A novel technique for reducing soil fertility in ecological restoration projects

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Surface soil eutrophication hinders ecological restoration projects by favouring communities of low biodiversity. This study assesses the effectiveness of a novel technique known as topsoil inversion that may promote recovery from eutrophication. Topsoil inversion is undertaken by a deep plough, which buries 30 cm of topsoil under approximately 40 cm of subsoil. The main study site is within new community woodland on former agricultural land. It comprises deep ploughed and conventionally ploughed plots, to compare two planting types: wildflowers only, and wildflowers with trees. This presentation will discuss some preliminary findings of the effect of topsoil inversion on soil properties and plant tissue nutrient content. Surface soil fertility is lowered following inversion treatment, and this appears to affect plant nutrient sequestration. These results suggest that topsoil inversion has the potential to facilitate ecological restoration on eutrophic soil. This technique may have benefits for restoration projects taking place in a variety of habitats affected by air pollution, including former agricultural land and lowland heaths.