

## A Case Study on Ketosis and Its Management in Cross Bred Dairy Cow

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### Abstract

The present study was conducted to record successful management of Ketosis in a cross bred HF Cow. A Four years old pleuriparous HF cow suddenly showed the symptoms of fever, recumbent stage, reduction in milk yield and not taking feed properly for past one day. On physical examination, clinical symptoms and field Ketocheck kit, the case was diagnosed as Ketosis and successfully managed by proper treatment.

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Received: 28/08/2019

Accepted: 24/09/2019

**Keywords:** Ketosis, Ketocheck and Cross bred cow.

### 1. Introduction

Ketosis is a metabolic disorder in high yielding dairy animals. It mainly occurs in early lactation, when body is in negative energy balance. It is clinically characterized by decrease in feed intake, weight loss, and drop in milk yield and sweetly odour in breath. About 90 % ketosis cases are diagnosed within the first two months after calving and prevalence of ketosis are peaked in the 2<sup>nd</sup> and 3<sup>rd</sup> week after calving. Ketosis will cause severe economic loss to the farmers in the way of reduced milk yield and mortality in severe cases. This case study reports the clinical management of a ketosis in a cross bred dairy cow which is an economically important disease in the high yielding animals in dairy industry. Proper diagnosis and treatment helped to prevent the development of ketosis in animals and also ensure the farmers income through dairy animals.

### 2. History and Clinical Examination

A crossbred Holstein Friesian cow aging five years at ICAR KVK MYRADA Erode district promoted dairy farm at Gobichettapalyam. The cow had a history of calved 3 weeks back and animal exhibits symptoms of inappetance for past two days, reduced milk yield and recumbent for past one day. KVK Scientist made field visit to the dairy farm and conducted clinical examination of the affected animal. On clinical examination it was found that body temperature was 39.8 °C, pulse and respiration were within the normal range and fruity odour observed while breathing. Based on the history and clinical signs, the case was tentatively diagnosed as ketosis and differentiated from other metabolic disorders with the help of Ketocheck, which was developed at TRPVB - TANUVAS. Ketocheck is a rapid detection kit which measures urine ketone bodies especially Beta -

Hydroxy butyrate. In this test formation of yellow colour indicates presence of ketone bodies and formation of green colour indicates absence of ketone bodies.

### 3. Treatment

Treatment of the animal started with 1.5 litres of 25% Dextrose, Isoflud (Zydus AHL) containing Isoflupredone Acetate (2 mg/ml) @ dose rate of 20 mg per animal. Antihistamine and Supportive therapy were given as per standard dose rates. Followed by treatment farmers advised to give half to one kg of Jaggery daily for three days. The same treatment was repeated for three days, on fourth day the animal recovered completely and animal came to normal feeding.

### 4. Discussion

Ketosis is a major metabolic disorder which occurs due to negative energy balance. The economic loss due to ketosis can be easily reduced by early detection by using low cost and farmer's friendly Ketocheck kits at field levels. Ketosis needs to be prevented, rather than treated, by keeping cows in good body condition, but not fat, during the dry period, to prevent avoidable economic losses as reported by Thirunavukkarasu *et al.* (2010). The present investigation is in agreement with (Chakrabarti, 2006; Sharma, 2006; Teli and Ali, 2007; Radostitis *et al.*, 2007; Nazifi *et al.*, 2008), who have reported maximum cases within one month after parturition and also line with the earlier findings (Bhuin and Chakrabarti, 1993) which reported that the prevalence of ketosis was the highest in 1<sup>st</sup> month (i.e., from 0 to 30 days) followed by the 2<sup>nd</sup> month (i.e., from 30 to 60 days) after calving. Another important concern, Ketosis can be diagnosed by measuring ketone bodies present in urine, milk, and blood. Because of the economic

consequences, it is imperative to diagnose ketosis in dairy cows, particularly during early lactation for treatment in advance and prevention of further losses (Mohammed *et al.*, 2019).

## 5. Conclusion

The present study indicated that Ketocheck is a very effective kit to diagnosis the Ketosis in farmer's

field and also differentiate from other metabolic disorder. Metabolic disorders can be diagnosed early to prevent the economic losses to small 7 marginal farmers. Creating awareness about the important of this disease and nutritive values of various commonly used feed ingredients at field level through extension programmes to minimize this disease loss.

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