

Are the Seeds of some UK Heathland Plants Stimulated by Smoke?

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Heathland and moorland landscapes have been managed using fire for hundreds of years. In moorland landscapes rotational burning has often been associated with grouse moors where fire is used to create patches of different aged dwarf shrubs for foraging and nesting habitat. In The New Forest, burning became a tool used to maintain heath following the deer removal act of 1851. Burning, even in well controlled prescribed fires, can be viewed negatively by the public, and is banned by DEFRA on areas of deep peat. Despite this, many plants the world over have evolved long relationships with fire.

Plants in fire-prone heathland environments have been found to have fire-adaptive traits in many countries including Norway and South Africa. One key trait is smoke stimulated seed germination, where seed growth is either enhanced or permitted by water-soluble compounds in smoke. Despite the long use of fire in our heathlands we currently do not know whether some UK heathland plant species might carry smoke stimulated seeds.

This presentation will provide a short overview of the project, including the species to be tested and the approaches used to generate smoke, aqueous smoke solution and assess seed growth responses. This research, funded by the New Forest Biodiversity Forum, is essential if we are to understand the requirements of fire to produce resilient heathland ecosystems.