



## ***Full Length Article***

# **Assessment of Genetic Diversity in Fenugreek (*Trigonella foenum-graecum*) in Oman**

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## **Abstract**

Fenugreek (*Trigonella foenum-graecum* L.) is widely grown in the Arabian countries and is one of the important crops in the Sultanate of Oman. The present investigation focused on characterizing genetic diversity within 20 Omani fenugreek accessions collected from different districts in Oman and to investigate their relationship with four accessions from Iraq and Pakistan. AFLP analysis of 24 accessions produced 1852 polymorphic loci. The level of genetic diversity (H) was found to be 0.2146, 0.0844 and 0.1620 for the Omani, Pakistani and Iraqi populations, respectively. The moderate level of genetic diversity of fenugreek in Oman indicates that it has been cultivated in the country for long time. A very low level of genetic differentiation was observed among populations of fenugreek from different regions in Oman ( $F_{st} = 0.05$ ) following AMOVA analysis. Cluster analysis supported these findings and indicated high genetic similarity among Omani populations of fenugreek (mean = 93%) compared to a lower level of genetic similarity with the population from Pakistan (83%) and Iraq (80%). These results suggest frequent exchange of fenugreek genetic material among regions in Oman. © 2014 Friends Science Publishers

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