"The use of glossaries to define consistent models on agricultural contexts"

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The agricultural practices vary in the different regions of the world. The diversity of weather conditions, soil, flora, and fauna, demands, for example, specific irrigation system and plant health check. Moreover, different countries have different regulations about the use of material (i.e., plastic and wooden), chemicals and techniques. Thus, even though the harvest cycle is the same: soil and material preparation, fertilization, disease management, and so on; every step is performed differently. In order to perform global analysis and find solutions to be applied in several contexts simultaneously, it is necessary to relate and find the equivalences among the different practices. This work proposes a technique to analyze descriptions in natural language of the different agricultural practices with the aim of finding similarities and equivalences. Thus, a unified description can be used as input to produce mathematical models. In particular, we use the Language Extended Lexicon (LEL), a glossary that defines symbols (words and phrases), through two attributes: notion and behavioral responses. The notion provides a description as a regular dictionary does, while the behavioral responses describe the tasks related to the symbol. The proposed technique consists in analyzing the similar patterns in the behavioral responses to find the equivalences. We have worked with only one language, but we think that we can extend our work to be used in a multilanguage environment.