

RESEARCH PAPER

The effect of herbal drug on growth performance of cross bred calves

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Accepted : November, 2008

ABSTRACT

Physical growth is largely dependent on feed intake and its digestibility. To determine the effect of herbal drug on physical growth, feed intake and digestibility, a mixture of herbal drug was given to two groups of calves alongwith one control group. The herbal drug was composed of using some herbs like *chirayita*, *kutki*, cordimom, *guruchi*, *kalmegh*, *bhumyamalki*, *neemchhal*, *anis* seed cumin or *ajwain*, black pepper, *piplamul*, *ghee-kunwar*, *azmoda*, yeast alongwith ammonium chloride and certain minerals. Nine healthy cross bred calves were selected and allotted to three calves in each group and three different levels of drugs (D_1 = control, D_2 = 40g of drug and D_3 = 80g of drug) were given to these groups. The period of each trail was three months including one month of pre-experimental feeding. The experimental trails were conducted in switch over design. Results of experiment have shown the positive effect of compounded herbal drug on physical growth, feed intake and digestibility. The high level of drug (D_3 = 80g) improved the physical growth, feed intake and digestibility in comparison to control group (D_1 = without drug) and low level of drug (D_2 = 40g). This herbal drug has no any adverse effect on animal body.

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Key words : Nitrogen metabolism, *Calotes versicolor*, *Proteocephalus beddardi*.

Physical growth comprises the body height, length, heart girth and mainly body weight. In general, body weight is increasing either by cell division and tissue formation in growing calves or by fat deposition as well as extra water retention in the tissues of adult animals. Therefore, physical growth is measured by including body height, length, heart girth (skeleton growth) and body weight.

Physical growth largely depends on feed intake and digestibility. In ruminants, feed utilization process is very complex and is brought out by millions of microbes consisting protozoa, bacteria, fungi and others. The manipulation of feeds and feeding process by incorporation of herbal drug may improve the rumen ecosystem.

Some herbs or their mixture are used to promote feed intake due to their flavouring and medicinal value, their essential oils content and other unidentified factors in chemical forms also play a role in enhancing the animal performance. Beside it, these are less expensive and safe than chemical additives. A herbal mixture of thirty two herbs have been added to compose herbal product. *Batisa* which is used to improve the appetite of animals and helps in curing different types of indigestion by increasing the protozoal mass, bacterial population and absorption of nutrients.

Herbal liver stimulants have been extensively used in farm animals to improve the metabolism of nutrients to increase body cell mass in pre-ruminant and ruminant state without additional requirement of nutrients (Arora and

Madhumohini, 1984). Wenk (2002) concluded that herbs can replace antibiotics for raising calves.

Various studies were conducted on response of herbal drug on improvement in feed utilization, digestibility and physical growth and nutrient utilization aspects. Findings and reports varied in different studies. Therefore, it needs further more research work. In this context, a study was conducted by using some herbs.

To determine the effect of herbal drug on physical growth, feed intake and digestibility, a mixture of herbal drug was given to two groups of calves alongwith one control group. The herbal drug was composed of using some herbs like *chirayita*, *Kutki*, cardamom, *guruchi*, *kalmegh*, *bhumyamalki*, *neemchhal*, *anis* seed, cumin or *ajwain*, black pepper, *piplamul*, *ghee-kunwar*, *azmoda*, yeast alongwith ammonium chloride and certain minerals.

MATERIALS AND METHODS

Nine healthy cross-bred calves were selected for the present study and body weight of calves (having age of 10-50 months) were ranging in first group from 80 to 82 kg while in second form 60 to 96 kg and third group from 80 to 94 kg. Three calves were allotted in each group and three different levels of drug (D_1 = control, D_2 = 40g of drug and D_3 = 80g of drug) were given to these groups. The period of each trail was of three months including one month pre-experimental feeding. The