



SAFFRON: A RED-GOLD RESOURCE IN THE GLOBAL-WARMING ERA

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The effects of climate change are rapidly leading to a disappearance of biodiversity and an adaptive crisis of animal and plant species. Despite the numerous initiatives implemented to sensitize young people to environmental protection, a correct diffusion of ecological information and knowledge is still ineffective [1]. In order to allow adequate knowledge of the issues also linked to environmental sustainability, the transversal discipline Civic Education has been introduced in Italian schools since 2020, starting from kindergarten up to secondary school. Unfortunately, what could have been a great opportunity to meet different disciplines in the field of environmental protection, soon turned into a wasted opportunity. In fact, only a few teachers possess adequate knowledge about this topic and considerable difficulties often arise in combining matters that belong to different disciplinary fields. In part, the causes are due to the fragmented materials present on-line that teachers can draw on for their lessons [2], which are often not adequate to correctly inform those students who, for example, have sensory disabilities. So, the first aim of this work will be the creation of multidisciplinary material in digital format that can be used by teachers for Civic Education lessons with elements also in Italian Sign Language (LIS).

Climate change is causing also the alternation of species that can be found in various ecosystems, including agriculture [3]. An interesting example is the cultivation of saffron. Saffron is considered the world's most expensive spice, because of the ancient cultivation and harvesting techniques used, the low yield of the final spice and its beneficial properties for human health [4,5]. Saffron, initially widespread in the arid regions of the Near East (Iran, Afghanistan), Africa (Morocco) or the Mediterranean basin (Spain, Greece, central-southern Italy), is undergoing a decline in yield and quality in these regions [6], but it is instead finding new environments in areas traditionally unsuitable for its growth, such as the Himalayas and, surprisingly, Northern Italy. Therefore, the second aim of this research will be to investigate from the point of view of Environmental Humanities how climate change is undermining the production of saffron in the areas usually dedicated to its production by examining literature data. The ecological impact of new crops in the northern Italy and the cultivation strategy will be analysed in person. Saffron samples of different northern Italian origins will be evaluated by a trained sensory panel and their chemical composition will be determined in relation to the main biological active-molecules characterizing the spice (crocin, picrocrocin, safranal).

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