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The Long Term Experiments



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Electronic Rothamsted Archive

Rothamsted Research

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ENVIRONMENTAL CHANGE NETWORK

The UK Environmental Change Network (ECN) was started in 1992 as a multi-agency programme to establish a well-designed national network of sites that could be used to identify, assess and research environmental change nationally, and provide a basis for European and International collaboration. Its specific objectives are:

- To establish and maintain a selected set of terrestrial and freshwater sites within the UK from which comparable long-term datasets could be obtained by means of measurement, at regular intervals, of variables identified as being of major environmental importance.
- To provide for the integration and analysis of these datasets, so as to identify environmental change and improve understanding of the causes of change.
- · To make these long-term datasets available to researchers.
- To provide, for research purposes, a range of representative sites where there
 is good instrumentation and reliable information.

The ECN website is at: http://www.ecn.ac.uk/

At Rothamsted the whole of the farm is regarded as the ECN site. An automatic weather station was established near the meteorological enclosure; many weather measurements are logged continuously. Some measurements focus on the Park Grass experiment as this is of most botanical and ecological interest. Soil solution chemistry is measured on Park Grass on a new, unfertilised "Nil" plot. Sets of nitrogen dioxide (NO₂) diffusion tubes are sited on Park Grass and elsewhere on the farm. Concentrations of NO₂ show significant seasonal variations; there are minima in summer and maxima in winter, linked to air chemistry and central heating, with decreases over the Christmas/New Year period when there is less business activity and road transport.

ELECTRONIC ROTHAMSTED ARCHIVE (e-RA)

The long-term experiments, and other measurements at Rothamsted and at other sites managed by Rothamsted, have generated a large amount of data over more than 160 years. The Electronic Rothamsted Archive (e-RA) provides a permanent, managed database to securely hold Rothamsted's important data, and the textual information associated with it. The current focus is to secure the valuable data from the Classical and other long-term experiments, but data from more modern sources is also stored within e-RA. Datasets include yields from Broadbalk, Park Grass and Hoosfield, meteorological data, and data collected for the Environmental Change Network. It also contains a comprehensive bibliography of papers relating to the long-term experiments. In due course it will also be linked to the database detailing what is contained in the Sample Archive.

The e-RA database can be accessed via the Rothamsted website.

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