ICT Adoption Constraints in Horticulture: Comparison of the ISHS\textsuperscript{1} and ILVO\textsuperscript{2} Questionnaire Results to the EFITA\textsuperscript{3} Baseline Data Sets

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INTRODUCTION

Sustainable agricultural and rural development are currently issues of strategic importance worldwide. Information and Communication Technologies (ICT) have the potential to accomplish significant economic, social and environmental results and sustain their benefits. The objective of this paper is to rank the constraints limiting adoption of ICT in horticulture, and compare them to the EFITA baseline data sets.

MATERIAL AND METHOD

EFITA is conducting since 1999 a review survey of ICT adoption constraints in agriculture (Bonn, Germany, 1999; Montpellier, France, 2001; Debrecen, Hungary, 2003; Vila Real, Portugal, 2005; Glasgow, U.K., 2007). Comparable data sets have been added from additional sources – the Agrocomputerage fairs in Germany, AFITA\textsuperscript{4} conferences with the most recent being the AFITA 2008 conference to be held in Tokyo, Japan, and more. These surveys provide a baseline for two comparative surveys in horticulture. The first survey in horticulture was conducted in Berlin, Germany at the 2004 ISHS symposium on horticultural economics and management, and will be updated at the 2008 ISHS symposium, to be held in Chiang Mai, Thailand this December. A second survey was organised in 2005 by ILVO on a sample of 208 horticultural businesses in Flanders, Belgium. Comparing the results of these questionnaires identifies technology innovation adoption commonalities and insights which suggest remedial steps to expedite ICT adoption and the necessary research priorities.

RESULTS AND DISCUSSION

The results of the ISHS questionnaires till now have revealed the following comparable adoption constraints: “end user (ICT) proficiency”, “lack of training”, “ICT benefit awareness”, “time”, “cost of technology”, “system integration” and “software availability”. In further detail - participants from “developed” countries stressed as constraints : “no perceived economic benefits”, “do not understand the value of ICT”, “not enough time to spend on technology” and “how to get a benefit from the use of ICT”. Respondents from “developing countries” stressed the importance of the “cost of technology” and “lack of technological infrastructure”, suggesting that these are threshold constraints for ICT adoption. The results of the ILVO questionnaire are in line with the ISHS survey and the EFITA surveys over time, indicating a shift from ICT technical proficiency as a primary limiting factor towards the lack of understanding “how to get a benefit from the various ICT options” – this being a challenge to research, extension and the ICT market services.

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\textsuperscript{1} ISHS : International Society for Horticultural Sciences
\textsuperscript{2} ILVO : Institute for Agricultural and Fisheries Research, Merelbeke, Belgium
\textsuperscript{3} EFITA : European Federation for Information Technology in Agriculture
\textsuperscript{4} AFITA : Asian Federation for Information Technology in Agriculture