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An economic and environmental impact assessment of nectarine production in Emilia Romagna

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Abstract

Fruit has a lower environmental impact than other food products. However, its production can be quite resource, labour, and capital intensive, as well as characterized by relevant losses. This study carried out a life cycle assessment (LCA) and costing (LCC) of nectarine production in Emilia-Romagna, with a focus on losses. System boundaries were cradle-to-farm gate and all impacts were referred to 1kg of sold fruit. Primary data on environmental and cost aspects (land, labour, materials, fuels, chemicals, machineries, etc.) were collected through interviews in farms from different production areas. Climate change, terrestrial acidification, freshwater acidification and water depletion were assessed together with costs and profits. Results show that diesel consumption, fertilization, pesticides, and irrigation are the main environmental hotspots, while labour and chemicals are relevant for costs. Reducing losses could help reduce these impacts.

Keywords : Life Cycle Costing, Life Cycle Assessment, Fruit, Food losses