EFFECT OF DIFFERENT STRATEGIES OF PROCESSING RICE STRAW ON *IN VITRO* DIGESTIBILITY USING RUMEN FLUID OR FAECAL INOCULA OF LOCAL CATTLE

Nguyen Van Thu

College of Agriculture, Can Tho University, Vietnam

Corresponding author: Nguyen Van Thu; Email: nvthu@ctu.edu.vn

ABSTRACT

Two experiments were carried out to evaluate effect of different treatments of rice straw on *in vitro* digestibility using faecal and rumen inocula from local cattle fed natural grasses. In two complete randomized design experiments, there were 6 treatments and 3 replicates. The treatments included: fresh rice straw (FS), fresh rice straw treated by 1.5% urea (UFS), fresh straw with added urea-molasses-mineral mixture (FS+UMM), dry rice straw (S), urea-treated (5%) dry rice straw (US); and dry rice straw with added urea-molasses-mineral mixture (US+MM). The first experiment was done using rumen fluid as inoculum, while in the second one faeces were used as the microbial source. The results showed that adding urea, molasses and minerals to rice straw increased content of nutrients and *in vitro* digestibility values. There was a close relationship between *in vitro* digestibility parameters determined with rumen fluid and and with faecal inocula ($R^2 = 0.92$). It is concluded that the nutritive value of rice straw for cattle is improved by adding urea, molasses and minerals; and that faecal inocula can be used to evaluate in vitro feed digestibility, with reduced cost and improved animal welfare.

Keywords*:* *Rice straw, urea-molasses-mineral mixture, in vitro digestibility, rumen fluid, faeces, inoculums.*