

## **Mehdi Sharifi, Assistant Professor, Nova Scotia Agricultural College (NSAC)**

Dr. Sharifi is a Nutrient Management Research Chair at NSAC. His research programs include research examining plant and soil tests for nutrient deficiency diagnosis, best nutrient management practices, nutrient management in organic systems, manure and compost management, use of biowaste composts, and mitigation of nutrient losses to the environment. He has published the results of his researches in several international scientific journals and presented in regional, national and international conferences. His office is located at Atlantic Food and Horticulture Research Centre, Kentville, NS.

Dr. Sharifi is in the process of establishing a new soil nutrient management laboratory in Annapolis Valley. This laboratory will provide Dr. Sharifi the opportunity to expand his innovative nutrient management program in Nova Scotia.



### **Research Summary**

#### **EVALUATION OF SUSTAINABLE NUTRIENT MANAGEMENT PRACTICES TO IMPROVE YIELD AND QUALITY IN WINE GRAPE PRODUCTION**

- A. EVALUATION OF BIOWASTE COMPOST AND COVER CROPS NUTRIENT VALUES FOR WINE GRAPE PRODUCTION**
- B. WOOD ASH ASSESSMENT FOR USE IN GRAPE PRODUCTION**

Wine production is a rapidly expanding industry in Nova Scotia (NS). The highly competitive nature of the wine business requires high productivity with consistent quality of grapes. With increased fertilizer and transportation costs, it is challenging to maintain strong productivity and grape quality in an economical and sustainable manner. It is necessary to incorporate sustainable soil nutrient management strategies into vineyard production plans. Two effective strategies for sustainable management of vineyards are: the use of off-farm compost or industrial wastes and next, the use of cover crops.

In this study, we are examining the fertility value of municipal solid food waste (MSFW) compost with or without four different cover crops. We are also (i) characterizing wood ash from three existing sources in Atlantic Canada (NewPage, Brooklyn Power and NB Irving), (ii) testing the effectiveness of wood ash for changing the soil pH, (iii) evaluating the K and P value of wood ash, and (iv) investigating the effect of wood ash on soil microbial biomass as an indicator of soil quality. We are in the process of validating soil and plant tests for evaluation of N, P, and K availability and status for wine grapes under the soil and climate of Nova Scotia.