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Training in software used by practising engineers should be included in university curricula

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Deally, an engineering education should prepare students, i.e., emerging engineers, to use problem-solving processes that synergistically combine creativity and imagination with rigour and discipline. Recently, pressures on curricula have resulted in the development of software-specific courses, often to the detriment of the understanding of theory [1]. However, it is also true that there is a demand for information technology courses by students other than computer science majors [2]. The emphasis on training engineers may be best placed on answering the needs of industry; indeed, many proposals are now being made to try to reduce the gap between the educational and industrial communities [3].

Training in the use of certain computer programs may be one way of better preparing engineering undergraduates for eventual employment in industry. However, industry's needs in this respect must first be known. The aim of this work was to determine which computer programs are used by practising agricultural engineers with the aim of incorporating training in their use into our department's teaching curriculum.

The results showed that 72% of their working hours involved the use computer programs. The software packages most commonly used were Microsoft Office (used by 79% of respondents) and CAD (56%), as well as budgeting (27%), statistical (21%), engineering (15%) and GIS (13%) programs. As a result of this survey our university department opened an additional computer suite in order to provide students practical experience in the use of Microsoft Excel, budgeting and engineering software. The results of this survey underline the importance of computer software training in this and perhaps other fields of engineering.

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