An Entropic Approach to Assess People's Awareness of the Health Risks Posed by Pesticides in Oenotourism Events

Ana Crespo[1], Rui Lima[2], M. Rosário Martins[3], Jorge Ribeiro[4], José Neves[2,5], and Henrique Vicente[5,6(✉)]

[1] Departamento de Fitotecnia, Escola de Ciências e Tecnologia, Universidade de Évora, Évora, Portugal
[2] Instituto Politécnico de Saúde do Norte, CESPU, Famalicão, Portugal
rui.lima@ipsn.cespu.pt, jneves@di.uminho.pt
[3] Departamento de Química, Escola de Ciências e Tecnologia, Laboratório HERCULES, Universidade de Évora, Évora, Portugal
mrm@uevora.pt
[4] Instituto Politécnico de Viana do Castelo, Rua da Escola Industrial e Comercial de Nun'Álvares, Viana do Castelo, Portugal
jribeiro@estg.ipvc.pt
[5] Centro Algoritmi, Universidade do Minho, Braga, Portugal
[6] Departamento de Química, Escola de Ciências e Tecnologia, REQUIMTE/LAQV, Universidade de Évora, Évora, Portugal
hvicente@uevora.pt

Abstract. Wine production and vineyard work are seasonal activities as there is a period when no intervention is required and oenotourism may fill that void. On the other hand, given that grapevines are tied to this area of activity, it is of paramount importance to assess customer and staff awareness of the health risks of pesticide use, that emerge from people's responses to specific questionnaires. Therefore, a workable problem-solving method is proposed which enables one to assess the level of awareness of people who are taking on the risks, evaluated in terms of an estimation of the individuals entropic state with respect to this particular issue. The analysis and development of such a model is based on a number of *Logic Programming* formalisms for *Knowledge Representation and Reasoning*, tha are consistent with an *Artificial Neural Network* approach to computing. The data collection process involved 173 participants. The proposed system presents an accuracy of about 90% and enables the diagnosis of risk awareness and the correspondent fragilities among customers and staff for a particular pesticide.

Keywords: Oenotourism · Health risks · Pesticides · Entropy · Logic programming · Knowledge representation and reasoning · Artificial Neural Networks

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