

TEACHERS INFORMATION PACK



BURWASH MANOR FARM



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BURWASH MANOR FARM

SECTION 1 : Pre-Visit Information

Welcome

Thank you for your interest in visiting Burwash Manor Farm. We hope that the experience will give your pupils information and inspiration.

The visit allows pupils to see for themselves how a modern, commercial but conservation orientated, organic farm works, in an enjoyable and safe environment. We welcome children of all ages and can accommodate group sizes from 6 to 30 (or more by arrangement).

We hope this pack will help you to prepare a successful programme tailored to suit the educational needs of your group.

What is farming?

Farming is the practical application of mathematics and science to produce crops and livestock for food, fuel and fibre. It incorporates subjects as diverse as plant and animal physiology, genetics, digestion, metabolism and mechanics, to name just a few.

Farming is also the rock upon which human civilization stands: without settled (farming) communities, civilization, as we know it, could not have developed. Almost all of history, certainly pre C18th, is agricultural. In geographical terms it stands at the interface between physical and human and economic geography. The shape and layout of the country, the way it functions, is largely the result of over 5,000 years of farming, markets becoming towns and drovers' tracks becoming roads. Farming has created the landscape that we see.

Modern agriculture is a highly competitive global industry. The UK produces 70% of the food that we eat, the rest coming from other parts of the world. It is the first link in a sophisticated chain to prepare and process our food before we buy it in the shops. What a farmer grows depends on individual circumstances such as location, weather conditions, size of farm, history of the area, market forces and his personal preferences. Many farmers also now operate broader enterprises to include leisure activities and environmental management. Burwash Manor Farm has diversified into retail and is also part of the HLS (Higher Level Stewardship) scheme.

What facilities do we offer?

We have two public toilets, plus hand-cleaning facilities wherever visitors come into contact with animals. We have on-site:

- Tea-rooms (open for lunches 12-2.30, and snacks from 10 until 4.30).
- Picnic areas – both open-air and covered.
- The Larder – farm shop stocking our own, and many other local products.
- A wide range of other shops and businesses.

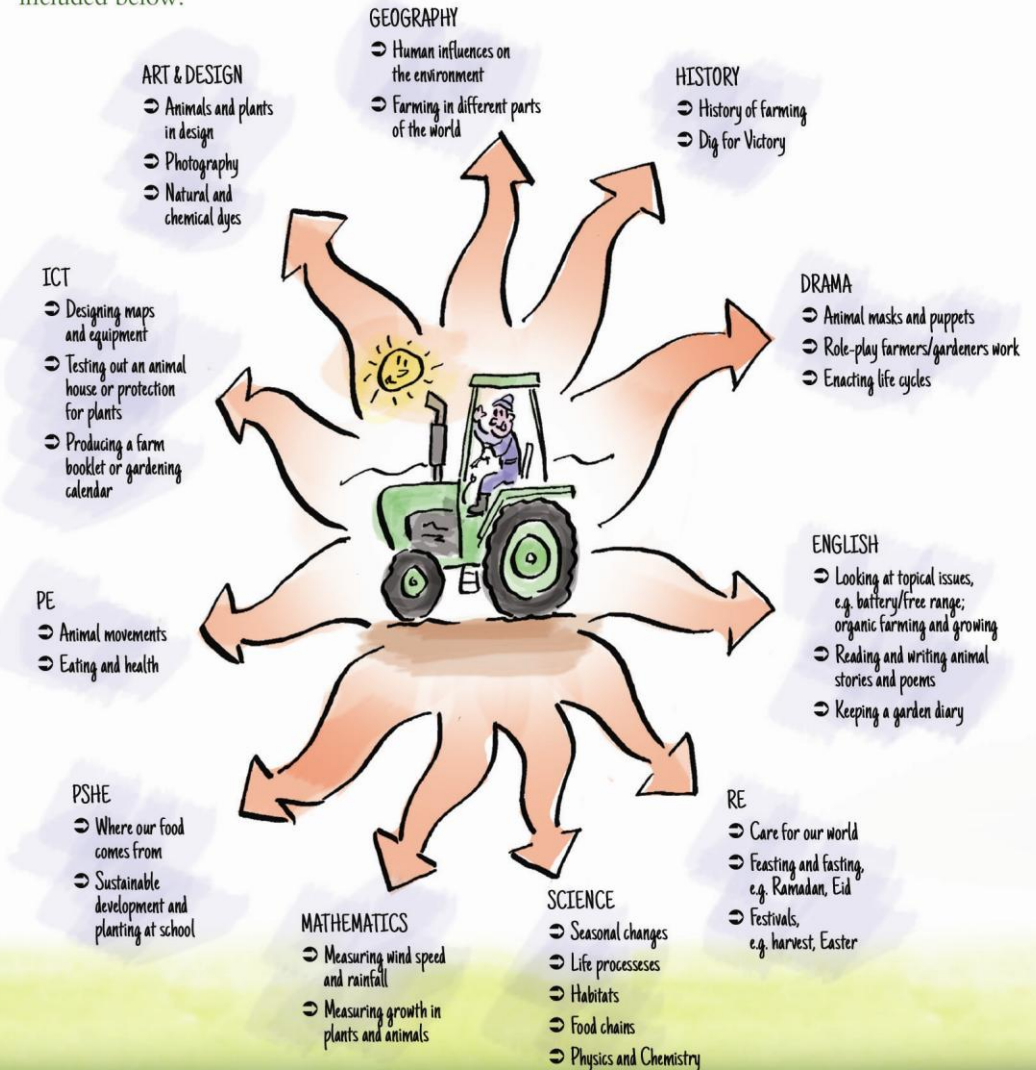
We have disabled toilets, but due to the nature of the terrain we consider wheelchairs to be rather difficult to manage – however, we can offer tractor and trailer rides, and are always open to suggestions as to how to make our site more accessible to physically disabled visitors.



SECTION 2 : The Countryside Classroom

The countryside offers an invaluable teaching resource. Visits to Burwash Manor can be used to help teach many aspects of the curriculum through learning about farming, the countryside and a wide range of other businesses. We hope that this pack will give you ideas to inspire your pupils and get the most out of your visits.

There are many ways in which farming and growing can enrich the curriculum. Some examples from the Department for Education and Skills Growing Schools initiative are included below:



SECTION 3 : On the farm

Risk assessment

We recommend a pre-visit to our farm, during which you can carry out a risk assessment and become familiar with the site. Any specific requirements or needs of the visiting group can be discussed. A copy of the farm's risk assessment is available (see www.burwashmanorfarm.com/downloads).

Health & Safety

We comply with Health and Safety Regulations. However, it is important that all pupils and supervising adults are aware of the correct Health and Safety guidelines.

Contact with animals

The risk of infection is very small, but disease caused by an infection could be serious. By following simple guidelines, similar to everyday basic hygiene recommendations, the risk can be easily minimised.

The Health & Safety Executive has produced guidelines, HSE sheet AIS23 – Avoiding ill health at open farms – Advice to farmers. The supplement to AIS23 advises teachers and others who organise farm visits on controlling the risk of infection from animals which the pupils may have contact with during their visit.

All animals naturally carry a range of micro-organisms, some of which can be transmitted to humans, causing ill-health. Some, such as E coli 0157 can cause infections (that can potentially cause disease) which may be particularly acute in young pupils.

While the hazard from infection resulting from a farm visit is real, the risk can be readily controlled by following sensible steps which will help make your visit safe, healthy and enjoyable:

1. Read and understand the advice in AIS23, and discuss visit arrangements with the farm management. Assure yourself that the facilities provided match the recommendations in AIS 23.

2. Decide what the ratio of pupils to teachers/assistants/parents should be, using advice from your local authority. As a general rule, the ratio of supervisors to pupils should be:
1:4 for children between 3 and 5 years old.
1:8 for children between 5 and 8 years old.
1:10-15 for children between 9 and 11 years old.
1:15-20 for children 12 years and above.
If supervision levels are less than this, you should not allow direct contact with any animal for children under 8 years old.
3. Discuss with supervisors, who may be parents or staff of the school, their role during the visit. They must understand the need to make sure that pupils clean, or are helped to clean, their hands thoroughly after contact with animals, and follow the other rules suggested below.
4. Discuss with pupils the rules for the visit, stressing that they must not eat or chew outside the areas in which you permit them to do so.
5. Check that cuts, grazes, etc. on pupil's hands are covered with a waterproof dressing (we are only allowed to provide plasters in an emergency!).

Clothing

Make sure that pupils wear appropriate clothing, including sturdy outdoor shoes (not sandals) or wellies if possible.

Behaviour

Teachers/group leaders are responsible for the pupils behaviour throughout the visit. Pupils should understand how to behave on the farm and always follow the Countryside Code.

During and after the visit, make sure that pupils:

- Do not kiss animals!
- Always wash their hands thoroughly before and after eating, after any contact with animals, and again before leaving the farm.
- Never feed the animals, unless invited to do so.
- Eat only food that they have brought with them, or food for human consumption that they have bought on the farm site, and never taste animal food, or eat food that has fallen to the ground.
- Do not suck fingers or put hands, pens, pencils or crayons, etc, in their mouths.
- Clean or change their footwear before leaving, remembering to wash their hands after any contact with animal faeces on their footwear.
- Allow plenty of time before eating or leaving so that they do not have to rush.

Check that pupils' stay in their allocated groups during the visit, and that they:

- Do not use or pick up tools (e.g. spades and forks) unless permitted to do so by us.
- Do not climb on walls or animal pens, machinery etc.
- Listen carefully, and follow instructions and information given by us.
- Approach and handle animals quietly and gently.
- Do not chase, frighten or torment the animals.

You should supervise them during the visit, especially during hand washing, to make sure that each pupil washes thoroughly.

If a member of your group shows signs of illness (e.g. sickness or diarrhoea) after a visit, advise them or their parent/guardian to visit the doctor and explain that they have had recent contact with animals.

Further information

Copies of the AIS23 information sheet and supplement and other useful Health and Safety leaflets are available free from HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 2WA
Telephone: 01787 881165
Website: www.hsebooks.co.uk

The Countryside Code

- Be safe – plan ahead and follow any signs.
- Leave gates and property as you find them.
- Protect plants and animals and take your litter home.
- Keep dogs under close control.
- Consider other people.

www.countrysideaccess.gov.uk

Education packs are available from countrysidecode@face-online.org.uk

SECTION 4 : What we have to offer

Not all activities are available all year round, so some may have to be planned seasonally. The range of visits available during harvest (August) is more limited (for obvious reasons). Many of the activities at Burwash Manor Farm revolve around our 'Running Fox Walks', they can be of varying lengths from ½ to 2¾ miles, they take in features of particular interest around the farm (ponds, woodland, species rich meadows, archaeology) and they are accompanied by descriptive notes and work sheets. If preferred the 'walks' can be taken on a purpose made farm trailer, clearly this allows for more 'activity' time along the way.



A very wide age range can be catered for, from pre-school to post graduate and beyond, including adult groups such as WIs and WEC courses.

A similarly wide range of subjects can be covered, encompassing a large part of the National Curriculum. Clearly, our greatest strength lies in the biosciences, especially ecology. However, by its nature as a farm and by virtue of the associated businesses, we also have expertise in the physical sciences, human and economic geography and economics and business studies.

For younger pupils the activities do tend to be broadly observational and descriptive. However, where possible, we try to use these observations to pose and answer simple questions and draw conclusions. Activities might include:

- Children are shown the leaf of a tree, told its name and asked to find a tree with the same leaf.
- Children are given pots and asked to collect things beginning with a letter of the alphabet, or smelly things, or prickly things, etc.
- Children are given a clay 'pizza' base and asked to collect all the things that they think a vole/rabbit/partridge/thrush might eat.
- Pond dipping – using hand lenses we examine the different insects and animals and the ways in which they are adapted for an aquatic environment.
- Mini beast hunting in grass tussocks/leaf litter/hedgerow bottoms.
- Whilst standing by a pond/in a wood/in a field, children are asked to describe what they see – a similar exercise can be carried out with eyes closed, to think about the sounds.
- At certain times of the year we have young animals on the farm (lambs, calves and piglets) which are always a delight to younger children.



For secondary school pupils/children an activity dealing with plants, their structure and use as food would include:

- Ideally using wheat but otherwise whatever is seasonally available, we identify the parts of the plant and their various functions (roots, stems, leaves, reproductive parts).
- We dig a soil profile pit, this helps us to explore the relationship between roots and soil and the roots' role in plant nutrition.
- We examine soil structure and make up and how this affects nutrient and water up take and hence plant growth.
- We examine the things living in and on the soil (slugs, snails, earthworms, insects) and their importance as pests/pest controllers and soil conditioners.
- We investigate the root nodules on clover roots, the symbiotic relationship between leguminous plants and rhizobium species bacteria and discuss the importance of nitrogen in plant nutrition.
- Using hand lenses we look at diseased and healthy leaves, the huge importance of photosynthesis and how it works and the ways in which crop plants can be protected from pests and diseases.
- Depending on season we may 'harvest' a crop and then examine the different ways it may be used, as food or as feed for animals.
- We look at the degrees of 'processing' that may have to be carried out.
- We discuss food mileage and sustainability.
- Given prior warning, seed samples can be germinated and seedlings grown, to complete the cycle.
- We examine the stem, its physiology and its role in supporting the leaves, and flowers, fruits and seeds.
- Using hand lenses we investigate the flowering parts of the plant (the petals, anthers and stamens) and their role in reproduction.

SECTION 5 : About our Farm



Burwash Manor Farm Facts

Burwash Manor is a 400 acre mixed farm (we keep animals as well as grow crops), we have been organic since 2000 and we have been heavily involved in conservation work for 35 years, winning several awards along the way. We joined Natural England's, dual level Environmental Stewardship Scheme at its inception in 2006. The retail courtyards were set up in the early 1990s.

We are currently embarking on a major investment programme into renewable, low carbon energy production. The aim being to make Burwash self sufficient in energy and carbon zero in its production.

History of Burwash Manor Farm

Burwash Manor Farm was named because of its owner, Bartholomew Burghersh (try saying it out loud) – we know he owned the farm in 1344. It was renamed in 1719 when the University bought it; they called it University Farm! It later became known simply as Manor Farm, and then in 1988 we changed the name back to Burwash Manor Farm. Burwash Manor has been owned by our family (the Radford's) for over 100 years. We inherited a farm that was in considerable debt and having run the farm for many years, we realised that some form of farm diversification was needed in order for it to be able to survive financially. That's why there are shops at Burwash Manor, the first being a single farm shop, selling fruit and vegetables grown on the farm.

Like most farms, Burwash is steeped in history: one of the fields (King's Grove) contains the remains of a Bronze Age burial mound; a Neolithic arrowhead was also recently found in this field, another field (Fossil Pits) was dug for 'fossils' in the 1800s (phosphate-rich dinosaur dung that was ground up for one of the first 'artificial' fertilizers). Barton sits astride the old (probably pre-) Roman Ermine Street, leading out into the fens.

One of our wild flower meadows, 'Buttercup' contains a moated site, believed to be the site of the original Manor House and probably continuously occupied for over 1000 years (not necessarily such a feat, bearing in mind that Queen Elizabeth I was on the throne when the present house was built and it certainly looks set for several hundred years yet!).

The farm suffered a terrible fire in 1940, which destroyed almost all of the beautiful C17th and C18th timber framed and thatched farm buildings; fortunately the Dovecote was saved as were the farm blacksmiths and carpenter's shops, now, once again, worked in by a blacksmith and by a carpenter.

Our Animals

Burwash has a herd of beef suckler cows and a small herd of free range pigs. We are also visited from time to time by a flock of sheep.

Cattle

The cows at Burwash (between 25 and 30 of them) are kept for the calves which they rear rather than for their milk (i.e. they are a suckler rather than a dairy herd). They are pedigree Beef Shorthorns. Our oldest cow is 13 years old and has had 11 calves.

Most of the time, the cows are out in the fields, grazing, but when it gets very cold and wet we bring them in to a large barn. They spend the winter there, sleeping on a deep bed of straw and with silage to eat. During the summer we have excess grass which we cut and make into silage. When grass is allowed to ferment, in the absence of air (anaerobically), it produces lactic acid which pickles the grass and preserves its nutritional value – making silage.

Pigs

The pigs at Burwash are a cross between two breeds, Essex Saddleback and Duroc. The sows (mothers) are Saddlebacks (as are the young mothers to be, called gilts) and the boar (father) is a Duroc. We usually have 3-4 sows, 1 or 2 gilts as replacements and a boar. Saddlebacks are very good at living outdoors (although they do have small huts full of straw to sleep in) and are very good mothers. The pigs' main diet is a meal (sort of muesli) made from crushed cereals (wheat, oats and barley), and beans or peas, which we grow on the farm. This is supplemented through the year with silage and whatever surplus fruit and vegetables are available – sometimes even asparagus!

We move our pigs onto a new patch of grass every six months or so, to break disease cycles. However, it doesn't take them very long to rootle it all up until it looks like a ploughed field! They do leave the soil in fabulous condition – as if someone had spent hours forking it over and mixing in muck. We try to follow the pigs in the rotation with hungry crops like sweet corn or potatoes. The meat from our pigs is sold through The Larder (farm shop), mostly as sausages, bacon or ham.

Sheep

From time to time a flock of Rough Fell and Herdwick sheep grazes the meadows at Burwash, especially at lambing time.

Our Crops

The main cash crop we grow at Burwash is wheat. We also grow barley, oats, triticale, beans, asparagus, sweet corn and potatoes. Grass/clover leys (short term pasture) are sown to feed the cows. As organic farmers, our yields are about half those of 'conventional' farmers (1½ – 2 tons/acre of wheat instead of 3½ – 4 tons/acre). We are constantly refining our system, to close this gap.

Wheat

Wheat is our principal income generating crop. We have a very 'clean' farm (free from noxious difficult weeds) so, much of our wheat is grown for seed for other organic farmers to use. Some of the rest goes to make animal feed. A small amount is stoneground in a windmill at Swaffham Bulbeck and returned to The Larder as flour.

Barley

We are one of only two organic growers of the world famous malting barley, Maris Otter. Once malted, a small amount of this malt is used by the Moonshine Brewery at Fulbourn to produce our Burwash Manor Barton Bitter.

Rotations

Year by year we change what is grown in any particular field; this is known as a rotation. Our 'normal' rotation takes six years to complete: it starts with a white clover/grass ley, which is grazed by the cattle; this is followed by two wheat crops, which make use of the soil fertility (nitrogen) provided by the white clover and cattle. A red clover/grass ley is undersown into the second wheat (sown into the growing wheat crop). The red clover is grown for silage to feed the cattle through the winter and the fertility generated by it is used by two more wheat

crops. As before, the second wheat is 'undersown' with the white clover/grass ley and so the rotation begins again.

The purpose of the rotation is, firstly, to build up and then utilize soil fertility and secondly, to break weed, pest and disease cycles in both crops and livestock.

Our Machinery

We have 5 tractors ranging in power from 30 to 150hp, as well as a forklift, a mini digger and a combine. The tractors are allocated their jobs according to their size and power, so the largest does the heaviest work: mouldboard ploughing, mole ploughing and heavy cultivations as well as comb harrowing. The second, 120hp tractor, does the lighter cultivations, drilling, muck spreading and silage mowing; the smaller tractors do the odd jobs like carting corn, rolling and mowing the tracks.

Our Soils

Burwash is a slightly rolling farm, rising up to 180 feet above sea level. Most of our soil is either heavy boulder clay or a sandy clay loam; we also have small areas of chalky loam. These soils are very alkaline (pH over 8), fairly rich in nutrients and retain moisture well in a dry year, which allows for intensive arable cropping and good grass growth.

Our Landscape

Prior to the 1960s, the landscape of Burwash Manor was quite open in character; however, during the 1970s and 1980s we planted several thousand yards of hedgerow, so that all fields are now surrounded by hedges.

The three largest fields were also divided by beetle banks (3 yard wide raised banks of tussocky grasses and wild flowers). Most of our fields now also contain small copses.

The Bourn Brook runs through the southern end of the farm; the farmhouse is partially surrounded by a moat and old parkland; a very wet field has been allowed to revert and now forms a landscape highlight with six ponds in eight acres of wet pasture land.

Our Climate

As with most of the UK the prevailing wind is South Westerly. Our normal rainfall is 20 to 30 inches p.a. (and some years most of it seems to fall in July and August!).

Our Farm Buildings

About 25 years ago, due mainly to the increasing size of machinery, we moved the base of our farming activities to a site on the edge of the village (Foxcotte Farm) where we erected larger, more modern buildings. This move resulted in two courtyards of older buildings becoming redundant, which we then converted into retail units. We hope to do the same with a third yard very soon.

These pictures show you how the farm buildings used to look and how they look now:



Our Staff

Burwash Manor has been owned by the Radford family for over 100 years. We (Michael and Susan) are the fourth generation and so our children, who are actively involved with the farm, will be the fifth.

Alan Clarke is our farm manager and we employ part-time staff at seasonal times (such as during asparagus harvest and corn harvest). Usually, however, Alan and Michael share the important jobs: we work fairly hard!

Our Wildlife

Over 30 years ago we initiated a programme of measures aimed at improving the farms biodiversity, its landscape character and its amenity value.

The following are the principle actions taken:

Trees and woodlands

- Improved management of hedgerows.
- Several thousand yards of new hedge planted (using 11 species of shrubs and 5 species of tree).
- Existing hedges rejuvenated by coppicing/laying and gapping up, on a 30 year rotation.
- Hedges allowed to become wider and taller (at least 7ft x 7ft).

- Trimming only 1 year in 3 to allow for maximum blossom and fruit production.
- New woodland created: 14 new small field corner spinneys and 1 larger spinney (now under coppice management).

Grasses and wildflowers

- Careful management of species rich meadows – late hay cut (after seeding) – light grazing of the aftermath (regrowth) – no use of fertilizer or sprays.
- New meadows of high biodiversity value created.
- Floristically enhanced grass margins planted around all fields and across 3 large fields (beetle banks).

Ponds and wetlands

- 8 acres of poorly drained land allowed to revert to wetland with the addition of 6 new ponds.
- Other farm ponds protected and enhanced.

Wild bird seed mixes

- Five plots sown to plants producing small seeds to provide winter feed for small birds.

Organic farming

- No fungicide, insecticide or herbicide used.

Public access

- A network of permissive paths established, affording the general public quiet enjoyment of the farm.

These, and other measures, have lead (against the national trend) to increasing numbers of all the birds that we worry about; Skylark, Corn Bunting, English Partridge, Yellow Hammer, Hobby etc. We now have two pairs of Barn Owls and several pairs of Lapwings nesting on the farm, after many years absence; we frequently see grass snakes and weasels, newts and dragonflies. Burwash Manor Farm has received a number of awards in recognition of these achievements.



A Year on Our Farm

January

- Planting trees and hedges.
- Coppicing/hedgelaying/fencing.
- Feeding and bedding cattle.

February

- Planting trees and hedges.
- Feeding and bedding cattle.

March

- Weeding crops.
- Calving cows.
- Sowing spring cereal crops and undersowing grass/clover leys.
- New building/building maintenance.

April

- Planting and picking asparagus.
- Cattle out onto meadows/calving.

May

- Picking asparagus.
- Muck out cattle sheds.
- Sowing wild bird seed mixes.
- Mowing pastures for thistles.

June

- Making silage and hay.
- Fence maintenance.

Every day

- Check cattle, feed if needed.
- Check pigs and feed (roughly every 2 months mill/mix new feed).
- A mountain of office work.

July

- Maintenance of machinery.
- Cleaning barns (grain stores).

August

- Harvesting cereal crops.
- Muck spreading.
- Ploughing.

September

- Cultivation/preparing seedbeds.
- Picking sweet corn.
- Weeding crops (weed strikes).

October

- Sowing wheat, barley and oats.
- Picking sweet corn.
- Weeding crops.

November

- Cleaning and servicing machinery.
- Bring cattle into sheds.
- Weeding crops.

December

- Trimming hedges.
- Feeding and bedding cattle.

SECTION 6 : How to contact and find us

Contacting us

The farmer is Michael Radford

Our address is Burwash Manor Farm, New Road, Barton, Cambridge CB23 7EY

Our website is www.burwashmanorfarm.com

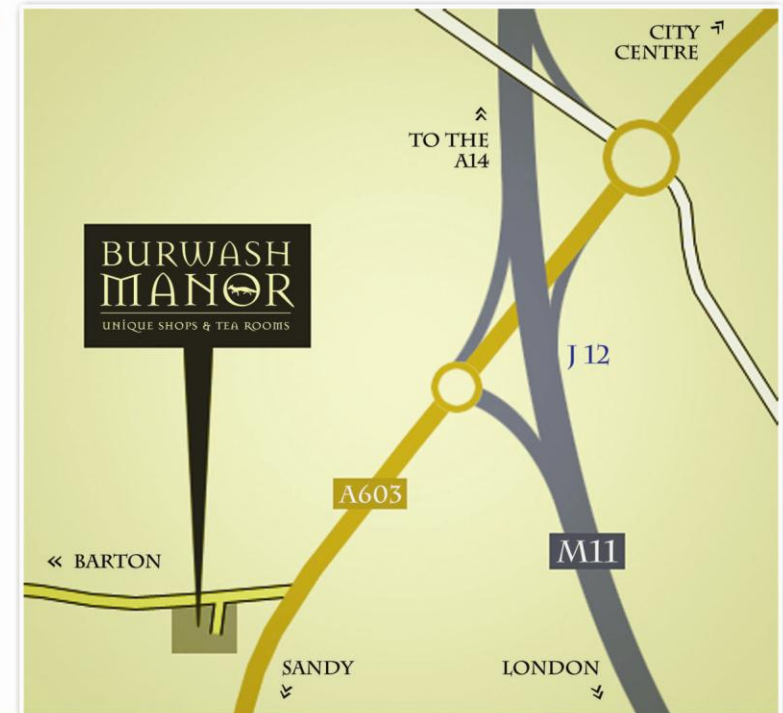
Our e-mail is info@burwashmanorfarm.com

Michael's mobile is ... 07774 186 486

Booking a visit

In the first instance, please telephone or send us an email. Visits are free but you will need to organise and pay for transport. We will send you a confirmation letter once a date has been agreed.

Where we are on the map



How to get here

From Cambridge

Just 2 miles from the City centre, travel along the Backs, through Newnham onto the Barton Road (A603) and travel out of Cambridge. Go straight over two roundabouts at the junction with the M11. Then take the first right onto New Road (the B1046 signed to Comberton). Burwash Manor is the first turning on the left, down the farm drive.

From the M11

Burwash is 2 minutes from Junction 12 of the M11. Exit at Junction 12 and head West, away from Cambridge on the A603 towards Sandy. As before, take the first right onto New Road heading into Barton. Burwash Manor is the first turning on the left, down the farm drive.

Parking

There is plenty of car, cycle and minibus parking on site. We can also manage coach parking if notified in advance. The 'Running Fox Walks' sign in the main car park is the meeting point for the start of a visit.

Evaluation form

In return for providing free, educational visits, we ask that you complete a short evaluation form that we will provide. Please take a few moments to complete this form after the visit and hand it to us before you leave. Additional feedback regarding the visit is also appreciated. Thank you.

Complaints procedure

If you have any complaints regarding your visit please inform us so that we are able to improve our service. You may also write to:

Conservation Advisor
Breckland, Bedfordshire and Cambridgeshire Land Management Team
Natural England
Eastbrook
Shaftesbury Road
Cambridge
CB2 8DR

Notes:



Burwash Manor Farm

New Road, Barton

Cambridge CB23 7BD

Telephone : 07 774 186 486

Email : info@burwashmanorfarm.com



www.burwashmanorfarm.com