

EFFECT OF COMBINING TWO BIOLOGICAL TREATMENTS ON CHEMICAL COMPOSITION, DIGESTIBILITY AND FEEDING VALUES OF COTTON STALKS FED TO SHEEP

Akila S. Hamza¹; Thanaa F. Mohammadi¹; A.A.H.El Tahan² and M.M.El-Shannawy³

1. Central Laboratory for Food and Feed, Agricultural Research Centre, Giza, Egypt

2. Animal Production Research Institute, Ministry of Agriculture, Dokki, Giza, Egypt.

3. Animal Department, El Mansoura University, Egypt.

SUMMARY

The present study was carried out in the Central Laboratory for Food and Feed (CLFF), Agriculture Research Center and El-Gemeza Experimental Station, Animal Production Research Institute, Agricultural Research Centre to study the combining effect of ensilage and treating the cotton stalks with white-rot fungi (*Pleurotus ostreatus*) on chemical composition, digestibility coefficients and feeding values. Rams were fed on the following rations.

Control ration (C) : 60% of requirements from concentrates feed mixture (CFM) + raw cotton stalks-untreated (RCS) supplemented with 5% molasses *ad lib*.

1st ration (T1) : 60% of requirements from concentrate feed mixture (CFM) + silage cotton stalks (SCS) supplemented with 5% molasses *ad lib*.

2nd ration (T2): 60% of requirements from concentrate feed mixture (CFM) + silage treated cotton stalks (STCS) supplemented with 5% molasses *ad lib*.

The results showed that, CP and NFE contents were increased in treated cotton stalks silage (STCS) and silage cotton stalks (SCS) compared with raw cotton stalks (RCS). Crude fiber content in SCS and STCS was decreased by about 33.6% and 49.1%, respectively, compared with that in the raw cotton stalks (RCS). The NDF, ADF, hemicellulose and cellulose contents of STCS and SCS treatments were decreased than those of RCS. Most of nutrient digestibility coefficients of rations contained silage materials were significantly higher ($P<0.05$) than those of untreated one. The best values were recorded with ration containing, STCS (T2).

The TDN values were significantly ($P< 0.05$) higher for T1 and T2 rations compared with ration C (raw cotton stalks). The DCP value of T2 was significantly ($P<0.05$) higher compared with C and T1 rations. It could be concluded that ensilage of fungi treated cotton stalks could successfully improve the feeding values of roughages for feeding ruminants. Also, it is helpful in eliminating environmental pollution.

Key words: cotton stalks, digestibility, white-rot fungi, rams and silage.