Detrmination of nutritional value and digestibility of enriched straw (rice, lentils, wheat) by two types of multi-enzyme, Kemin and Roabio, using gas production method

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In this study, nutritional value and digestibility of three kinds of enriched straw (rice, lentils, wheat) will be investigated by two types of multi-enzyme, Kemin and Roabio, using gas production method in a factorial design with two factors including straw at three levels (lentils, rice, wheat) and enzyme at two levels (Kemin, Roabio). Each level of the enzymes is divided in to three sub-levels (0, 0.5,1 per kilogram) and all levels tested for three times. First, to enrich, all kind of silages are chopped to homogeneous and fine pieces of 2-3 cm and one kilogram of any of the treatments is ensiled in plastic container. Salt, urea, molasses and water are added to silages in addition to multi-enzymes. After evacuating of oxygen each container by vacuum pump and enclosing of containers' door by mastic adhesive to create anaerobic conditions, all containers were kept in a dark environment for 30 days. At the end of this period, the containers were transferred to the laboratory. Then, to determine the chemical composition, silages were dried at 75° C in oven for 48 hours. Chemical compounds consist of dry matter, crude protein, crude ash (furnace), crude fiber (fibertic), crude fat (soxhlet), cell wall content without hemi-cellulose (ADF) and cell wall (NDF) were 3 times measured by gas production technique based on common method of WEN (1991) and AOAC (2002) including dry matter of protein, cell wall with and without of disappeared hemi-cellulose.

Keywords : Enzyme, digestability, ensilment, gas test