EXECUTIVE SUMMARY OF THE PROJECT OF IMPLEMENTATION OF BREEDING OF BOVINE CATTLE AND MILK, IN THE CITY OF LAGOS, NIGERIA

INTRODUCTION

Cattle breeding has been prominent in the economy as an important activity, both economically and socially, and has been assuming a leading position in the world meat market.

In the first place, the actions developed for the eradication of foot-and-mouth disease can be highlighted, which have resulted in an improved perception of the quality of the product by the countries that import the product.

Another additional characteristic of valorization was the confirmation of the production of safe food, since most of the Brazilian herd is fed on pasture. Other factors, such as soil, climate and human resources, have become comparative advantages that, together with the territorial extension, have allowed the country to offer high quality beef in domestic and foreign markets in increasing volumes and at competitive prices.

In addition to these factors, beef export tracking initiatives, specifically for the European Union, have contributed significantly to meeting the expectations of international consumers regarding food safety.

In order to ensure the quality and safety of food, consumer groups, non-governmental organizations (NGOs) and supermarket chains, linked to the national and international meat trade, have demanded from their suppliers the implementation of quality control processes, certifying that The products offered are in accordance with the norms and requirements of the market.

Another requirement of the market, besides the quality of the product, refers to the sustainability of the production systems, that is, those that respect the environmental laws are socially fair, economically viable and provide good deals with the animals.

The voluntary implementation of Good Agricultural Practices (GAP) will also enable the identification and control of the various factors that influence the production process,

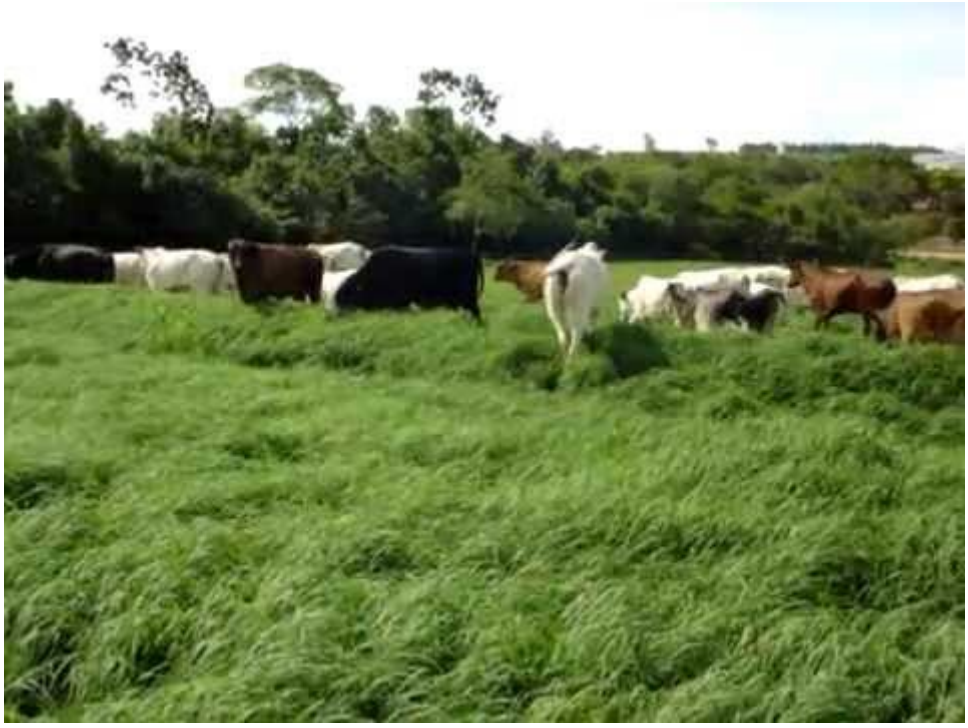
making it more competitive and secure, expanding the possibilities of conquering new markets, as well as Losses of raw material and final product.

If applied correctly, the Good Agricultural Practices, besides being useful, should represent an important step to obtain the effective control of the quality for the certification of the final product.

The information contained herein addresses, in a general way, the main demands for the sustainable production of a safe food targeting both the foreign market and the national market. However, in order to address this specific Nigerian demand, it is imperative to consult accredited certifiers for these markets.

The scope of this project, in addition to providing protein for the population involved, will also bring about an economic-social increase, since it will enable the development of the region, at all levels.

Social function of rural property



It deals with meeting the criteria and requirements established by law in the social, environmental and productivity areas of the rural property.

Importance

The social function is fulfilled when rural property has productivity indexes compatible with the region and infrastructure, uses the available natural resources appropriately, respects the environment and complies with social and labor legislation.

Guidelines related to the social function of rural property

Social area

Draw up employment contract and register in the portfolio all employees.

Do not use child labor and / or slave labor.

Make contributions to Nigerian government bodies.

Provide employees with housing in good housing conditions.

Environmental area

Verify the Legal Reserve in the registration of the property with the Registry of Real Estate.

Implement a project for recovery, regeneration or compensation of the Legal Reserve if it does not exist.

Full protection of the occupation and use of permanent preservation areas (riparian forests, floodplains, slopes with more than 45 °).

Productivity index

The productivity index is evaluated by calculating the Land Use Rate (GUT) and the Efficiency Degree in Exploitation (GEE):

GUT: refers to the appropriate use of available natural resources and conservation of the environment.

GEE: refers to the rational and adequate use of resources.

In order to fulfill its social function, the rural property will have to have GUT and GEE equal or superior to 80% and 100%, respectively.

Social responsability

Trata das relações sociais e trabalhistas que regulamentam a participação do trabalhador rural nos sistemas produtivos, tendo a ética como base, e como parceiros, a cultura e os valores morais que são inseparáveis.

Importance

Rural properties are part of the society in which they are inserted; Therefore, have as responsibility to meet social and labor obligations, and to observe the impact they have on human well-being, the environment and society.

In this way, they will generate financial resources, provide benefits to their environment and meet the demands of markets that seek a final product with quality and safety, resulting from competitive, environmentally correct and socially just production chains.

Guidelines related to the social and labor area

Employment contract

All employees must be registered and in their contracts must be specified all the agreements agreed between the parties.

When termination of employment contract occurs, for those with deadlines over twelve months, it is mandatory to homologate the labor union, under penalty of nullity.

Health and hygiene

The employee and his or her family should be educated about hygiene and health basics and provide conditions for access to preventive public health.

Education

The employer should facilitate children's access to school.

Weekly rest

The employer must ensure weekly rest to the employee.

Training and training

Employees should receive periodic training to enable them to perform their duties and personal development. Records must be kept of all employees trained to prove the training performed.

Rural Work Safety

There are mandatory measures and must be observed by both the employer and the rural employee. It includes the guidance and training of the rural worker for the correct use of personal protective equipment (PPE) and safety measures in the storage, preparation and application of pesticides and veterinary products.

Home

Provide employees with housing in good housing conditions. Observe the provisions of law, regarding salary discounts for the housing available. If there is no discount, according to the collective labor agreement, this amount can not be included in the salary, but must be included in the employment contract.

feeding

If the employee receives food, it can be deducted from the salary by up to 25% of the national minimum wage. If it is not discounted, according to the collective labor agreement, this amount can not be included in the salary, but must be included in the contract.

Slave and child labor

They are prohibited by labor legislation.

Environmental management

It deals with the appropriate management of natural resources in rural property, in accordance with environmental laws and recommended techniques for soil conservation, biodiversity, water resources and landscape.

Importance

Aside from being a market requirement, it is a matter of common sense and global awareness. Environmental laws can ensure the persistence and cost-effectiveness of production systems, and those who comply with it, give consumers and their products a distinctive image to consumers.

Nigerian environmental legislation and standards need to be considered so that they are not misappropriated and allow full and unrestricted compliance.

Guidelines related to the environmental area

Areas of permanent preservation

They are those protected by law. The total or partial suppression of forests and other forms of natural vegetation in these areas will only be allowed with the prior authorization of the Federal Executive Power, when necessary for the execution of works, plans, activities or projects of "public interest or social interest", defined by act Declaration of governmental authority.

Forests and natural vegetation should be preserved under the following conditions:

Along the rivers or any watercourse from its highest level in marginal strip whose minimum width will be:

30 m For water courses up to 10 meters wide

50 m For water courses between 10 and 50 meters wide

100 m For water courses between 50 and 200 meters wide

200 m For water courses between 200 and 600 meters wide

500 m For water courses with a width exceeding 600 meters wide

Around natural or artificial ponds, lakes or reservoirs.

In the springs, although intermittent, and in the so-called "eyes of water", whatever their topographical situation, in a minimum radius of 50 meters wide.

On top of hills, hills, mountains and mountains.

On slopes or parts thereof, with slope greater than 45 °, equivalent to 100% in the line of greater slope.

In the restingas, as dune fixers or stabilizers of mangroves.

At the edges of the trays or veneers, from the line of rupture of the relief, in a band never less than 100 meters in horizontal projections.

At an altitude of more than 1,800 meters, whatever the vegetation.

Mandatory legal reserve

It is the area of forest or other forms of native vegetation with recognized ecological importance, with the purpose of being preserved inside the rural property, except for permanent preservation.

It aims to conserve biodiversity and provide shelter and survival conditions for local species of fauna and flora.

The vegetation of the legal reserve can not be suppressed and can only be exploited under a sustainable forest management regime, in accordance with principles and technical and scientific criteria established in regulations.

Sustainable exploration can be carried out by presenting a management project under the supervision of forestry engineers and with the prior authorization of the environmental control body.

The minimum percentage of legal reserve for rural properties located in forest areas in the Legal Amazon should be maintained. This percentage can be reduced to up to 50% when there is ecological, economic and agricultural zoning.

For rural properties located in cerrado areas of the Legal Amazon, the legal reserve percentage is 35%. In other ecosystems, the legal reserve percentage is 20% of the total property.

Areas with inclination between 25 and 45 degrees

It is not allowed to clear forests located in areas of inclination between 25 and 45 degrees, with only logging being tolerated in them when under rational use.

Environmental Licensing and Environmental Authorizations

To verify the establishment of the National Environmental Policy, it establishes the

Licensing in the situations described below.

Before the construction, installation, expansion and operation of establishments and activities

Considered as effective and potentially polluting, as well as those capable, in any way, of causing environmental degradation.

environmental education

Awareness of employees and their families about the importance of conservation and preservation of the environment. This encourages simple and effective habits, such as separation of garbage, the correct destination of medicine bottles and agrochemicals, non-permission of wild animals in captivity and others.

Waste disposal

Some precautions should be observed to avoid contamination of soil, water and food by residues of any nature from agricultural pesticides, veterinary products and household waste, such as:

Carry out the selective collection of household waste and consult the competent authority of the municipality for

Determine the final destination.

Temporarily store the containers with their respective covers and labels and,

Preferably stored in the original cardboard box, in a place covered under rain and ventilated.

CUTTING CATTLE

Rural facilities

It deals with the adequacy of the farming facilities so as not to cause damage to the leather and the bovine carcass and to guarantee the safety of the personnel responsible for the handling of the animals.

Importance

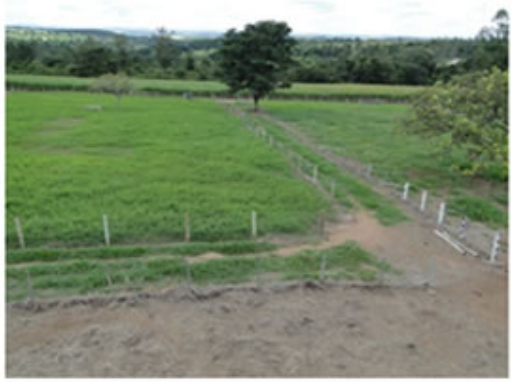
The facilities for the production of beef cattle must be characterized by aspects related to functionality, strength, economy and safety.

Inadequate installations can compromise the quality of the final product, due to the occurrence of bruises and wounds in the carcass and of holes, cuts and deep scratches on bovine leather.

These damages depreciate their commercial value, thus reducing the profitability of the producer.

Guidelines for rural facilities

Fences



They should preferably be of plain wire with rockers, since those of barbed wire cause scratches and holes in animal hide.

Flakes and moirões should not have protrusions, barbs, nails or screws that could injure the animals.

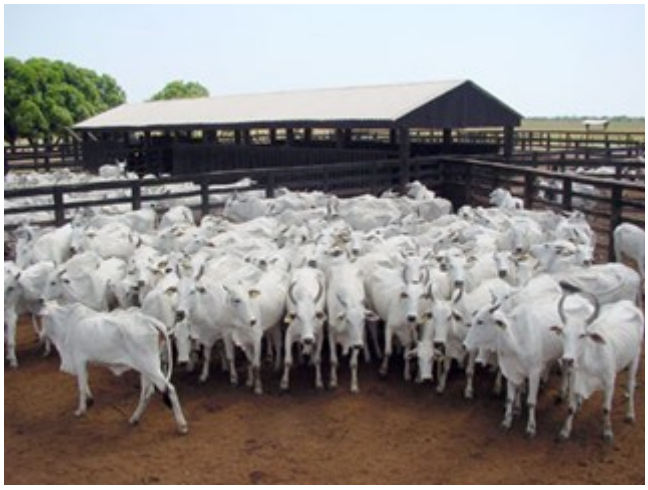
Electrified fences must have adequate voltage, grounding, and insulation to prevent electric shock.

Halls

To facilitate the conduction of the animals, the property must have corridors for conduction to the corral or change of pasture.

Take precautions regarding corridor fences, as per previous recommendations.

Corral



It must be constructed in such a way as to allow for the efficient, safety and comfort of all practices necessary for the treatment of livestock, such as: sorting, marking and identification, castration, vaccination, dehorning, insemination, weighing, Endoparasites, gynecological and andrological examinations, loading and unloading of animals.

Consider:
- The location: should preferably be located on elevated, firm and dry terrain, located strategically so as to facilitate the handling of the animals or their embarkation on the trucks.
- The characteristics of the inner walls of the corral, brete, containment trunk and access ramps of the boat dock shall be smooth and free of protrusions, such as nail tips, screws or hardware which may cause damage to the animal.

Rural facilities
- The use of electronic or mechanical scales to monitor the weight development of animals.
- The construction of the dock that should be in a way to facilitate the entry of animals into the truck. The access ramp should have a gentle slope and the last move should be constructed horizontally. The walls of the access ramp and the dock should be sealed on the sides to facilitate boarding.

- The leveling of the exit floor of the dock with the floor of the truck's body.

- The dock syringe must be tapered and, preferably, sealed at the sides.

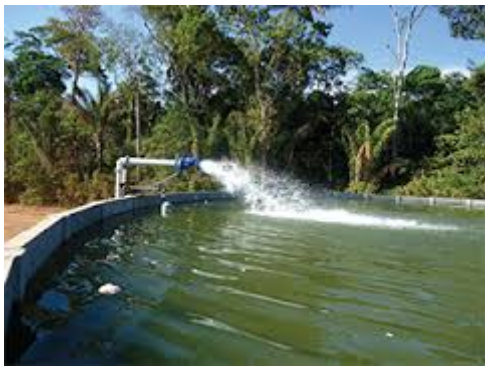
- The periodic cleaning of the facilities, mainly brete, trunk and scale, to avoid the accumulation of earth and manure.

- The availability of water points (tap and drinking fountains) and electricity.

- The availability, whenever possible, in the corral or in its vicinity of a bathroom, for the use of the employees.

- The availability of a suitable container for the collection of garbage produced during livestock work

Water reservoir



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protrusions, such as nail tips, screws or hardware which may cause damage to the animal.

In order to adequately meet the needs of the herd, the following recommendations must be observed:
- The tanks should preferably be located at the high points, in order to allow water distribution by gravity.

- In flat or low slope areas, it is recommended to raise the installation site of the Reservoirs, by means of level and compacted landfill.
-Tanks may be constructed of masonry or sheet metal.

- Calculate the capacity of the reservoir, depending on the number of drinking fountains that will be supplied, including a safety margin for repairs to the water collection and lifting system.

- Periodically monitor the quality of the water.

Bebedouros

Give preference to artificial drinking troughs that can be sanitized and constantly inspected to provide good quality water.

-Locate strategically the drinkers and size them according to the number of animals to be attended, considering the consumption of 50/60 liters / adult animal / day. (30).
- Periodically monitor the quality of the water.
- Avoid the use of dams, because standing water can be a source of contamination of leptospirosis.

- Mineral, concentrate and bulky supply troughs

To ensure access to animals and avoid losses due to rain or wind throughout the year, consider the following aspects:

- Mineral troughs should be covered and placed in the pasture so that the animals can be visited at least once a day.

- They must be constructed in such a way as to provide sufficient space for all animals to have free access and without competition.
- They can be constructed of different materials, such as sawn wood, precast concrete or plastic drums, cut lengthwise.

- The troughs for supplementation of bulky and concentrated must be wider than those of minerals.
- In the case of pasture supplementation, it is recommended that they be lightweight to facilitate site changes.

Containment facilities

In order to obtain promising results and ensure the adequate supply of concentrates and bulks, the following procedures must be observed:

- Consult the organ responsible for the environment, before the construction of the facilities and implementation of the activity.

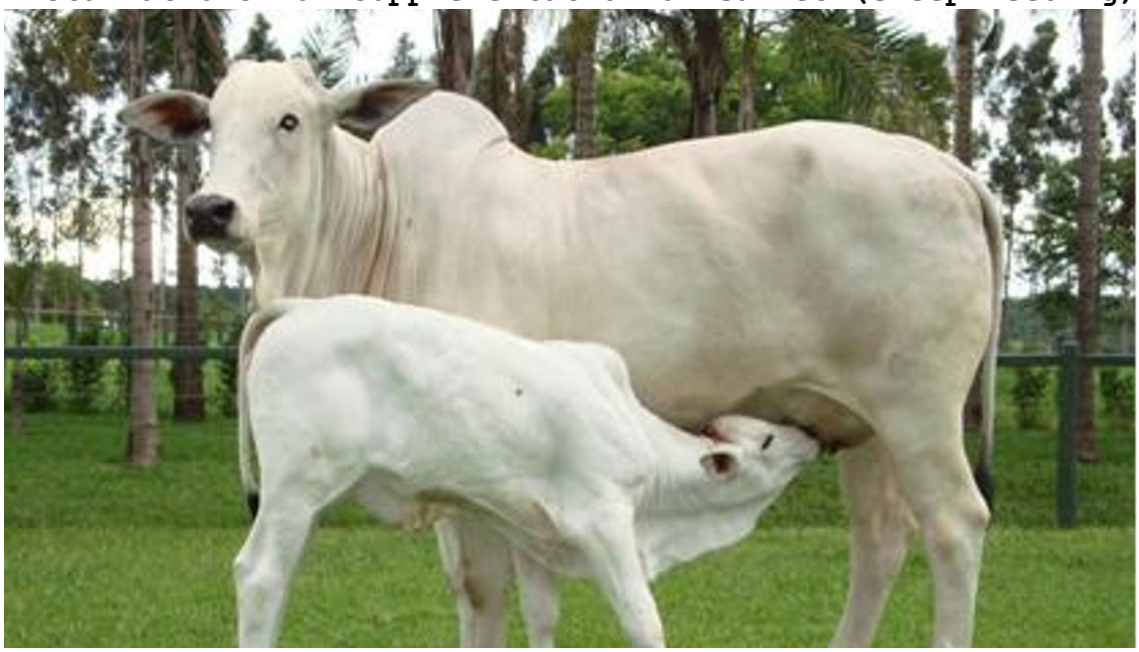
- The confinement must be located in a raised area of the property, slightly inclined, close to the management center

and the production areas (corn, cane, manure and others), preparation (mixer, grinder, chopper and scale) and storage and Food preservation (slaughtering, silos and others).

- Feeding troughs should be in the front of the picket to facilitate supply, and the floor near the troughs should have good drainage. When animals are confined throughout the year it is recommended that the troughs be covered.
- Provide shading, whenever possible, to provide thermal comfort of the animals, which can result in better weight gain.

- Drinkers can be constructed of material that is easy to clean and sanitize and have good drainage around them.
- Promote the treatment of waste, which can be used as organic fertilizer or biogas.

Installations for supplementation of calves (creep-feeding)



In order to facilitate the access of the calves and to adequately attend to the feeding system, the following points must be observed:

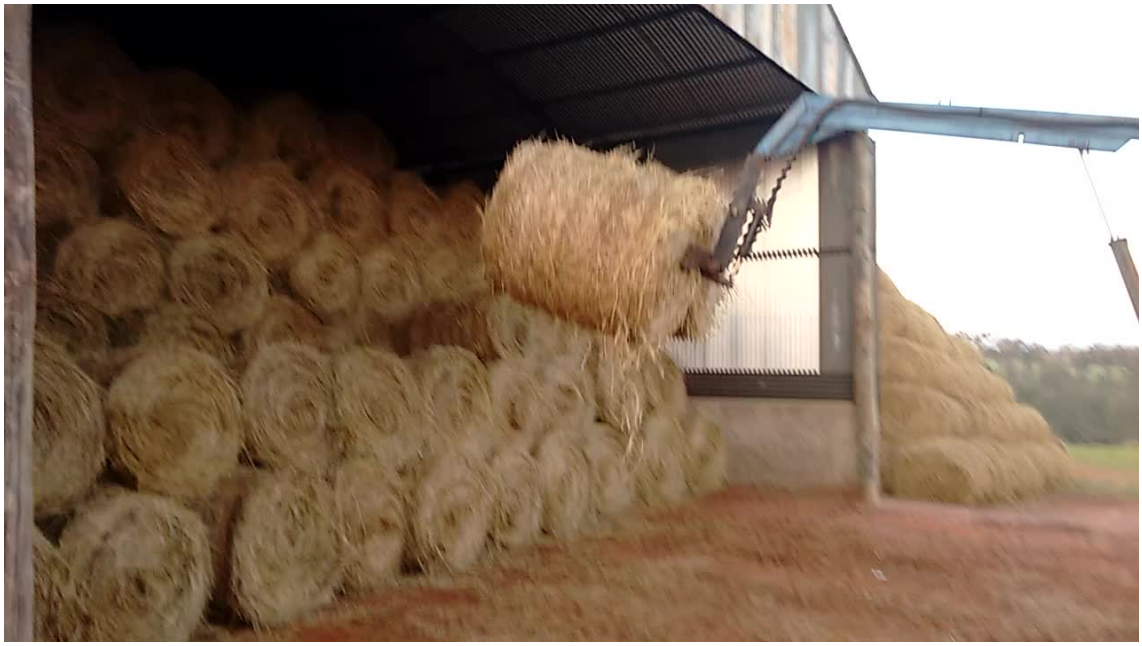
- The area of supplementation should be located near the rest areas of the cows,
Drinking fountains or in the vicinity of the salt trough.
- Have an area of 1.5 m² / creates, leaving space of two meters between the trough and the fence, for circulation.

- The size of each supplementation area will depend on the number of animals to be supplemented.

- The enclosure can be constructed of metal and mobile structure or with wooden posts, with space between them of two meters and with six to eight strands of plain wire stretched with turnstiles.

- The entrance entrance, exclusive to the calves, must have opening of 0,40 x 1,20 m.
- Provide about ten linear centimeters of trough per animal, one on each side, per animal.

Storage of inputs



They must be stored in appropriate places in order to prevent deterioration of the products and to reduce the possibility of contamination of food, seeds, feed, people and animals.

To this end, the following recommendations should be followed:

A) Location of tanks or sheds: far from homes, water sources and animal shelters.
B) For the safety of sheds, consider:
Protection of existing openings to prevent entry of birds and other animals into the tank.
Protection against moisture coming in from walls, doors, windows and roof.

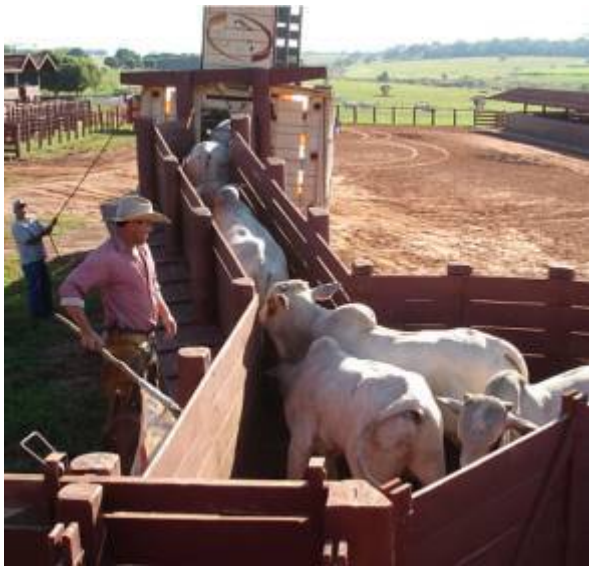
Identification and signaling of stored products.
Prohibition of smoking, eating, drinking or lighting fire inside the deposit. Keep the access doors locked with a lock.
Keep emergency equipment and personal protective equipment in a visible place.

C) Stocking

For the maintenance of the integrity of the inputs, the following should be considered:

Fertilizers and agrochemicals should be kept in separate storage tanks and
food suplements.
Agrochemicals should be stored in a ventilated environment and with correct signage, for easy access to personal protective equipment (EPC).
Keep draining on wooden decking, to avoid moisture and corrosion of the packaging.
Keep container dry and well-ventilated.
Pastries and other forms of packaging must bear clearly visible labels.
Visual identification of each group of inputs located on the pallets, on the shelves or other forms of storage.
Observe the stacking height of the packaging and the distance between the batteries and the tank walls.
Liquid packagings should be with the caps closed and mouths facing upwards.
Keep vaccines and medicines in the original packaging and under the conditions recommended by manufacturer.
Observe storage temperature, shelf-life and intended use.
Maintain input and output control of inputs, date of use and destination.

Management, pre-slaughter and good treatment in animal production



They deal with the knowledge of animal behavior and the application of management strategies that take into account the physiological and behavioral needs of cattle, with direct and indirect gains in the production of quality meat and leather.

Importance of good treatment

Market demands prioritize production systems that respect animal welfare, from birth to slaughter.

At first glance it may seem to the producer or technician an excessive and costly concern, but surely they will be surprised at the benefits that this change in attitude will bring to the work routine.

Knowledge and respect for the biology of production animals, as well as improving their well-being, also provide better economic results, by increasing the efficiency of the production system and improving the quality of the product.

Grassland training and management

It deals with the formation, recovery and management of pastures that, as the main component of beef cattle, directly affect productivity and the sustainability of the production system.

Pastures must have sufficient quality and quantity to meet the nutritional demands of the various animal categories throughout the year. Therefore, in the formation of a pasture, the choice of forage species adapted to the type of exploration, soil and climate of the region is the first factor to be considered.

- Promote the diversification of pastures, in order to contain the expansion of the damage caused by monoculture.

- Use of grasses with legumes or formation of protein banks (isolated planting of the legume) to reduce costs and ensure the production of quality food.

- Attempt for compatibility when consorting species, as there may be competition between them.

- Do not use the chicken bed as an organic fertilizer in the pasture, even after composting, because of the high risks of contamination by pathogens.

- Provide natural shelters for cattle during periods of extreme temperatures, rains and windstorms.

- To seek the guidance of a specialized technician to optimize the use of the inputs and the use of the techniques that offer the best results.

Food Supplementation

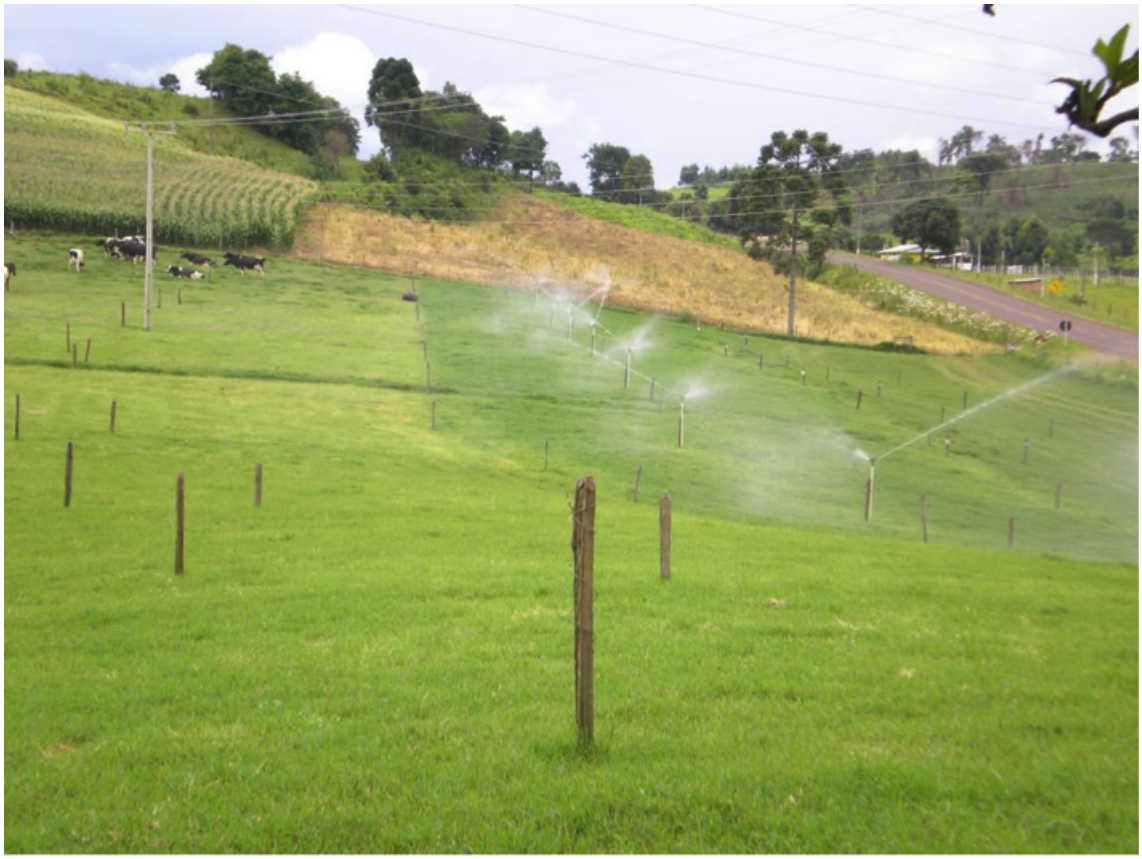
It deals with the quality of the inputs and additives used in animal supplementation, in order to ensure the production of food that is economically viable and free from residues that could harm human health.

Importance

Feeding supplementation for grazing animals makes better use of forage, increasing the efficiency of the whole system and contributing to the production of better quality meat, as it allows the slaughter of younger and better finished animals.

As a result of higher productivity (kg of meat / ha), supplementation and confinement reduce the need for area for the same production, helping to reduce the environmental impact of the activity and increase competitiveness.

However, in order to ensure the production of a good quality food, all inputs must not contain components or residues which may lead to animal and human health problems.



Guidelines related to food supplementation

- Inputs must be proven to be free from residues of a chemical nature (agrochemicals and veterinary products),

physical (foreign bodies), biological (pathogenic organisms) or any other substance that could compromise the quality of the final product and / or consumer health.

- Acquiring inputs, preferably from suitable companies and adopting quality assurance programs for their products.

- The use of supplements containing proteins or fats of animal origin, such as meat meal, bone meal, feather meal, chicken litter, bovine tallow and others, shall be prohibited.

- The use of antibiotics as a food additive is prohibited.

Some ionophores (antibiotic growth promoters) are permitted and regulated by the appropriate federal agency. However, some importing countries prohibit the use of such promoters.

It is forbidden to use hormones or growth promoters with an anabolic effect.

Food Supplementation

Store supplements in protected places of humidity, rodents, domestic animals and any contaminants.

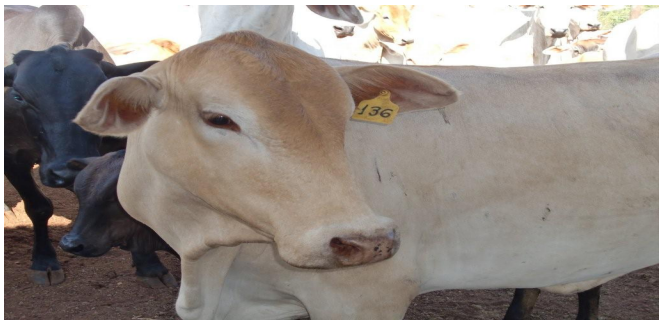
Check the state of conservation of the ration before supplying the animals, observing changes such as color change, odor, shattering, lumps, compaction and mold.

Maintain reserves of bulky supplement (silage, silage, hay, deferred pasture, cane and others) to meet possible nutritional deficits in critical periods of the year.

Quantity and quality to optimize the productive performance of the herd.

Provide, to each animal, trough space appropriate to the form of supplementation used.
Seek the advice of a qualified technician to formulate appropriate and economically feasible supplementation.

Animal identification and tracking



It deals with the forms of individual identification and the recording of occurrences that contribute, in a significant way, in the evaluation of the individual and herd performance and in the tracking of the information obtained throughout the life of the animal.

Importance

The individual identification and recording of all occurrences and management practices used during the life of the animal are essential procedures for evaluating herd performance as well as making administrative decisions.

Another aspect of extreme relevance is the association of these procedures with the adoption of standards and procedures in Good Agricultural Practices, in order to guarantee to the consumer market the supply of food free of residues and contaminants of any nature, that could compromise consumer health.

Guidelines related to animal identification

-Process identification of all animals at birth.

-Use an identification system that guarantees the verification and verification, over time, of the set of numerical and descriptive information, related to the history of the animal or group of animals handled.

-Use forms of identification that guarantee individuality, permanently and inviolably attached to the animal. The usual types of identification are earbuds, ear tattooing, branding and electronic handles.

-Use brand on fire only in the permitted places, ie:

- The bovine cattle may only be marked with a red-hot iron on the face, neck and regions below an imaginary line, connecting the femur-labellular-tibial and humerus-ulnar-ulnar joints so as to preserve the part of the Leather of greater utility, denominated grupon.

- It is forbidden to use a brand whose size can not fit in a circle of eleven centimeters of diameter (0.11 m).

- The use of fire marks by cattle slaughter establishments for the identification of hides is prohibited.

-In need to meet specific markets, observe the standards of the identification, tracking and certification system established by the Ministry of Agriculture, Livestock and Supply.

Sanitary control

It deals with the preventive and curative measures of sanitary control recommended for the good performance of the herd, ensuring the production of healthy food.

Importance of sanitary control

The occurrence of diseases and parasites, when uncontrolled, impairs the performance of the herd.

In addition, they also compromise the quality of the meat and leather produced, making it difficult to market and favoring the creation of sanitary barriers by consumer markets.

Guidelines related to sanitary control

- Adopt preventive measures to control diseases, establishing, with the guidance of a veterinarian, an annual calendar of sanitary and reproductive control, according to the official programs.

-Complish the schedule of preventive and compulsory immunization of the herd against foot-and-mouth disease, brucellosis and rabies. Consult the State Organ or Institute of Animal Health Protection with reference to the possible changes in the times of vaccination and municipalities in which the rural facilities.

-To promote the training of those responsible for health management, so that they are able to recognize the main diseases that affect cattle, to properly handle and apply vaccines and medicines.

-In case of suspected transmissible diseases, isolate the animal and contact a physician.
vet.

- Report to the Health Surveillance Agency any suspected communicable disease (vesicular diseases and nervous syndromes), in accordance with current legislation.

- In order to eradicate and control brucellosis and tuberculosis, we must follow the following guidelines:

- Make the obligatory marking of the females after brucellosis vaccination with a hot iron on the left side of the face with a "V" followed by the final figure of the year of vaccination.

- Check with the Organ or State Institute of Animal Health Protection for vaccination against brucellosis. And the participation of males and females in exhibitions, fairs, auctions and other agglomerations.

-Manter updated the files and the records of sanitary control preventive and curative, be they individual or by batch, noting the date of the occurrence, starting number and lot of the medicine used, laboratory and expiration date.

-Dispose the files and records of health control to the inspectors of the official sanitary inspection service and the auditors of the tracking and certification system linked to the Ministry of Agriculture, Livestock and Supply, if applicable.

- Use only vaccines and medicines approved by the local agricultural organs.

- Observe the technical recommendations for the application, conservation and storage of vaccines and medicines.

-Decrease dead animals, by burning the carcass in an appropriate place, to avoid contamination of pastures and groundwater.

-Vacinar always on the board of the neck. Application in unsuitable places can cause injury, breakage of the carcass yield and depreciation of its commercial value, when located in the noble regions.

Other precautions to be taken:

- Never freeze vaccines.

- Always sterilize syringes and needles in boiling water, without the use of disinfectants, as their residues can inactivate the vaccine.

- Never use crooked, rusty, blunt-tipped needles.

- Apply the vaccines in the recommended doses.

- Do not vaccinate animals that are debilitated or subjected to stressful activities, such as long walks or trips. Therefore, animals should be rested or recovered before handling.

- Contain the animals for vaccine application, reducing the risk of needle breakage, reflux and loss of doses.

Other preventive measures of sanitary control

Foot-and-mouth disease

- Bovines and buffaloes must be vaccinated within the time limits of the campaigns determined by the State and the evidence of the facts must be delivered to the health surveillance agencies.

Rage

-The control is carried out with the vaccination of 100% of the animals and with the combat to the bats
Hematophagous in regions where the disease occurs with known frequency.

Revaccination should be done every 12 months.

-The owner should immediately notify the animal health surveillance organs of the occurrence or suspicion of rabies, as well as the presence of animals attacked by blood-sucking bats or the existence of shelters of such species. The Health Surveillance Bodies shall take appropriate measures.

-Vaccination of cattle should be associated with the immunization of other animals on the property, such as dogs, cats, equines, swine, goats and sheep.

Brucellosis

Females should be controlled as determined by the National Program for the Control and Eradication of Brucellosis and Tuberculosis.

Veterinarians must be accredited and accredited by the Ministry of Agriculture, Livestock and Supply to collect blood samples, conduct the examinations and issue sanitary reports of the animals tested.

Bovine and buffalo females should be vaccinated between three and eight months of age with a B19 sample of Brucella abortus. Vaccination should be done under the supervision of a trained veterinarian, in accordance with current legislation.

Evidence of vaccination of heifers in the health surveillance body is mandatory.

The control of brucellosis is important both from an economic point of view, by reducing losses of animals during the gestation period, as well as the public health aspect, since this disease can be transmitted to man.

Care should be taken when handling the vaccine, as it may contaminate the man.

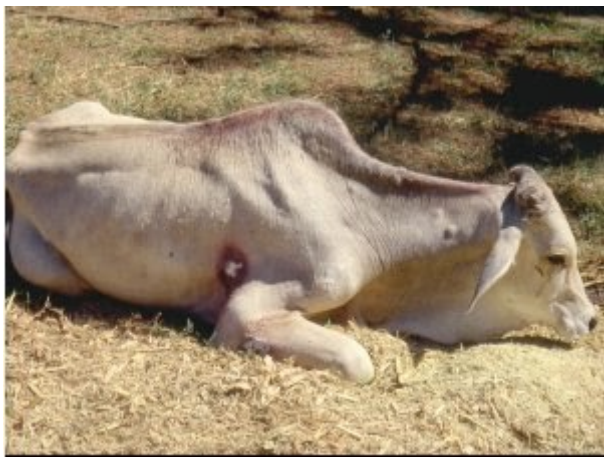
Tuberculosis

Animals should be monitored as determined by industry best practices.

Veterinarians must be accredited by the Ministry of Agriculture to perform the tuberculin tests and issue the sanitary reports of the animals tested.

The control and subsequent eradication of tuberculosis are mainly based on the regular testing of tuberculin and the killing of positively reacting animals.

Botulism



In regions of high occurrence, vaccinate the animals from four months of age and repeat the vaccination 30 to 40 days after the first application. Revaccination must be annual.

The vaccine has a negative period of approximately 18 days, in which the animals may be susceptible to disease. During this period animals should not be placed on contaminated pastures.

Proceed to correct mineral supplementation, especially phosphorus, to reduce osteopathy (bone ingestion) and, consequently, the ingestion of spores that cause botulism.

The elimination of carcasses in the field is an important measure. The carcasses must be completely burnt. It is not recommended that they be buried, as there is a risk of formation of contaminated water pools. In addition, wild animals can unearth the carcasses.

Symptomatic Carbuncle

As prophylaxis (preventive measure), the calves should be vaccinated annually, from the age group

of three to six months of age. The first vaccine should have a booster after 45 days.

Leptospirosis

Vaccination is effective in controlling infection. In primary vaccination (first vaccine) should be Two doses, with a three to five week interval. Subsequently, it was revoked Annually before the mating season or between this and the fourth month of pregnancy.

Rodent control in food depots is extremely important for the control of this disease.

Avoid the use of dams, because standing water can be a source of contamination of leptospirosis.

Bovine cysticercosis

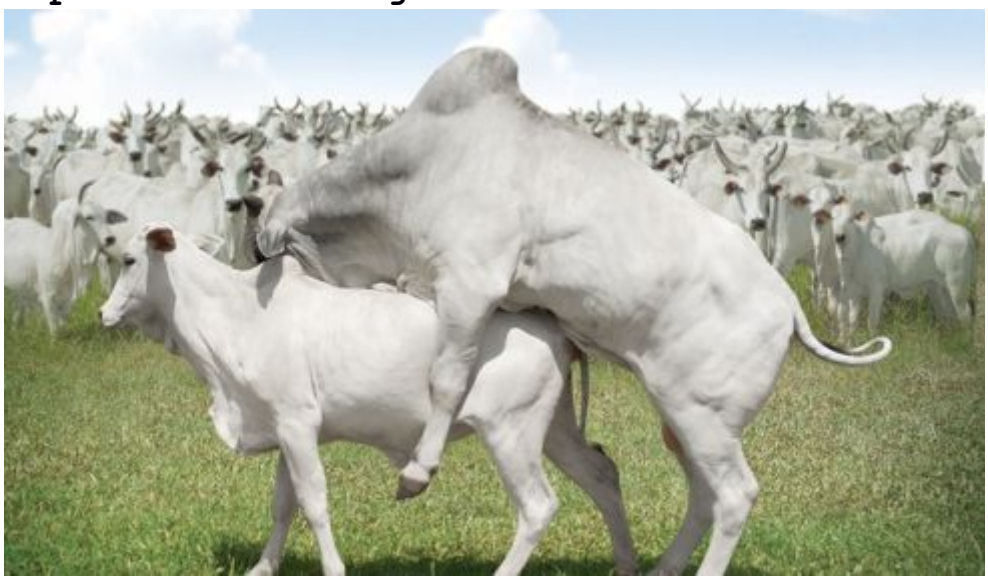
- Cattle from herds with a history of cysticercosis should receive treatment according to the technical recommendations.

-Combater the clandestine slaughter.

Use hygienic pits and sewage treatment to prevent human feces from contaminating water and pasture, thus reducing the risk of disease incidence.

- Provide toilets at strategic points in the property, to avoid the spread of pathogens.

Reproductive management



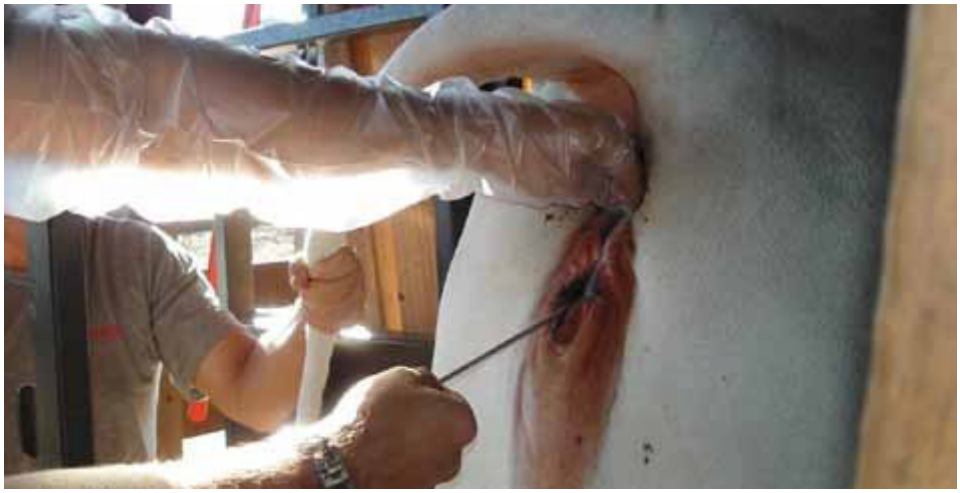
It deals with the main management practices that aim to optimize the reproductive and productive performance of the herd, in a rational, economic and without promoting environmental degradation.

Importance of reproductive control

For the breeder, the commercial exploitation of the breeding system has as main objective to optimize the production of weaned calves. Therefore, the feasibility of the system will

depend on the effectiveness and efficiency with which the means available for improving productivity are used.

Guidelines related to reproductive control



Establish a mating period

The establishment of a breeding season is one of the most important decisions of the reproductive management and of greater impact on the fertility of the herd.

In addition to disciplining the other management activities (sanitary control, feeding, weaning, castration and others), it also allows the adjustment of the period of higher nutritional demand (lactation) with the greater supply of quality food, resulting in more homogeneous lots And of greater commercial value.

Consider:

- The duration of the riding period should be as short as possible, that is, around three months, and can start around one month after the rains start.

- Cows should be identified and separated in batches by category: heifers, primiparous cows and multiparous cows. In this way, it is possible to adopt different management practices according to the needs of each category.

- Choose mating system

- It is important to train the people responsible for reproductive management and to adapt the facilities according to the mating system to be used, ie, natural mating, controlled mating or artificial insemination.
- Adapt the bull-cow ratio to the production system

- The inappropriate choice of this relationship has serious economic implications. The main factors that may influence this relationship are: age, riding ability, sanitary and nutritional state of the bulls, cow body condition, pasture size and topography.

-Determine the diagnosis of gestation and discards

- It is of great importance for the improvement of reproductive efficiency, since it makes possible the early identification and the discarding of females that did not become pregnant during the breeding season.

-It must be done by an experienced veterinarian and can be started from 45 days after the end of the breeding season.

- Perform the andrological examination of the bulls

The impact of bull fertility on the reproductive performance of the herd is much greater than that of the cow.

Bulls of low fertility, because they remain long times in the herd, cause great losses in the productivity of the system, when not diagnosed in a timely manner.

This test should be performed approximately 60 days before the mating, ruling out those with low fertility.

Reproductive management

-To adopt weaning practices

In addition to traditional weaning, between six and eight months of age, there are other weaning methods that can be used in extreme situations (eg food shortages), with the sole purpose of guaranteeing the reproductive performance of the females, without Development of calves.
Of these, we can highlight early or early weaning, interrupted or temporary weaning, and controlled breastfeeding.
- Reduce the stress of calves at weaning - To ease the stress caused by peladesmama, it is recommended to put some cows in the lot of calves, the so-called "bridesmaids", as well as keep them in pasture of high nutritional value.

-Control the diseases of the reproductive sphere

Diseases such as brucellosis, trichomoniasis, campylobacteriosis, leptospirosis, infectious rhinotracheitis (IBR) and bovine viral diarrhea (BVD) can compromise the reproductive performance of the herd by preventing fertilization, causing miscarriages or producing underweight calves.

Therefore, with the guidance of an experienced veterinarian, a preventive health control program should be developed.

-Assessing the body condition of cows at calving - Cows with good body condition at calving return to estrus earlier and have higher conception rates.

The evaluation of the body condition of the females during the final third of gestation, which coincides with the dry period, is an extremely useful tool in reproductive management.

This procedure allows corrections in food management to be made in time, in order to ensure a good body condition at

delivery and high conception rates.
-Preparing heifers for replacement

The management of these animals, from weaning to the beginning of the breeding season, is extremely important in the productivity and profitability of the herd. They should be selected and managed to reach sexual maturity sooner, reducing the age at first breeding and raising the reproductive life of females.

It is recommended that heifers weigh approximately 65% of the adult weight at the start of the breeding season.

-Organize the management of animals for breeding

Based on studies of social and sexual behavior, it is possible to establish some basic rules for the management of animals during the mating period, such as:
- Do not mix females of different categories, both at the breeding season and at the calving period.
- To form homogeneous batches in advance to reduce the effect of social dominance on fertility.
- It is recommended that bulls, placed in the same lot, are of similar age and weight. In addition, the use of asparagus and uncultivated bulls in the same batch should be avoided.

- Using maternity pasture

When approaching the time of birth, pregnant cows should be separated from the other animal categories and led to a maternity pasture.

This pasture should be located close to the headquarters to facilitate daily care, such as: assisting in colostrum delivery, immediate navel healing, weighing, identification, possible occurrence of distal births and protection against predators.

-Make castration of males

Castration has as main objective, to facilitate the handling, since it makes the animals more docile, it allows the mixing of oxen and cows and it eliminates disturbances of the sexual conduct.
Another advantage observed is that castrated carcasses are better accepted on the market than whole carcasses.

Comments:
- Castration in the dry period of the year decreases the incidence of myiasis.

- Avoid castration in the weaning period, because the stress level to which the animals are submitted at this stage is high.

Statistical data on animals

Birth	55%	
Mortality 0-1 years	5%	
Mortality over 1 year	2%	
Cow discarding	20%	
Bulls discarding	10%	
Age of the 1st foal	45 meses	

Age of weaning	7 meses	
Age of Male to Slaughter	40 meses	
Weight of males at weaning	150 kg	
Weight of females at weaning	145Kg	
Weight of Males at Slaughter	480kg	
Females weight at slaughter	400kg	
Lean cow weight	330kg	
Relation Bull cow	1/25	

[illegible]

DESCRIÇÃO	UND	QUANT	[illegible]
Fazenda			
Fazenda criação	ha	50	[illegible]
Cerca	km	10	[illegible]
Porteiras e Cancelas	und	12	[illegible]
Mangueira (caixa de tanque 10.000L)	und	10	[illegible]
Sede	und	1	[illegible]
Cata vento	und	4	[illegible]
[illegible]	und	2	[illegible]
Curral	und	1	[illegible]
Estradas Internas	und	6	[illegible]
[illegible]	und	12	[illegible]
Poço	und	4	[illegible]
Instalação Poço	und	4	[illegible]
Armazém	und	1	[illegible]
Garagem	und	1	[illegible]
Oficina	und	1	[illegible]
Vila de trabalhadores	und	1	[illegible]
SOMA			[illegible]
Equipamentos			
Trator 80hp	und	2	[illegible]
[illegible] dupla	und	3	[illegible]
Grade 28 discos de 24"	und	4	[illegible]
Plantadeira a lanço	und	2	[illegible]
Reboque Hidráulico	und	4	[illegible]
Plantadeira	und	2	[illegible]
Caminhão 7 ton	und	3	[illegible]
Caminhão 3 Ton	und	3	[illegible]
Caminhão 1,5 Ton	und	3	[illegible]
Pick up	und	4	[illegible]
Van	und	4	[illegible]
Utilitário	und	4	[illegible]
Veículo de representação	und	2	[illegible]
Quadriciclo	und	6	[illegible]
SOMA			[illegible]
Animais			
Vacas de cria	Cab	100	[illegible]
Novilhas 3-4 anos	Cab	10	[illegible]
Novilhas 2-3 anos	Cab	10	[illegible]
Novilhas 1-2 anos	Cab	10	[illegible]
Bezerros	Cab	100	[illegible]
Machos 1-2 anos	Cab	10	[illegible]
Machos 2-3 anos	Cab	10	[illegible]
Machos 3-4 anos	Cab	10	[illegible]
Touros	Cab	6	[illegible]
Vacas para [illegible]	Cab	6	[illegible]
Cavalos	Cab	4	[illegible]
SOMA			[illegible]
TOTAL			[illegible]