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DECISION SUPPORT ON MANAGEMENT OF CONSERVATION UPLAND FARMING THROUGH INTERNET

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Abstract

At a time when agricultural efforts are focused on increasing food production, soil degradation worldwide is increasing. Soil erosion is one of the most serious environmental problems in the world today, because it seriously threatens agriculture and the natural environment. Therefore good management of conservation farming system is necessary. However, despite many available research results on management approaches, the management practices in the fields remain unchanged, mostly due to the lack of research result dissemination.

This paper describes the development of a computer program as a decision support system (DSS) for management of upland farming with special consideration on soil conservation. It is intended for use by farm advisors and others when consulting with farmers on adoption of conservation cropping system in upland farming.

The computer program was developed by using web-based programming language, so that it can be located in the web-server and can be accessed by many users through internet. After having user input data of certain field and farm practice, the DSS examines rules and databases and then estimates the potential annual soil loss, in terms of soil water erosion. When predicted soil loss is beyond the tolerable soil loss the DSS will find some better alternatives of farm practice for conserving soil with its financial consequences. Furthermore, the DSS will also suggest the most suitable soil tillage machinery for each derived alternative.

At present, the DSS is loaded with databases collected from Cidanau watershed in Banten Province, Indonesia. However, field test for verifying the program has not been done.