News

New techniques to help forest land flourish in Mediterranean area

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Scientists from the University of Granada in Spain have developed new afforestation procedures for farmland based on the relationship between land and plants in order to enhance the survival and development of plants in the Mediterranean environment. The results of the study were partially published in the journal Annals of Forest Science.

Maria Noelia Jiménez Morales, from the university's Department of Edaphology and Agricultural Chemistry, and author of the study, said the research 'contributes new scientific data on the best farmland afforestation techniques in Mediterranean regions, offering new afforestation planning measures on regional terms'.

The research team's techniques will support the positive implementation of the EU's farmland afforestation programmes, which are part of the Common Agricultural Policy (CAP). The EU has vigorous afforestation and reforestation programmes that are essential for reducing greenhouse gas emissions, helping slow down climate change and protecting biodiversity.

Afforestation is the process of planting trees or tree seeds on land that has never been forested. Throughout the EU in the past decades, depopulation of the countryside as hundreds of thousands of people moved to the cities has resulted in much abandoned farmland, creating the perfect opportunity to create new forests.

The EU created a Community aid scheme for afforestation programmes in the 1990s. Although the scheme was successful, leading to the afforestation of approximately 3 million hectares (ha) of agricultural land throughout the EU (including 685 000 ha in Spain alone), the programmes were carried out without any technical or environment criteria or guidelines.

The Spanish team analysed the effects on young plants of different techniques to prepare land for afforestation, focusing on the relationship between land and plants. They also studied the effects of afforestation programmes on biodiversity levels.

Their aim was to reveal the optimum conditions for transforming farmland into forested land. To carry out their tests they used several areas of former farmland that were previously used to grow cereals and raise livestock. A series of recommendations followed.

These include the need for moderate afforestation programmes and low density planting to allow colonisation of the land by indigenous plants. They also recommend selecting farmland for afforestation that is close to indigenous forests and bushes in order to obtain seeds and ensure vegetal succession. Finally, they suggest that active farmland be used for afforestation programmes as the transformation to forest land favours the survival of biodiversity.

The researchers made the point that these techniques would not be suitable for every EU country but would be beneficial in the Mediterranean region.

For more information, please visit:

University of Granada: http://www.ugr.es/