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Research related to the slope consolidation through the use of a biodegradable geotextile

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The biodegradable geotextiles can be used for a more rapid framing in the natural landscape, being seeded with seeds of plants with longer life than one year. The biodegradable geotextile employed in this research can also be used to strengthen the slopes of roads and railways, being planted with grass. The geotextile, set on the surface of the slope, represents a protection against the taking with of earth particles by rainwater or their detachment under the influence of gravitational forces. Indirectly, landslide risk for infrastructure elements like roads and railways is mitigated this way, since erosion is a contributing factor to landslides, by creating oversteepened slopes. This paper presents a solution to strengthen a slope using biodegradable geotextiles. Based on results obtained in laboratory the solutions were applied in field. The research concerned so far in both lab and field conditions the types of plants and the type of geotextile, in normal and not extreme conditions. The way how the textile incorporated was produced is described, and recommendations for the types of plant mixes depending on terrain conditions enumerated. Both combinations, including plant seeds during weaving or not have undergone laboratory experiments. Various support soil conditions have been considered. The results, appreciated considering how well did the plants develop, will be described and illustrated with images. On field, the experiments were carried out on two samples in Buzau county, Romania. The two furnished surfaces differed through their slopes, and both were on alluvial sandy soft soil deposits. This experiment is continuing, in order to reach a whole year's cycle, including the winter, and it is recommended for further research to consider two vegetation cycles, in order to be able to meet conclusions about the deteriorability of the geotextile material. Nevertheless, the preliminary conclusions reached show that strengthening the slopes through planting them with grass with help of seeded geotextiles is a future.