



Project Role of Novel Methods in Education of Organic Plant Protection

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Abstract

Green Plant Protection (GPP) is the shortcut of the project of "Utilization of advances of ICT developments in mobile learning in order to promote interactive learning for adult people in the field of ecological agriculture".

GPP will provide an easy access to all key issues of plant protection in ecological agriculture using a web platform designed for standard (www.greenplantprotection.eu) and mobile version (m.greenplantprotection.eu). Plant protection is focused on Slovakian conditions, as there has not been such a comprehensive source available so far in the country. Internet is the key medium of modules designed for eLearning and mLearning environment, where the training material is prepared in Slovak, Hungarian, Italian and English languages. Users will have an access to the on-line learning resources after registration on the web site.

The project provides useful information on environmentally safe agricultural technologies heading to sustainable development, one of the top priorities of the European Union. It is to be achieved through the means of informal learning, which may increase the volume of cooperation between universities and farmers. GPP is dealing with animal pests, plant pathogens and weeds in cropland. Each category has the same layout within the four key chapters - general parts, field crops, orchards & vineyards, and greenhouses. Materials are designed to help users quickly locate the relevant GPP content. A concise description helps the users to identify the problematic pests, diseases and weeds first, then familiarize with their damage and the possible control methods. With hyperlinks to pictures, photos and videos, users are to be able to find the information they are looking for as prompt as possible.

The project and its deliverables will offer additional career development training for users, and the practical implications of the project could significantly contribute to a reduction in the use of pesticides in agriculture.

1. Introduction

Green plant protection (GPP) is a shortcut of the Leonardo da Vinci Project - Transfer of innovation under the title of *Utilization of advances of information communication technologies (ICT) developments in mobile learning in order to promote interactive learning for adult people in the field of ecological agriculture* (2009-1-SK1-LEO-05-00792). The project is based on a previous Leonardo da Vinci pilot project ECOLOGICA (HU 05/B/F/PP-170018), which has developed a central data bank (Ecolibrary) of various digital resources managed into 14 modules designed for advisers' education in the field of organic agriculture. The different modules, such as ecological farming, EU and national cultural knowledge, the multifunctionality of an organic farm, conversion to ecological farming, controlling and certification of ecological farms, advisory knowledge, plant production and animal husbandry and many more, gave a broad overlook on the various aspects of organic farming issues and made advisors able to gain full comprehension of the system of organic agriculture [5]. The



parental module for the GPP project is the section of Plant Protection. The achievements and results of ECOLOGICA were also transferred for further utilisation in Organic.Edunet project of the eContentplus program (ECP-2006-EDU-410012 Organic.Edunet). Organic.Edunet aims to facilitate access, usage and exploitation of digital educational content related to organic agriculture and agroecology [6].

GPP is designed for education of organic farmers using mobile devices. Mobile learning (mLearning) is generally defined as eLearning using a mobile device and wireless transmission [4]. Mobile devices were chosen as a tool of lifelong learning in GPP, for their pervasive and ubiquitous character [1]. Their increasing popularity can be justified with their being portable, easily personalized, increasingly convergent and people may always have them on hand [3].

2. The results of GPP project

For Green Plant Protection (GPP) is an initiative to promote interactive mobile learning of adult people in the field of organic farming, it will provide all the most important knowledge about plant protection in ecological agriculture, through developing a web platform, which is designed for standard (www.greenplantprotection.eu) and mobile version (m.greenplantprotection.eu). Plant protection is focused on Slovakian conditions, as there has not been such a comprehensive source available, so far. GPP is dealing with animal pests, plant pathogens and weeds in cropland. Each category has the same layout within the four key chapters - general parts of descriptive character, field crops with the most important plants in Slovakian agriculture, orchards and vineyards, and greenhouses. This feature and the structure of learning materials are designed to help users quickly locate the relevant GPP content. Learning resources are focused on symptoms and morphology, and on different control strategies with hyperlinks to photos, pictures and videos. [9] For full comprehension of the workings of pests, diseases and weeds, the biology and the different host plants and occurrences of each are also discussed. The standard version has been optimized for the facilities of PCs, serving the already traditionally widespread e-learning objectives. The mobile version of the page has simple but clear design, without animation. It is a prerequisite for ensuring the access to information with moderate cost even in the field, where internet connection may be usually weaker. The mobile GPP platform will contain the main content of the standard web site to help find information requested much easier, with as least 'clicks' as possible. All documents will be suited to the iPhone screen to avoid unnecessary side scrolling and zooming [8]. Though the layout of the educational content is optimized for Apple's iPhone, users will be able to have an access to the learning materials via other smartphones and PDAs, as well.

Internet is the key media of modules designed for eLearning and mLearning environment, through which the content can be easily upgraded and revised. All training materials are prepared in Slovakian, Hungarian, Italian and English languages. Users will have an access to the on-line learning resources, which requires preliminary registration on the website. [10]

The GPP project will also provide facilities for the active access to lifelong learning in the field of organic agriculture and non-chemical plant protection. The need of lifelong learning in Slovakia is underlined by the fact, that almost 40% of the Slovakian land area is farmed [2] and the most numerous working group are workers between 45-49 years with a degree from lower secondary education [5]. For the spreading of the innovative ideas and information on the issues of green plant protection covered in the web and mobile versions of GPP, a book under the title of *Green plant protection* will be published at the end of the project.

The main advantage of GPP mobile learning is that the learning process is not bound to a fixed location, it might be interwoven with other everyday activities, and its learning phases are able to be located to the rural areas and the farmer's natural environment. This presents freedom in use and an instant practical support in decision making. However the target group of the project are organic farmers, the environmentally sound pest control methods and thus GPP mLearning should also be used in conventional or integrated agriculture.

Besides providing useful and attractive learning materials for vocational education in the field of plant protection, the idea of GPP mLearning is to promote the use of information and communication technologies in agriculture to overcome digital exclusion and promote awareness in the benefits present-day's information society can offer.



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