The AJAS
THE ASIAN JOURNAL OF ANIMAL SCIENCE
Volume 7 | Issue 2 | December, 2012 | 155-158

RESEARCH ARTICLE

A study on formulation of improved feeding ration for maintenance of working bullocks with locally available feed ingredients in the state of Odisha

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ABSTRACT..... The farmers in the state of Odisha generally do not feed their bollocks with the locally available materials having required nutritional values. They generally feed crop residues like straw, chaff and bran to the bullocks. Sometimes bullocks are allowed for grazing in open fields. The high ambient temperature and humidity in summer season greatly affect the work performance of draft bullocks. While working during this season, the bullocks generally get fatigue with comparatively less load and duration than other seasons. There is no pertinent information available regarding nutrient requirement and its effect on power output of bullocks in different seasons. Therefore, in this study, an attempt was made to formulate the improved feeding ration for the working bullocks with the locally available ingredients and to find out the effect of energy content of the feed on fatigue score and power output of the bullocks in summer season.

KEY WORDS..... Draft bullock, Fatigue score, Physiological response of bullock, Feeding ration

HOW TO CITE THIS ARTICLE - Ghosal, M.K., Mohapatra, A.K. and Behera, D. (2012). A study on formulation of improved feeding ration for maintenance of working bullocks with locally available feed ingredients in the state of Odisha. *Asian J. Animal Sci.,* **7**(2) **:** 155-158.

ARTICLE CHRONICLE - Received **:** *06.09.2012;* Revised **:** *15.11.2012;* Accepted **:** *30.11.2012*

INTRODUCTION.....

Most of the farmers in Odisha, feed their bullocks crop residues like raw paddy straw, chaff and bran. They rarely feed concentrates as supplements. The bullocks are some times left loose for grazing in open fields. Mostly there is always a short fall of protein and energy requirement for maintenance of bullocks. Due to inadequate nutrition, the work performance of bullocks is reduced and they loose their body weight during working season. Mohapatra (2007) suggested that supplementing working animals fed on poor quality feed with a concentrate feed was necessary to maintain their overall body weight. It has been proved that urea treatment of paddy straw improves its nutritional quality. So, feeding of urea treated paddy straw based ration to bullocks will be more economical.

Francis and Ndlovu (1995) observed that the non-supplemented Mashona oxen lost more live weight than those supplemented (cob sheath stover 800 g/head daily for 35 days) during dry ploughing. Work output of supplemented oxen was also greater than those of non-supplemented ones. During ploughing, the heavy oxen lost less weight than light ones. In addition, non-supplemented oxen lost more weight than those supplemented.

Ndlovu *et al.* (1996) found that cattle feed on urea treated maize stover or maize stover plus silver leaf hay ploughed at speeds 29 per cent faster than oxen fed plain maize stover and covered 45 per cent more area. It was concluded that supplements of good quality have the potential to improve the working ability of communal area oxen.

Chimonyo *et al.* (2002) reported that using cows for draught purpose resulted in the mobilization of body fat and protein reserves probably to supplement the nutrient demand for draught power. In addition, supplemented working (SW) and non-supplemented working (NSW) cows maintained their