.
- The government should ear mark areas in the 27 local government area for mainly for pig housing and the general infrastructure needed for pig farming will be made available and functional.
- Financial support to pig farmers through loans, credits and grants should be provided to the pig farmers through the commercial banks and other financial institutions by the government. They should be of low interest rates, and longer pay back period.
- Pig production machines/equipment's should be provided through the ministry of agriculture to reduce the human labour needs of pig production.
- Pig farm settlement scheme should be introduced to prevent indiscriminate location of pig farms in the state.
- Pig markets be established like the cattle markets and prices regulated by the government.
- The government should establish pig feed mills to produce feeds mainly for

pig veterinary clinics and agent should be provided to the effective management of pig health.

- Pig farmers should be regularly inspected by veterinary agents to prevent epidemy.
- The breeding processes in pig production should be managed by the agricultural officers.

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