ABSTRACT

THE USE OF NEAR-İNFRARED SPECTROSCOPY (NIRS) FOR ESTIMATING THE CHEMICAL COMPOSITION OF SOME ALTERNATIVE FEEDS

Funda PEHLEVAN

M.Sc. Thesis, Department of Animal Sciences

Supervisor: Prof. Dr. Mürsel ÖZDOĞAN

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The nutritive value of some feedstuff commonly used in Aydin region was determined by chemical analysis and Spectroscopic (NIRS) techniques. Metabolizable energy content of feed was also calculated. For this purpose, cotton leaf, cotton seed, mulberry leaf, olive leaf, carob, artichoke leaf, and crop residue of tobacco were used.

The differences between crude protein (CP) content of feeds which were analysed by both techniques was lower compared to the other nutrient values. The crude fibre (CF) content of carob was determined similar in both technique, while ash, ether extract (EE), NDF, ADF, CP and CF ($P<0.05$) content of carob were determined differently. There were no ($P>0.05$) differences content of ash, EE and CP of olive leaf, mulberry leaf and cotton seed between two technics. Using equation two for cotton leaf, mulberry leaf, olive leaf and artichoke leaf, using equation one for cotton seeds and carob, and using equation three for crop residue of tobacco was reliable for estimating the metabolizable energy contents of feeds used in this experiment.

It is concluded that NIRS technology can be used when determining nutritive value of feedstuff commonly grown in Aydin. However, more research covering the different physiology stage of plant is needed to enrich the results of this study.

Key words: Alternative feeds, Chemical analysis, Near infrared reflectance spectroscopy