



The role of geotextiles in soil erosion and conservation

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Geotextiles can be a well applicable tool to combat soil erosion. Plastic geotextiles are widespread but cheap hand woven geotextiles from organic materials are available as well. They are environment friendly and biologically degradable. In addition to this, the production of geotextiles made of plants grown in developing countries is beneficial for the poor communities of these countries.

The BORASSUS project, funded by the 6. Framework Programme of the European Union (contract number: INCO-CT-2005-510745), aims to study the application possibilities of geotextiles made of palm leaves (*Borassus aethiopum*, *Mauritia flexuosa*), bamboo and jute, under different climatic conditions and various land use types.

In NE Hungary (Abaújszántó) an experimental station was established. 3x4 erosion plots of 10x2 m were formed to measure soil loss, runoff and soil moisture conditions in order to compare slopes covered and uncovered by geotextiles. Soil moisture conditions are permanently measured on the soil surface and at 20 cm depth. Three different land use types, i.e. traditional and espalier vineyards and a new orchard plantation are studied under sub-humid temperate climatic conditions.

Preliminary results covering the period of one year point to the protecting effect of geotextiles. This could be shown at each rainfall producing soil loss. The effect of different land uses influenced first of all the amount of soil loss. No relationship between land use and runoff volume could be detected. Geotextiles favourably affect soil microclimate keeping the soil surface moist for weeks even in very dry periods. Palm leaf and jute geotextiles are beneficial for the soil by reducing soil and water loss and by regulating soil moisture.