Rothamsted, a short distance south of Harpenden town centre, is the world’s oldest agricultural research institution. It dates its foundation to 1843 when John Bennet Lawes, the owner of the Rothamsted Estate, appointed Dr Joseph Henry Gilbert, a chemist, as his scientific collaborator. Their scientific partnership lasted 57 years, and they established the principles of crop nutrition and laid the foundations of modern scientific agriculture.

Distance: 4.8 km (3.0 miles) | Duration: 1 - 2 hours

Difficulty: Mainly surfaced or gravel paths. When wet, some parts can be muddy. For wheelchair/buggy users, alternative routes bypassing the kissing gates can be found in the full downloadable online version of this walk available at www.rothamstedenterprises.com/activities/walking-trail
1. Rothamsted Research
2. Rothamsted Insect Survey
3. Field Phenotyping Platform
4. Rothamsted Manor
5. Park Grass
6. Broadbalk Wilderness
7. Broadbalk field experiment
8. Rothamsted Park
9. Graves of Gilbert, Lawes & Warington
10. Park Hall
11. Russell Building
Start: The public car park by the restaurant at Rothamsted Research.

With restaurant on your right, Walk 30m north to the junction with main site access road. The curved Centenary Building is ahead to your right, with an old cider mill in front.

Rothamsted Research

Dating from 1843, Rothamsted Research is the world’s oldest agricultural research institution. The 57-year partnership of founder John Bennet Lawes, the owner of the Rothamsted Estate, and Dr Joseph Henry Gilbert, a chemist, established the principles of crop nutrition and today’s scientific agriculture. The current site has an extensive range of modern laboratories and 400 hectares of experimental farmland. Pyrethroid insecticides were first synthesised at Rothamsted in the 1970s, derived from compounds in the pyrethrum daisy, grown here around the old cider-apple mill.
Turn left, slightly uphill and continue up through the site, past sports facilities, until you reach the avenue of lime trees, where you turn left to reach a display board.

2) Rothamsted Insect Survey

Look across the sports field where you will see two chimney-like insect suction traps and, just to the right, a pylon-like structure, of similar height, which is part of the meteorological station. Rothamsted has been recording rainfall continuously since 1853 and temperature since 1873. The suction traps have been providing daily samples of insects, including pests such as aphids, since 1964. Traps of this Rothamsted design are used worldwide. You will see a moth trap further along the trail. The traps have now generated the longest continuous set of insect data in the world.
Continue for another 135m to the next display board.

③ Field Phenotyping Platform
This is clearly visible in the adjacent field. Built in 2015, it is the world’s first in-field automated measuring facility for crop growth and health. Crops can be monitored continuously by an array of sensors with the overall aim of improving crop yield and quality.
Continue to a T junction. Turn right here and then, after 100m, bear left and pass through the black metal gates into the grounds of Rothamsted Manor. Follow the drive, bearing left after 50m, and walk to the far end of the lawn where there is a display board.

Rothamsted Manor

John Bennet Lawes, the founder of Rothamsted, was born here in 1814. He was educated at Eton and Oxford and when he returned from university had one of the best bedrooms fitted out as a laboratory, much to his mother’s dismay. Here he developed a process for producing phosphate fertilizers by treating bones and other phosphatic materials with sulphuric acid.

He established a business based on his patented (in 1842) method for manufacturing superphosphate fertilizers and owned factories in London.
Turn left, past the wooden gate, and follow the path until you see display boards on the left, in front of an open field.

5 Park Grass

This grassland experiment, started in 1856, is the oldest ecological experiment in the world. It is one of the seven Classical experiments started by Lawes and Gilbert between 1843 and 1856 still continuing today. The field is particularly impressive in May/early June, prior to being cut for hay, when the differences in the flora between plots is striking. Some plots contain 35 – 45 different plant species whereas others, especially some very acid plots, are dominated by a single species (e.g. sweet vernal grass, Anthoxanthum odoratum). This is entirely a consequence of different fertilizer (N, P, K mainly) and liming treatments as no seeds have been sown or herbicides used. Park Grass continues to provide important information on the impact of environmental and climatic changes on plant population dynamics and biodiversity.
Turn right, following the path into the woods, then bear left and continue to a metal gate. Go through and turn right down the track. Pass through another kissing gate and continue until you reach a farm road at a bend.

Broadbalk Wilderness

The narrow band of woodland immediately ahead, on the other side of the road, is Broadbalk Wilderness (yes, it is quite small for a wilderness!). It was part of the main Broadbalk wheat field until 1882 when it was fenced off and left. It is now an area of deciduous woodland (mainly ash, sycamore and hawthorn). Most of this part of Hertfordshire would probably come to look like this if all humans suddenly disappeared.
Turn right and follow the farm road to the end of the field on the left, which is Broadbalk. Where the hedge ends, by a large oak tree, stop at the main display boards, which are on the left.

Broadbalk Field Experiment

Was started in 1843 and is the oldest continuous arable experiment in the world. It is another of our Classical experiments. It was one of the first experiments to show conclusively that wheat, like most plants, obtains nitrogen from compounds in the soil, rather than from the atmosphere. The different strips running up the field receive different fertilizer treatments, which have a considerable impact on crop yields. The field is divided crossways into 10 sections, which test different cropping treatments. For example, some sections have been sown with no crops other than wheat since 1843. In other sections, beans and oats are grown in rotation with wheat. The second section from this end of the field receives no herbicides, so is full of weeds, including some which are nationally rare or declining (e.g. corn buttercup (Ranunculus arvensis), shepherd’s needle (Scandix pecten-veneris)). Broadbalk is the last site in the UK where corn cleavers (Galium tricornutum) occurs.
Continue along the main farm road towards brick outbuildings, but after 60 m bear left on a footpath. Where the path meets an asphalt access road, turn left past a pair of brick cottages, signposted to Rothampstead (sic) Park. Follow the gravel track to an avenue of lime trees. Turn left to reach a metal gate.

Rothamsted Park

This was formerly a private part of the Rothamsted estate owned by Sir John Lawes but was bought by Harpenden Urban District Council in 1938 and subsequently opened to the public. The avenue of lime trees was planted by Lawes around 1880.

Important: The Main route described below is currently (April 2020) obstructed by building work associated with the new Leisure and Cultural Centre, due to open in early 2021. Until the obstructions are removed, continue on the track down the avenue of lime trees and turn left on the first footpath you come to, following the alternative route described overleaf.
Turn half left across the grass of Rothamsted Park. Head for the right hand corner of the new leisure complex. Follow a path between the leisure centre and arts/cultural complex, passing the car park to your left, then turn right downhill towards the Oddfellows Arms pub. Just past the pub turn left, cross the green and continue along Leyton Road heading towards St Nicholas’s Church and enter the churchyard.

Graves of Gilbert and Lawes

Immediately on your left is the grave of Sir Joseph Henry Gilbert (1817 – 1901) and his second wife, Maria. Gilbert started working at Rothamsted in 1843, as a chemist and scientific collaborator of Lawes and was knighted in 1893 in recognition of his contribution to agricultural research. From Gilbert’s gravestone walk nine paces directly towards the church and you will be beside the grave of Sir John Lawes. Sir John Bennet Lawes lived from 1814 to 1900 and, with Gilbert, established Rothamsted Experimental Station in 1843. Lawes was created a baronet by Queen Victoria in 1882. Sir John Lawes secondary school in Harpenden is named after him. His wife, Caroline, is commemorated here too.
From a point midway between Lawes' and Gilbert's graves, walk along the broad grass track across the churchyard. At the far side of churchyard you reach a leaning Cupressus tree where you turn right along another broad grass track. After about 40m you will see, on the left, a memorial with a Celtic cross (cross within a circle).

Grave of Katherine Warington

This is the grave of Katherine Warington (1897 – 1993). She was a botanist and worked at Rothamsted for 36 years. One of her most significant discoveries was that boron is an essential plant nutrient. The Katherine Warington School, which opened in September 2019, is Harpenden’s fourth secondary school and is named after her. The name was one of over 700 suggestions from pupils at primary schools in and around Harpenden. The name was suggested by Elizabeth Gilardo, an 8 year old pupil from St Dominic Catholic Primary School, who was “…surprised that Katherine had not been fully recognised for her achievements so her name becoming the school name would help that.”
From the church entrance, walk towards the war memorial. Turn right along Harpenden High Street until you reach Pizza Express where you turn right again to reach a drinking fountain, gifted by John Bennet Lawes in 1890. Continue, crossing the road and follow left along Leyton Road to reach the Park Hall.

Park Hall

John Lawes provided the site and partly paid for the construction of this building for use as the Harpenden British Schools, one for boys and one for girls, which opened in 1850. These were the first local schools to provide education for children of working-class families. The schools continued until 1897 when Park Hall became the offices and Public Hall for the newly formed Harpenden Urban District Council. Harpenden Town Council redeveloped the rear part of the schools as the new Town Hall in 1994. The original part is now maintained as a community facility with the Harpenden Town Hall in the newer building at the rear.
Continue on the footpath alongside the road, walking away from the town centre, past the former Rothamsted Directors’ House on the right, until you reach the front of Rothamsted.

Rothamsted Russell Building

Note the large Shap granite boulder commemorating the 50th anniversary (1893) of the start of Rothamsted’s famous long-term field experiments. Across the lawn to the left is an oak tree (red oak, Quercus rubra) commemorating the 150th anniversary in 1993. The plaque on the base of the boulder, commemorating this anniversary, was unveiled by Queen Elizabeth II, who is the patron of Rothamsted Research.
Walk up to Rothamsted’s main access road (by the commemorative oak tree) and turn right into the main site. Walk up the path noting the new (2018) De Ramsey & Fisher Court visitor accommodation buildings, then the new (2015) conference centre buildings on the left with the curved Centenary Building (2003) on the right, with grass in front and an old cider-apple mill.

You have now reached Rothamsted Conference Centre and the end of the walking trail. We hope you enjoyed your walk and have learnt something about the interesting history and work taking place at Rothamsted.

Why not treat yourself to hot and cold refreshments, served at Rothamsted Restaurant, which is open from 8.30am – 4.30pm, Monday to Thursday and 8.30 – 4pm on Fridays.

Follow Rothamsted Research on social media to find out what else is going on at Rothamsted and feel free to share any photos you took while on your walk using hashtag #walkrothamsted.

@rothamstedconfcentre
@rothamsted conferencecentre
@rothamstedCRE

Adapted from the trail booklet compiled by Stephen Moss.
All due care has been taken to ensure that details are correct at time of going to press, but we cannot be held responsible for any changes to footpaths or access.

Please note that Rothamsted Research’s experimental facilities and Rothamsted Manor are not open to the public.

The land that this walk takes in is privately owned by the Lawes Agricultural Trust, and you are invited to walk here with consent, not as a right. Our fields and facilities are a working and living laboratory. Visitors to our outdoor laboratories are welcome. Please observe all onsite signage; keep to public access paths; dogs must be kept on leads at all times.