

**DIFFERENT ROLES OF PHENOLIC COMPOUNDS ON THE SURFACE AND
IN THE INTERIOR OF PLANTS****Zobel A. M.¹, Bialońska D.², Dymiecka M.³, Zobel-Brown M. A.^{3*}**¹*Department of Chemistry, Trent University, Peterborough, ON, Canada K9J 7B8*²*Jagiellonian University, Kraków, Poland*³*Agriculture University, Warsaw University, Warsaw, Poland*

The location of phenolic compounds points to the role they play in the plant producing them. Compounds on the surface produce, by evaporation, an atmosphere surrounding the shoots and roots, as well as seeds, which plays an important role in communication between the plant and its environment. Coevolution led to the formation of new compounds involved in two processes – attraction or repulsion. Interior compounds can be released after animals have chewed on and damaged them, making further consumption unattractive. Such compounds released from vacuoles could form a healing film preventing microbes from penetrating the wounded area. Secondary metabolites eaten by animals producing milk for human consumption influence the quality and taste of the milk. Herbs that animals choose to eat naturally, growing in their pastures, and those added as feed, influence concentrations of conjugated linoleic acids, which are known anticancer agents for humans.