

FORESTFUNGI

Assessment of wild edible fungal production in selected Irish forest sites and an evaluation of the commercial potential of harvesting

PROJECT TEAM

Dr Tom Harrington, University of Limerick*
Maria Cullen, University of Limerick

* Address correspondence to:
thomas.harrington@ul.ie

COMPLETION DATE

August 2010

OBJECTIVES

- To identify, for monitoring of wild edible forest fungi (WEFF) production, forest study sites that are representative of larger areas of forest in Ireland.
- To obtain quantitative information on WEFF production in these study sites over a 2/3-year period.
- To establish a framework for long-term monitoring of the selected sites beyond the lifetime of the project.
- To extrapolate WEFF production from the study sites to larger areas of similar forest in Ireland.
- To assess year-to-year variation in fungal production.
- To correlate WEFF production with environmental and habitat variables.

- To analyse the community structure of ectomycorrhizal (EM) WEFF in the sample sites, and to relate WEFF production to EM abundance.

PROGRESS

The project commenced in September 2007, with the first year of the survey of wild edible fungal production. Fifty-three forest sites were surveyed in Cos Limerick, Clare, Cork, Kerry, Waterford, Tipperary, Wexford, Wicklow, Dublin, Westmeath, Mayo, Galway, Roscommon, Sligo, Leitrim, Cavan, Offaly, Laois and Donegal. The sites comprised replicate stands of the following tree species, generally in single-species, mature



▲ Beefsteak fungus (*Fistulina hepatica*) on oak; Castletlough Wood, Co Tipperary.



▲ Edible fungi from Curraghchase, Co Limerick: ceps, hedgehog fungus and winter chanterelle.



▲ Ectomycorrhiza on oak roots.

stands: oak (*Q. robur* and *Q. petraea*), beech, hazel, birch, Sitka spruce, lodgepole pine, Douglas fir, Norway spruce and noble fir. Each site was visited and surveyed between three and four times between the first week in September and the last week in November.

Although the 2007 season was poor for woodland fungi, quantitative information was obtained on fungal production from those sites that produced edible fungi—approximately 33% of the sites. Hedgehog fungus (*Hydnum repandum*) and different species of chanterelle (*Cantharellus* species) were most abundant, of good quality and present at some sites in commercial quantities. Of the 40 edible species in Ireland, 29 were seen during 2007.

Voluntary surveyors were recruited in various parts of the country to establish a long-term network for monitoring edible woodland fungi.



▲ Beech woodwart (*Hypoxylon fragiforme*) rotting a fallen beech branch.



▲ Highly-prized chanterelle (*Cantharellus cibarius*) left; inedible false chanterelle (*Hygrophoropsis aurantiaca*) right; Torc Wood, Killarney.



▲ Turkeytail (*Trametes versicolor*) rotting an ash log.



▲ Ceps (*Boletus edulis*) from oak stand, Muckross, Killarney.

ACTIVITIES PLANNED

- The sites used in the 2007 survey will be critically re-examined for their suitability for further surveys. A core of 50 intensively monitored sites will be maintained, and the number of sites sampled by volunteers will be expanded. Site surveys will be carried out in the August to November period of 2008.
- Environmental data, such as stand composition and age, forest structure, ground layer composition, and selected soil factors will be collected at the sites. During the survey period, weather data will be collected at selected sites using on-site measurement of rainfall, soil moisture and soil temperature, augmented by data from Met Éireann.
- A project website will be set up in early 2008.
- The investigation of the structure of the ectomycorrhizal community of edible woodland fungi in the sample plots will commence in spring 2008.