KALRO
Kenya Agricultural & Livestock Research Organization

KCSAP
Kenya Climate Smart Agriculture Project

HOW TO APPLY GOOD MANAGEMENT PRACTICES IN LIVESTOCK FOR IMPROVED PRODUCTIVITY

How to apply good management practices in livestock for improved productivity

Importance of keeping healthy animals

Monitoring animal health and preventing animal disease is vital to the economy and safety of the country's food supply. The specific benefits of keeping healthy animals are:

1. Less production cost as a result of not incurring veterinary cost and better feed utilization.
2. Increased household and national income, since healthy animals have higher productivity and produce better quality products with better prices.
3. Maximum production and performance is achieved.
4. Prevent transmission of diseases to human beings in the case of zoonotic diseases. The diseases that affect animal health also affect ours. Tackling them while they are present in animals not only safeguards our health, but is also easier, more effective and less expensive to address.

More milk for calf and humans

Good quality meat (Nyama choma)

Good carcasses after slaughter

More milk from camels

Requirements for keeping healthy farm animals

1. Acquisition of a disease-free start-up herd or introducing only healthy animals into the farm. When buying new animals ensure they are disease-free by involving animal health service providers during purchase (for veterinary inspection and obtaining movement permit) and purchasing younger animals with lower chances of having chronic diseases.

2. Correct transportation of newly acquired animals. For short distances use trekking and this should be undertaken during cool hours of the day. For long distances, vehicle transportation is used where the following guidelines should be applied:Resting, feeding and watering animals prior to loading them.

    a) Provide good bedding material onto the vehicle floor such as wet sand, hay, wood shavings or plant material. Avoid saw dust or other dry fine materials that may be inhaled by the animal.

    b) Properly load the animals using a loading lump or bay. Avoid rough handling of animals.

    c) Correct loading density: Animals should not be overcrowded nor too few. They should support each other and be able to lie down and stand. For a single animal use smaller vehicle where its sides can support the animal.

    d) On transit proper driving is essential by avoiding emergency braking and accelerations. Rest-stops are necessary for long journeys of more than 6 hours where animals are offloaded, inspected, watered and fed before continuing with journey.

    e) Properly offload the animals using an offloading bay or rump.

Improper transportation (not recommended)

3. Acclimatization of newly acquired animals- On arrival such animals should be inspected, treated for shipping fever if from far and kept away from others (isolated) for about 2-3 weeks.

4. Provide proper animal housing to protect livestock from extreme weather conditions, predators and ensure animal comfort. Good ventilation will ensure good air quality.

5. Animals should have adequate feeding and nutrition where they receive adequate amounts and balance diet. These will prevent nutrition associated conditions like mineral and vitamin deficiencies, malnutrition and over-nutrition. Nutrition requirements differ for various production statuses such as breeding, pregnancy, milk production, animal growth and performance. In addition, the state of animal feed is critical thus

    a) Do not feed rotten or mouldy feed to livestock to avoid aflatoxin poisoning in animals and aflatoxin M1 residues in foods of animal origin.

    b) Avoid grazing on contaminated pasture like by the road-side or on sewage flooded fields to prevent animal

poisoning and occurrence of residues like heavy metals in animal products.

c) Do not graze animals at dumpsites or urban centre wastes.

d) Poisonous plants and those recently sprayed should not be fed to animals. After spraying observe the waiting time.

6) Proper breeding to prevent inbreeding and transmission of some diseases. Artificial insemination (A.I) is recommended but under beef production where natural mating is the norm then fathers should not mate daughters or brothers mating sisters and also avoid community bulls.

7) Ensure farm hygiene like cleanliness, farm bio-security, waste management and de-contamination.

8) Work with the professionals and avoid self-treatment of your animals.

9) Have on-farm or pen-side diagnostic tests and equipment. Some diseases cannot be detected using naked eyes and thus need diagnostic aids. For instance, mastitis can be detected by the farmer using strip-cup, mastitis detection strip or California Mastitis Test (CMT) kit and treatment and control measures instituted.

10) Vaccination: Animals must be vaccinated against notifiable diseases once reported in the area. For other diseases vaccinations are decided based on farmers diseases experience and is good to consult animal health service provider. Only healthy animals get vaccinated so that the immune system best utilizes the vaccine. It is necessary to vaccinate at least two weeks prior to a stressful event such as weaning, transporting or castrating. Types of livestock vaccines include:

a) Live vaccines made up of live disease causing organism. An example is the East Coast Fever vaccine (ECFiM) which is applied using infection and treatment method. This vaccine is available at VSRI Muguga and animal

health service providers need to be trained on its application.

b) Live attenuated vaccines: The live organism undergoes several passages to eliminate it virulence.

c) DIVA vaccines: These are modified vaccines, usually through tagging with a protein, to enable differentiation of vaccinated and unvaccinated animals using serological tests.

d) Sub-unit vaccines: These are the new generation vaccines where only part of the organism (antigenic portion/protein) is used as a vaccine. An example is the new CBPP sub-unit vaccine being developed at VSRI Muguga.

e) Virus-like particles (VLPs): These are particles that imitate the actions of viruses but are not capable of replicating within the host cells. Research is on-going for such vaccines against PPR, RVF and goat pox.

11) Movement control or quarantine: Restriction of movement of animals and livestock products is imposed upon reporting and confirmation of any notifiable disease outbreak in an area.

12) Tick/ectoparasite control: Several insecticides and acaricides can be applied to control external parasites including ticks in livestock thus preventing parasitism and tick-borne diseases. With the collapse of cattle dips in many parts of the country on-farm spraying is the most common practice. Generally, methods of application are:

a) Use of plunge dips

b) Use of spray races

c) Manual spraying using Knapsack sprayer

d) Use of pour-on or spot-on along the back bone.

e) Injection: an example is ivermetin which controls both external and internal parasites.

13) Worm control or deworming through drenching for liquids, using bolus gun for tablets and/or systemic injection by animal health service providers.

14) Good animal welfare and handling practices – avoid direct hitting of animals to eliminate wounds and injury, proper branding (avoid use of hot iron bar/burning), proper restraint.

Camel branding using hot iron bar (not recommended)

Bad practice of overloading a donkey and restricted breathing

15) Keeping animal health records: This will enable monitoring of diseases in the farm and management measures including track-back. For this to be effective it also requires animal identification.

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