

M. M. Shoukry
Vice President of the Academy of Science and Technology

ABSTRACT

This study reviews the estimated feed requirements of ruminant livestock expressed in terms of total digestible nutrients (TDN) and digestible crude protein (DCP) available in different feedstuff sources. At the same time the feed resources available are either green fodder, roughages or concentrates which can contribute in feeding ruminants. The derived estimates show a shortage in TDN requirements estimated by 2.28 million tons while DCP shows surplus of about 50 thousand tons.

After reviewing several proposals to correct the balance of fodder and the development of manufacturing feeds and how to make the best use of the available agricultural residues, the lowest annual estimate of TDN increase is about 25.5 million tons. It could be achieved through using simple techniques such as treatment with urea solution or ammonia, supporting and enrichment of poor quality roughages with vitamins and minerals and urea mixture or use of complete rations and ensiling crops. It can be conceptualized to address the gap feed in animal nutrition as it shows in the following table that the nutritive values of raw agri-by-products (used unimproved) is 2730 tons TDN. If they has been adapted and enriched can raise their nutritive value by about 25% which accomplish an increase of 682 thousand tons of TDN, and if 60% of agricultural residues that are neglected and burned are used for feeding, 3500 tons TDN more will be added, thus the total value added is about 4182 tons TDN. This amount covers the shortage in fodder balance. Meanwhile, there is a remained large surplus of TDN which could replace the use of vast amount of clover in winter, thus save about 50% of the area cultivated by fodder to cultivate wheat that burden the provision of hard currency of the country.

Table 1: The expected increase in the nutritive values of agri-by-products, either used and proposed for use due to the application of simplified techniques to improve nutritive value (in thousand tons TDN) - According to the data available in 2005.

Agri-by-products used			* Agri-by-products proposed for use			Total value-added
Unimproved (Untreated)	Improved	Increase	Unimproved	**Improved	Increase	
2730	3412	682	2800	3500	700	4182

* 60% of agricultural residues that are wasted due to burning could be used for feeding.

** Estimated improvement in the nutritive value by 25% of the TDN and doubling the DCP.