

## Utilization of Long Fiber Pellet as Roughage Replacement for Ruminants

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**Abstract :** One of the main factors limiting ruminant productivity in Oman is the shortage of feed resources that can meet their nutrient requirements. This is mainly due to the decline of natural pasture contribution to the total feed resources for ruminants. The high cost of Concentrate Feeds prohibits their wide-scale use by animals' owners especially by small farmers. Also, the scarcity of adequate freshwater supplies might pose challenges to the sustainability of the field projects, especially with utilizing groundwater for irrigation, which is consumed in large amounts, as these countries are characterized by very high rates of evapotranspiration and soils of low capacity to retain water. Considerable amounts of agro-industrial by-products are available in Oman (Inferior quality dates, Date frond leaves, Date stone, and Ornamental trees. However, these by-products have not been efficiently utilized in animal feeding. Opportunity in Oman exists to fill part of the gap between the supply of and the demand for feed resources through efficient utilization of these by-products. Long Fiber Pellet is a distinct concept for ruminant animal nutrition and can be used as a replacement for roughage feed sources, which are usually needed by ruminants because these animals can utilize fiber lignocellulose (Cellulose, Hemicellulose, and lignin) as a major source of their food. This different feed has been manufactured mainly from locally underutilized green waste and inferior dates fruit. A comprehensive study will be conducted to evaluate using the Long Fiber Pellets as a replacement for Rhodes Grass Roughage for Ruminants. This research will be carried out in cooperation between the Omani Bioproducts Company and the Livestock Research Center of the General Directorate of Agricultural and Livestock Research.

**Keywords :** fiber, Oman, by-products, palatability

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