

Swot analysis of calf fattening and modification biology essay



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Calf fattening is all-inclusive activity, related to meet animal's care, housing, medication, feeding and management. It is defined as all those aspects and activities relating to raising of calves for meat purpose. Before making the decision, whether to invest in the livestock farming or not, one should carefully analyze the associated risk factors. A SWOT analysis can help in analyzing these factors, which can play important role in making the decision.

Since beef demand is increasing day by day, therefore, the demand of fattened calves is also higher. The demand increases especially before occasions like Eid-ul-Fitr and Eidul-Azha. That's why the animals in such occasions are sold at a bit higher prices as compared to other days. The proposed business can be started before these occasions or any time through out the year. At the commencement of the proposed business, it is important that the entrepreneur must have good knowledge of the production and have contacts with the livestock breeders and farmers. The ability to work with people/ animals and efficient use of resources are important aspects in modern and commercial calf fattening farm.

6. 2 Market Potential

In Pakistan, the beef industry is an important segment of livestock production. The increasing population and the rising consumer buying power have together contributed to an increase in demand resulting in relatively favorable prices for beef. Worldwide consumption of meat during 1983 for developed world was 74 kg compared to 14 kg for developing countries and 11 kg for Pakistan. The data for 1993 indicates 76kg, 21 kg and 16kg for the three, respectively. The challenge for Pakistan now is to achieve 47 kg per

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capita consumption by 2020. According to statistics there is a gap in demand and supply of beef in the market. This gap is met through meatless days and through poultry meat.

Animal Markets

The feasibility suggests purchasing calves on live weight basis from the rural areas or animal mandies. The animals are being traded across the country in animal mandies round the year. Most of which operate on weekly basis. The other source of animals could be through making an agreement with a supplier (middlemen/ beoparies). Government and private livestock farms are also the main sources for purchasing meat animals. Animal markets are situated in different places in Punjab, which includes Sheikupura, Okara, Sahiwal, Arifwala, Muridke and Jhelum. These markets operate on rotational basis in a week, or once a month. There are different contractors available in the markets that would help in locating the proper animals. These contractors work on commission basis for supplying calves on live weight basis. Commission rate charged may vary from some %age of the animal price.

Animal Housing

There is a general trend to keep the fattened calves in semi-confinement in order to control waste production, where these calves are confined and housed over slatted floors. All faeces and urine can be collected, thus eliminating the need for using bedding material. At present most of the cattle in feedlots are still kept on concrete floors, or in dry regions, on an unpaved area. More efficient growth rates will be achieved if shade is provided. Solids from manure are either collected daily and stored, or <https://assignbuster.com/swot-analysis-of-calf-fattening-and-modifcation-biology-essay/>

allowed to dry in the feedlot and removed periodically before spreading on fields. Collection of urine is limited to feedlots with a slatted floor. Sheds of the animals should be airy with protection of the animals from extreme temperatures and strong winds. The animal housing should be facilitated with drinking water for animals. There should be proper drainage system to keep hygiene at the farm. It consists of a built up animal shed, a brick soling paddock for animals, one room for storing farm equipment and one for compound feed storage. But the pre-feasibility has taken feeding manger, open paddock and water trough as the major housing requirement for the calves. Animal sheds should be located with long axis north to south, to get direct sunlight and yet face away from the direction of prevailing winds, whenever possible. Tree plantation can be carried outside the sheds to provide natural shades and these trees will also act as windbreakers. Dimensions of water troughs will be the same as that of feeding mangers and water will be available round the clock. Generally all the animals feed at the same time in a shed, but not all animals drink water simultaneously. The following figure shows the animal housing layout for calf fattening farm.

Feed

Ration for Calf Fattening

The ration is allowance of nutritionally balanced Total Mixed Ration (TMR) in 24 hours

to increase animal productivity. Wheat straw⁶ is also used as dry roughage in TMR. The cost of TMR will be lowered if feed ingredients are mixed on farm. The composition of the rations fed in the finishing operations depends

largely on the types of feed produced local availability and on weights and grades of calves to be fattened. Rations can range from high-roughage low energy rations to high-energy rations composed almost entirely of concentrates. Examples of ingredients in rations are:

Maize and maize silage with Soya bean meal and urea

Barley, maize silage, by-products feeding large feed lots (e. g. potato waste, sugarbeet by-products)

Maize, sorghum grain, alfalfa, straw, cottonseed hulls and molasses.

Some hormone-like growth stimulators, antibiotic feed additives and ionophores (rumen altering factors) are legalized to be included in the feed and are very commonly used.

Average Production Parameters and Ranges

Green Fodder for Calves

Fodder is grown at the land, which is acquired on lease or owned by the entrepreneur. Due to increased demand, improved forage crops such as multi-cut oats, berseem, lucerne, Sorghum- Sudan grass hybrids, mott grass, sorghum, maize and millet have been developed. These have become very popular in irrigated areas such as Kasur, Sheikhupura, Gujranwala, Faisalabad, Sargodha, and Renala Khurd (Punjab), Nowshera, Charsada, Mardan, and Peshawar (North West Frontier Province), and Hyderabad, Sukkur, Larkana and Nawabshah in Sindh for peri-urban dairies. Details of fodder

cultivars released by Research Institutions in Pakistan are given in Annex 2. Average forage yields in Pakistan are extremely low compared to yields obtained on research institutes and from well-managed farms and fields. These are very low as compared to their potential, with 22.8 tons per hectare a recent estimate⁸. Although improved varieties and technology are available, they have been slow to reach the dairy farms. Recent medium scale on-farm work has indicated that yields can be enhanced two to three fold by using available improved varieties and appropriate agronomic techniques. In an area where land and irrigation are the major limiting factors to enhancing fodder production, intensification is the only way to meet the needs for forage. Intensive and economical forage production per unit area per season would be the best choice. Also efforts should be made to produce and provide sufficient quantities of seed of multicut forage varieties and hybrids like Mott grass to commercial dairy farms. The fodder yield (except multi cut Mott Grass which yields 100-150 tones/ acre in 4 to 6 cuttings per year) varies between 10 tons to 40 tons per acre depending upon the fertility of land, quality of seed and application of fertilizer.

Daily Fodder Requirement

There is no fixed fodder requirement for the animals but a rule of thumb says that an animal needs daily fodder equal to 4.5% of live body weight on Dry Matter (DM) Basis. One third of this DM will come from green fodder and 2/3 rd will be supplemented by TMR in fattening calves to get maximum daily weight gains. According to these estimates, one calf of 80 Kgs body weight will consume 8-10 kgs fodder daily for 120 days (preferred if fed free of choice i. e. ad libitum).

Daily Total Mixed Ration Requirement

Since an animal needs daily feed equal to 4.5% of its live body weight on Dry Matter (DM) Basis. The 2/3 rd of this DM will be supplemented by TMR. For an animal of 80 kgs body weight, it will be 8-10 kgs per day (Preferred if fed free of choice i. e. ad libitum)

Total Mixed Ration (TMR) Formula for calves:

Calves can also be fed on TMR in feed lot system. The Crude Protein (CP) value of this ration should be 12-13 % with 65-70 % Total Digestible Nutrients (TDN). These feed ingredients when mixed according to feed formula will provide adequate energy according to energy and protein requirements of animal.

Mineral Mixture

This is used as a feed supplement. It includes a mix of minerals (magnesium, iron, sodium and salts). Mineral mixtures increase the animal productivity to produce more lean meat. Urea Molasses Blocks can also be used to supplement the minerals.

Wheat Straw (Bhoosa or Turi)

Wheat straw is a major, typical, and very popular feed, it is always chaffed, and is the main or even only major dry roughage used on almost all the farms. Traditional threshing methods break the straw into short pieces. Modern mechanical threshers have been designed to break the straw. In places where it is produced, it is available at Rs. 1.0 per kilo. In recent years baling units have been installed in central Punjab; bales are transported to major cities, even to Gilgit, Skardu, and Chitral.

Daily Feed Requirements for One Fattened Calves in 120 Days

Vaccination & Medication

Vaccination & medication is required to prevent any disease outbreak in the animal herd. Each new animal will be vaccinated before putting into the farm. Anthelmintics are used to treat the animals for internal parasites where as spraying and dipping with some disinfecting solution is used to eradicate external parasites. The total cost will be Rs. 200 per animal.

Vaccines are produced at Veterinary Research Institute, Ghazi Road, Lahore. The vaccines are provided to the Government Farms and Hospitals on payment. Farmers can also obtain these vaccines on payment according to prescribed schedule from the Institute. Technical guidance is also provided to the farmers. Farmers can have their animals vaccinated from the field Veterinary Hospitals and Centres.

7.7 Calf Quarantine

A quarantine yard will be made for new animal handling, dipping, weighing, and vaccination etc. The newly purchased animals will be dewormed and medicated with proper and necessary vaccinations in this yard. Only the disease free animals will proceed to the feedlot from the quarantine sheds. Quarantine arrangements will minimize the chances of disease spread in the farm by ensuring that the new animals do not carry any disease before they are taken to the main sheds. This seven-day period will also be helpful in acclimatizing the new animals before they enter the main feedlot sheds. The behavior of the animal will be recorded during these seven days and then its

requirement of feed will be calculated accordingly before sending it to the main feedlot.

Labor Requirement

For a calf-fattening farm, manpower is required for performing different animal husbandry practices at the farm e. g. housing, feeding, watering, medication and care of animals etc. One person can handle 25 calves easily for feeding and other management.

FARM OUTPUT

The fattening period is the period during which the animal puts on weight. These animals are called fattened animals. Generally the period is 90-120 days. Following are the desirable size and thickness of fattened animals.

Large frame size with no. 1 thickness is desirable.

Meat Composition

Like all meat, beef is also very high in protein. It also contains significant quantities of ' B' vitamins and minerals such as sodium, potassium and phosphorus. Offal, particularly liver, is rich in Vitamin B12, A, C and D, folic acid, iron and riboflavin. The moisture content of lean meat is 75-79 % where as the crude protein content is 18-22 %. There is a 5-6. 5 % mineral content in it. The percentage of lean meat, bone and other tissues of carcasses of different breeds is given as under;

Increase in weight gains