

# **Nutritive and Antioxidative Potential of Fresh and Stored Pomegranate Industrial by-product as a Novel Beef Cattle Feed**

A. Shabtay, H. Eitam, A. Brosh, A. Orlov. Ramat Yishay/Israel, Z. Kerem,  
Rehovot/Israel

## **Abstract**

Pomegranate peel is a nutritive-rich by-product whose amounts are extensively growing due to exponential increase in production of pomegranate juice and “ready to eat” arils. Pomegranate peel is a rich source for antioxidants and thus may serve in the prevention of cattle diseases and in the improvement of beef products, making it an attractive component in beef cattle diets. We evaluated the effect of commonly used storage practices on the nutritive and antioxidative properties of pomegranate peel. In general, storage conditions preserved most antioxidant capacity. Ensiling ambivalently affected the nutritive values of the peel and promoted increased levels of antioxidative components. In addition to polyphenols, non-phenolic components, such as  $\alpha$ - and  $\gamma$ -tocopherols, contributed to the total antioxidative capacity, and several minerals found in the peel added to its nutritional value. Dietary supplementation with fresh peels promoted significant increases in feed intake, plasma  $\alpha$ -tocopherol concentration and antioxidative capacity, with positive tendency towards increased weight gain of bull calves. All in all, the nutritive value and the antioxidant capacity of pomegranate peel turn it into a favorable health-promoting constituent of feedlot beef cattle diet.