

Effect of Herbal Liver Tonic Yakrifit Bolus on Body Weight Gain in Dairy Calves

K. K. Hadiya¹, K.Ravikanth², Shivi Maini*² and D. Thakur²

1. College of Veterinary & Animal Sciences Anand-388001, Gujrat, India,

2. R&D Team, Ayurved Limited, Baddi, India 001, Gujrat, India

* Corresponding author

Abstract

An experimental field study in approximately, one month old, forty eight Jaffrabadi buffalo calves was conducted to evaluate the efficacy of herbal Liver tonic formulations on growth and body weight gain. A significant ($P < 0.05$) increase in body weight gain in groups supplemented with herbal formulations Yakrifit (M/s Ayurved Ltd. Baddi, India) @ 1 bolus/calf/day, was observed in comparison to untreated control. Supplementation of herbal liver tonic products improves liver function, feed assimilation and digestibility of ration ultimately leading to gain in body weight.

Keywords: Liver tonic, Herbal medicine, Growth rate, Liver function, Feed assimilation, Digestibility. Body weight.

Introduction

Body weight of calves is essential parameter in young calves with respect to early maturity and reducing the age at first calving. Adequate nutrition in dairy plays an important role in productivity and accounts for more than 70% of the input locally available roughages and crop by-products (Prasad et al., 2005). Nutrient intake and immune status determines calf growth rate. Good managerial practices and balanced nutrition are important for reducing potential health risks to infection and diseases; improving appetite, feed efficiency, better body weight gain and general appearance of animals. Optimum growth in calves implies early maturation and maximum economic returns from production. Among the various managerial factors involved in optimum growth and production, an adequate diet containing essential nutrients is required (Gowda et al., 2008). This experimental study is designed with an aim to evaluate efficacy of herbal liver tonic product Yakrifit Liq. on body weight gain in dairy calves at farmer's doorstep.

Materials and Methods

A field trial was conducted at Anand (Boriavi and Ravalapura Villages), Dist. Anand, Gujarat, India. Twenty four healthy Jaffrabadi buffalo calves of approximately, one month age were selected for the experimental trial and randomly divided in two groups ($n = 12$), one control and one treatment. Group A was given no treatment and served as control. Treatment

groups B was administered herbal liver tonic product for livestock Yakrifit @ 1 bolus/calf/day, once a week/month for three months (supplied by M/S Ayurved Limited, Baddi), standard practices were followed for feeding calves by the farmers. Buffalo calves were fed on wheat straw and concentrate mixture to meet their nutrient requirements. The calves were kept under similar managerial and environmental conditions and were observed for a maximum period of 90 days (day 31 - 120 of age) after supplementation of herbal growth promoter. Body weight of calves was recorded at fortnightly intervals from day 31-120 (3 months) of experimental period.

Results and Discussion

The results of the experimental study revealed significant improvement in fortnightly and final body weight of calves (table 1). Initial body weight of a month old calves was 39.5 & 39.8 (kg) for groups A & B, respectively. After treatment for 3 months (once a week/month supplementation), the mean final body weight at 120th day age for treated group B (71.3kg) was significantly ($P = 0.05$) higher in comparison to untreated control group (63.8.Kg). The average mean daily gain (ADG) was also recorded to be significantly ($P = 0.05$) higher in treatment group B (350g) than untreated control group A (270g). The constituent ingredients of Yakrifit Bolus viz. *Andrographis paniculata*, *Eclipta alba*, *Picrorhiza kurroa*, *Phyllanthus niruri*, *Tephrosia purpurea* and *Boerhaavia diffusa* are well documented for their hepatoprotective,

Table 1: Mean initial and final body weight & mean weight gain in calves from 30th -120th day of age

| Group | Day 1 To Day 7 | | Day 8 To Day 30 | | Day 31 To Day 37 | | Day 38 To Day 60 | | Day 61 To Day 67 | | Day 68 To Day 90 | |
|---------|----------------|------|-----------------|------|------------------|------|------------------|-------|------------------|-------|------------------|------|
| | B.W. | G.W. | B.W. | G.W. | B.W. | G.W. | B.W. | G.W. | B.W. | G.W. | B.W. | G.W. |
| Group-A | 38.5 | 284 | 42 | 322 | 44 | 325 | 51 | 371.9 | 54.1 | 395.5 | 61.42 | 400 |
| Group-B | 39.8 | 318 | 47.2 | 337 | 49.9 | 393 | 58.8 | 402 | 61.8 | 429 | 71.3 | 432 |

B.W. = Birth Weight, G.W. = Gain in Body Weight

hepatostimulant properties and evident for growth enhancing activity (Pradhan and Dey, 1996).

The herbal ingredients of Yakrifit Bolus have been documented as hepatoprotective, hepatostimulant & growth promoter by different authors. According to Choudhury (1968), the active constituents of *Andrographis paniculata*, viz. andrographolides increase the biliary flow and liver weight while Dwivedi et al (1986) remarked that it is effective in protecting liver damage & thereby improves health status of the animal. Mehra and Handa (1968) reported *Eclipta alba* with wedelolactone as the main active constituent, to be Antihepatotoxic. Of the other ingredients, *Picrorhiza kurroa* containing picrosides is a good stomachic and useful in treatment of inappetence while *Phyllanthus niruri* is well documented to potentiate feed assimilation and utilization (Kirtikar and Basu 1975). Narendranath et al. (1985) also remarked that it helps in eliminating toxins from liver. Yakrifit has earlier also been found to counteract hepatopathy and restore liver functions in bovines (Pradhan and Dey, 1996). Earlier studies on this product also indicated its value as an anabolic agent in treating anorexia and as a restorative in convalescence and debilitating diseases in cattle. Once the liver is in healthy state, the metabolic functions and detoxification mechanism, digestion, assimilation and feed utilization functions of the body are in homeostasis and thus higher is the body weight gain in calves.

Conclusion

Supplementation of herbal formulations Yakrifit Bolus was found to significantly promote growth in buffalo calves under field conditions. Addition of herbal formulations in dairy ration enhanced the feed intake

marginally. It can be concluded that supplementation of herbal formulas improves liver function, feed digestion and assimilation of ration ultimately leading to gain in body weight. The product can be recommended as a growth promoter in buffalo calves.

References

1. Choudhury, P. C., (1968): Studies on some liver function tests in domestic animals. M.V.Sc. Thesis, Agra University, Agra.
2. Dwivedi, S.K., Sharma, M. C., Mukherjee S. C, Jawahar Lal and Pandey, N N. (1986). Comparative efficacy of Liv-52 and *Andrographis paniculata*, Nees. In experimental liver damage in rabbits. *Indian Drugs* 25:1-4.
3. Gowda, N.K.S., Prasad, C.S., Selvaraju, S., Reddy, I.J., Ananthram, I Sampath, K.T. (2008). *Indian Veterinary Journal*, 85: 745-748.
4. Kirtikar, K. R and Basu, B. D. (1975). Indian Medicinal Plants. Bishan Singh, Mahendra Pal Singh, Dehradun.
5. Kirtikar, K.R. and Basu, B.D. (1975). Indian Medicinal Plant Bishan Singh & Mahendra Pal Singh, New Connaught place.
6. Mehra, P. N. and Handa, S. S. (1968). Pharmacognosy of *Bhringraja*-antihepato-toxic drug of Indian origin. *Indian Journal of Pharmacy* 30:284.
7. Narendranath, K. A, Nagarathnam, D and Chandrasekharan V, (1985) Effect of Tefroll (a herbal liver protective and corrective) on experimentally induced hepatotoxicity. Presented at the 1st World Congress Yoga and Ayurveda. Republic of San Marino (Italy).
8. Pradhan N.R. and Bishwas, U. (1994). *Indian Journal of Medicine*, 18: 268-272.
9. Pradhan, N. R., (1991). Studies on liver dysfunctions in goats and therapy. Ph.D. Thesis, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
10. Pradhan, N.R. and Dey, N.K. (1996). *Indian Journal of Medicine*. 1/ 66: 1238-1241.

* * * * *