

# Bake Your Lawn

Grow it, mill it, bake it, eat it

Follow the **Real Bread** trail from seed to sandwich on your own doorstep...



[realbreadcampaign.org](http://realbreadcampaign.org)

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# Time to get growing

Are you ready to take a handful of wheat and one square metre of earth to follow the Real Bread journey from seed to sandwich?

We're sure that was a 'yes', and now you've downloaded this booklet, you're only a few simple steps away from being able to Bake Your Lawn.

We've included a lot of information in this pack, so before you say 'eek! I haven't got time to read all of that', here is where to find the essential bits:

## Grow it

- Get your wheat seeds (page 9)
- Dig and rake your chosen patch of ground to make it ready for planting. (page 12)
- Plant your seeds. (page 13)
- Unless lots of weeds spring up, simply leave your wheat to grow.

## Mill it

- When it is ripe, harvest your wheat and then leave it to dry. (page 17)
- Separate the wheat grains from the stems by threshing. (page 19)
- Winnow the grain to remove the chaff. (page 20)
- Grind the grain yourself or take it to a community milling day. (page 22)

## Bake it

- Use your flour to bake the tastiest wholemeal Real Bread ever. (page 25)

## Eat it

- A sandwich? Hot buttered toast? **Mopping up soup? However you like your Real Bread, it's time for a feast.** (No page number – you won't need us to help you wolf it down...)

If you read this booklet and actually want *more* detail, then please visit the Bake Your Lawn page of [www.realbreadcampaign.org](http://www.realbreadcampaign.org)

# Introduction

Mmm, bread...but how much time have you ever spent thinking about where your daily or weekly loaf comes from? We don't just mean 'down the shop' but literally right the way back to its roots - the wheat growing in the ground. Yes? No? Well, either way, Bake Your Lawn is here to help you plant one square metre of wheat to produce enough flour to bake a loaf of Real Bread.

If you're concerned about the chemical cocktails with which cereal crops get coated or the arsenal of artificial additives that may lurk in factory and supermarket loaves, fear not because we'll be keeping it real with tips for doing it *au nature*\*.

Bake your Lawn is aimed at parents, teachers and anyone else who wants to help children roll up their sleeves for a hands-on experience of every stage of the life of a loaf. Although this isn't a manual for would-be professional cereal growers, millers or bakers, if you're a budding Tom or Barbara\* on the path to becoming fully self-sufficient in Real Bread, we've included some information here and on our website that to help point you in the right direction.

\* *As in, without any chemicals, not in the buff, you understand.*

\*\* *Tom and Barbara Good were the main characters in the BBC sitcom The Good Life, which documented their struggle for self-sufficiency in suburban Surbiton.*

Primary school teachers at Key Stage 2 might like to use this in conjunction with our *Lessons in Loaf* scheme. If you are serious about baking Real Bread for your local community, you might be interested in Knead to Know: the Real Bread Starter.

You can find details of *Lessons in Loaf*, *Knead to Know* and much more at our website: [www.realbreadcampaign.org](http://www.realbreadcampaign.org)



## Stay in touch

We rely on feedback from our supporters, so would love to hear if these notes help you to Bake Your Lawn or if you have suggestions as to how we might improve them.

Please drop us a line: [realbread@sustainweb.org](mailto:realbread@sustainweb.org)

You can also keep in contact by following @RealBread on Twitter, clicking 'like' facebook.com/realbreadcampaign, or through or photo stream at Flickr [flickr.com/photos/realbreadcampaign/](https://www.flickr.com/photos/realbreadcampaign/)

## Coalition of the milling

We would also still like to hear from any of the following:

- Licensed seed merchants who'd like to offer bread making wheat seed direct to schools or members of the public.
- Farmers and other landowners willing to lend (or rent out) a small plot to a school or group of local people wanting to grow their own wheat.
- Millers (or people with small mills) willing to hold milling days in the autumn.
- Professional Real Bread bakers willing to run baking sessions using the resulting flour, hopefully in conjunction with organisers of the milling days.

## The Real Bread Campaign

Part of the charity Sustain: the alliance for better food and farming, the Real Bread Campaign's key aim is to encourage people to eat more locally-produced Real Bread.

The Campaign helps to join the dots between everyone who cares about the state of bread in Britain. Members of our ever-growing, mutually-supportive network join on behalf of Real Bread bakeries, independent mills, schools, community groups, social enterprises or simply as passionate punters.

The Campaign is funded by the Big Lottery Fund's Local Food programme, which supports local food projects in England. The Campaign also receives funding from the Sheepdrove Trust and relies on subscription fees from Campaign members to continue its work. We also welcome donations, which can be Gift Aided.

For more information on the Campaign, including details of how to become a member, please visit [www.realbreadcampaign.org](http://www.realbreadcampaign.org)

## What is Real Bread?

By the Campaign's basic definition, Real Bread is made with:

- Flour
- Water
- Yeast (cultured or naturally occurring) though certain flat breads don't require yeast.
- Salt

Additional ingredients are great as long as they are natural (e.g. seeds, nuts, cheese, herbs, oils, fats and dried fruits) and contain no artificial additives.

Importantly, making Real Bread does not involve the use of dough conditioners, flour 'improvers', processing aids, chemical leavening or any other artificial additives.

As a starting point, this is Real Bread that is accessible to all. Beyond this, the Campaign finds ways to make all loaves better for us, better for our communities and better for the planet.



LOTTERY FUNDED



Sheepdrove Trust



# Grow it

Parts of the *grow it* chapter are adapted from the teacher's pack produced by The Brockwell Bake Association. We are very grateful to its author Andrew Forbes for allowing us to use his work in this way. You can download the original version from: [www.brockwell-bake.org.uk/plant\\_wheat\\_teachers.pdf](http://www.brockwell-bake.org.uk/plant_wheat_teachers.pdf)

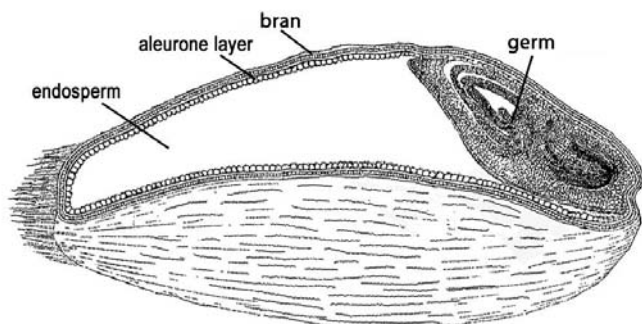
You can also find an informative video by Stephen Simpson on allotment-scale wheat growing, harvesting and threshing at [www.youtube.com/watch?v=uTGilR95T44](http://www.youtube.com/watch?v=uTGilR95T44)

## A short introduction to wheat

Wheat is a type of grass. The scientific name for common wheat, the stuff most often used to make bread (and biscuits, cakes, pastry and whatnot) in Britain, is *Triticum aestivum*.

There are almost endless varieties within the species *T. aestivum*, each differing from each other in terms of their growth, yield (how much grain the plant from each seed will produce), protein and micronutrient content, cooking qualities (e.g. whether better for bread or cakes), taste and so on.

## The wheat plant



### Berry

The wheat berry, also known as the kernel or seed, consists of three main parts:

- Endosperm
- Germ
- Bran

Taking its name from the Greek words for 'inside the seed', the endosperm is the starchy main part of the wheat berry, accounting for about 85% of its weight. It contains carbohydrate and protein, which together provide most of what the wheat plant needs in the early stages of growth.



USDA-NRCS PLANTS Database / Hitchcock, A.S. (rev. A. Chase). 1950. Manual of the grasses of the United States. USDA Miscellaneous Publication No. 200.

The bran is the tough, multi-layered outer casing that protects the wheat berry. As well as being where most of the fibre is concentrated, it also is rich in minerals.

The germ is the embryo from which a new wheat plant would grow. Although small (only about 2% of the weight of the berry) it is a very nutritious part of the grain, containing vitamin E, some protein, oil and minerals.

Between the endosperm and bran and attached to both of them is the aleurone layer. This also contains important vitamins, fat, minerals, and a higher level of proteins than the main body of the endosperm.

## Head

Also known as the ear, the head is the top part of the plant, which contains the wheat berries. The berries are clumped up the ear in groups of two or three in spikelets and covered by protective hulls, also known as glumes.

Some 'bearded' varieties of wheat have long barbed awns on the glumes, retained from their wild ancestors. These help to protect the grain from bird attack and aid the correct insertion of grain into the ground when scattered. In hot climates they can create a moister microclimate around the berries preventing scorching. Most modern temperate zone varieties have been bred to have no (or very short) awns as their presence prevents feeding of the chaff to livestock.

## Stem

The stem is the main stalk of the wheat plant. The stem supports and transports nutrients to the head. After the wheat is harvested, the dried, golden-coloured stems are known as straw. Straw can be ploughed into the ground to return nutrients to the soil or be put to several other uses, including bedding for animals and insulation for buildings.

In the past, when many buildings were thatched, wheat was bred not only to make good flour and animal feed but also to have long stems to provide this roofing material. Modern varieties of wheat tend to have much shorter stems, which allow the plant to concentrate more energy and nutrition on developing the berries, and also to reduce the risk of lodging, a farmers' word for falling over.

One disadvantage of these shorter stems is that more light is able to reach the ground, which gives weeds a greater competitive advantage. This is one of the factors that increases the reliance of such varieties on herbicides.

## Tiller

In addition to the central stem, wheat plants may have side stems, called tillers. Some varieties tiller more than others and winter sowing gives a plant more time to tiller. Not all tillers will survive to produce seed heads. For advice on appropriate spacing to allow for tillering but to avoid large gaps that make it easier for weeds to grow, ask your seed provider.



## Roots

The roots take in nutrition from the soil and anchor the wheat plant in the ground. Wheat has two types of roots. The primary root system, called the seminal roots, grow from the seed and help to nourish the wheat seedling. The secondary, or nodal roots grow later on and provide stability for the plant and tillers.

## The life cycle of wheat

In the UK, a variety of wheat is classed as either spring or winter wheat, depending on when it has been bred to be sown, so when sourcing seed, let the supplier know when you intend to plant it.

**Winter wheat** should be sown at the beginning of winter, usually between October and the end of November. After an initial growth phase, it needs a period with consistent temperatures under 7°C in order for it to vernalise, which means to become fertile. Winter wheat has the advantages that it gets a head start on weeds before mid-winter and that it's ready on the starting block when the longer, warmer days come in spring

**Spring wheat** should be sown once the soil is over 8°C, which usually is from sometime in February and before the end of March, though some varieties can be sown in April.

Whether you grow winter or spring wheat, it should be ready for harvesting at around the same time, which in an average year will be during late July or August.

## Choosing your wheat seeds

Not all types of wheat are suitable for bread making: some are right for making cakes and biscuits but not bread and some are only good as animal feed. To avoid unpredictable results, you should only use wheat seeds if you know:

- The variety is suitable for bread making.
- The time of year for which it's been bred to be sown.
- It has been cleaned and stored properly.
- That the seed has not been chemically treated.

A licensed seed merchant will be able to assure you of all of these.

## Obtaining seed wheat

Most agricultural grain suppliers only deal in huge, farm-field-sized orders and it's simply not worth their while to pack and sell less than half a ton at a time, let alone 100 grams. Having asked around dozens of seed merchants that supply gardeners, it seems that very few sell bread making wheat.

Licensed seed merchants, Trevor Cope Seeds and Organic Seed Producers, have kindly donated spring wheat seed for schools to plant in February and March 2011, which teachers can order online through [www.BakeryBits.co.uk](http://www.BakeryBits.co.uk). If you're reading this after that time or you're not a teacher but would like to have a go at home or on an allotment, please visit our website for more suggestions of where to find seed wheat.

We have included a list of some more companies that supply seed wheat in smaller quantities in the suppliers section at the back of this pack.

## Seed Marketing Regulations

There are strict rules controlling who can market (which means to give away, as well as sell) plant seeds, including wheat; it is only legal to market certain varieties (which appear on the UK National List of permitted varieties); and there are rules for how seeds must be packaged and labelled.

If you are not a licensed seed merchant (for example you're a miller or farmer) but would like to give or sell small quantities of wheat seed to people to take part in Bake Your Lawn, please visit our website, where we have posted some guidance notes. These were compiled with the assistance of Food and Environment Research Agency (Fera), the governmental body responsible for seed marketing legislation in England.

[www.realbreadcampaign.org](http://www.realbreadcampaign.org)

## Organic varieties

As your mission to Bake Your Lawn won't involve you risking polluting land and loaf with agricultural chemicals, you'll probably find that you get better results with varieties of wheat that have been bred specifically to grow in organic farming conditions.

## Older varieties

Varieties developed before the mainstream introduction of chemical fertilisers, pesticides and herbicides in the late 1940s might also be more suitable for growing in organic conditions than those developed more recently. Some people would argue that you would get better results by using varieties that were bred even further back in time.

Sadly, due to EU and UK law (see the box on Seed Marketing Regulations), you might find it hard to get hold of such older varieties of wheat.

## Hard or soft, weak or strong?

Terms that you might hear in relation to wheat and wheat flour are hard, soft, strong and weak.

Very simply, **hard** wheat has a harder kernel and **soft** wheat has a softer one. Unless you're planning to become a miller or cereal farmer, this is not something you need to worry about.

What is important to you as a Real Bread baker is whether the wheat is strong or weak. **Strong** wheat is one with a higher protein content, usually between 10 and 16 percent. The protein in wheat is mostly gluten and so generally speaking, stronger wheat will make better flour for most modern British styles of bread. Incidentally, hard wheats also tend to be strong but this is not always the case.

The term **weak** is used for wheat that has less protein, usually around 7 to 8 percent. It may still be suitable for bread making; for example baguettes, crumpets, ciabatta and certain flat breads are usually made with soft wheat flour. However this type of wheat is most often used for cakes and biscuits.

## Varieties

The following is a selection from the latest (November 2010) UK National List of permitted plant varieties. Those that are noted as Group 1 or 2 are recommended by the Home Grown Cereal Authority as particularly suitable for bread making.

Varieties of **winter** wheat on the UK National List that are suitable for bread making include:

- Naturastar (bred for organic growing)
- Magister (bred for organic growing)
- Maris Widgeon (developed in the mid-1960s, the oldest and only long straw wheat still on the National List)
- Gallant (Group 1)
- Hereward (Group 1)
- Malacca (Group 1)
- Solstice (Group 1)
- Xi-19 (Group 1)
- Panorama (Group 2)
- Soissons (Group 2)
- Einstein (Group 2)
- Cordiale (Group 2)

Varieties of **spring** wheat on the UK National List that are suitable for bread making include:

- Amaretto (bred for organic growing)
- Paragon (Group 1)
- Mulika (Group 1)
- Tybalt (Group 2)
- Ashby (Group 2)
- Granary (Group 2)

### Mixed populations

Something that you might like to explore is a mixed population, in which you mix more than one variety of wheat seeds together, perhaps combining ones known to have a high yield with others that are particularly good for bread making.

Sowing a mixture of varieties and then harvesting, cleaning and keeping some of the seeds from one year's crop to sow again the following year in the same area was once common practice in Britain. When this process was repeated year after year, over time it produced what is known as a landrace, a mixture in which the varieties most suited to the particular local conditions became dominant.

One thing to note is that in our climate wheat is strictly self-fertilising and so different varieties can't cross breed with each other to produce new ones.

The advantages of planting a mixture, rather than a single variety, can include a crop that is:

- Better at producing cover that crowds out weeds.
- Less susceptible to disease.
- More consistent in yield, year on year.
- Heavier - though you should check that all varieties in a mix have the same or similar growth cycles, i.e. days from sowing to harvesting.

If you have sufficient space, as an experiment you might like to try dividing the plot into three equally-sized sections, planting one variety of wheat in the first section, the same weight of another variety in the second section and a 50/50 mixture of the two in the third. You can then compare how well each crop grows and the final yield from each section.

**NB** – as the Seed Marketing Regulations prevent the marketing of such mixtures, you will need to mix your own.

# Choosing a site

Your sowing site can be a normal bed or a raised bed. For spring sowing, a raised bed should mean the soil will warm up approximately a week earlier. Ideally, your plot should receive full sunlight and not be sheltered from rain, though some shelter from wind can be an advantage.

One of the main problems for wheat growing is lodging. This is usually the result of a combination of strong wind and/or rain, weak straw and/or loose anchoring in the ground. Lodged wheat stalks dry much more slowly than vertical ones, making them more susceptible to fungal and other diseases. Lodged wheat is also much harder to harvest.

To reduce the risk of lodging and to put the plants' energies into creating wheat, not straw, modern varieties of wheat have been bred to have short stalks. Older varieties of wheat are generally much taller as long straw was a much more valuable commodity, useful for thatching buildings and feeding animals. Older varieties tend to have longer roots but the ears of ripe wheat tend to be lighter than those of modern varieties.

Try to select a plot with good quality, medium-heavy topsoil, which will help to reduce the risk of lodging. Although wheat can grow in quite shallow ground, its roots can grow to over 40cm long. To allow good anchoring and reduce the risk of drying out, soil depth of at least 25cm is recommended.

As it is so light, growing in a plot or pot of pure garden centre type potting compost isn't recommended for growing either older or modern wheats.

Avoid sowing your wheat in a bed that either has perennial weeds or which you think has a heavy load of weed seeds in its soil.

## Soil preparation

When doing any work on your wheat plot, we recommend the use of protective clothing and equipment, such as strong boots, gloves and overalls or old clothes that you don't mind getting dirty.

The agricultural term for soil condition is tilth, and ideally the bed for your wheat sowing should be worked into a good one. The traditional practice for spring sowing would be digging over with spade or plough before winter, then again a week or two before sowing, at the same time breaking up large lumps of soil with a fork. Immediately before sowing, the soil would be raked over, prior to which particularly heavy soil might require a further re-digging. If you are only planting a small plot, a single round of digging, forking and raking should suffice.

If using an older variety of wheat, avoid adding manure, compost or other fertiliser to the bed before planting or while it is growing. If fertiliser is used, the stalks will tend to grow very tall and weak, increasing the risk of lodging.



Traditionally, wheat was usually grown in a three or four year rotation with other crops, for example: after a year of wheat, beans or another nitrogen fixing crop would be planted, followed by potatoes the next year, then the field would be left fallow (pasture grazed by animals or left to grow and then cut for hay) for a year, before being planted with brassicas (e.g. cabbage, Brussels sprouts, broccoli or cauliflower) or root vegetables, with the cycle at last turning back to wheat. Older varieties of wheat were bred to grow with little or no addition of fertiliser, thriving on whatever was used on the previous year's crop.

## Methods of sowing

In this section, we will cover three methods of sowing: broadcasting, drilling and dibbing. For a very small plot, dibbing or drilling will increase your chances of a good crop. For a larger plot, dibbing becomes impractical and for a very large plot, unless you have a device to help, drilling also becomes impractical.

### Checking germination

If you have any doubts about the fertility of the wheat you are going to sow, it is best to do a fertility test by sprouting (chitting) it. This can in any case be interesting to show your class either before or at the same time as your main sowing.

1. Soak a small handful of your wheat over night.
2. Prepare a clean empty large pickle jar by piercing holes in its lid.
3. Empty you soaked seeds into the jar and drain off the excess water.
4. Place the jar in a warm position, such as near (but not on) a radiator.
5. Get your class to start and keep a daily record for a week of what happens next. This could include taking a few seeds out each day and getting the children to make drawings.
6. Each day, refill the jar with water, swish around and then drain.
7. After three days, take out at least one hundred grains at random and get your class to count how many have germinated. Most or all should have but if your germination rate is 75% or lower, you won't get a very good crop.

## Broadcasting

The oldest method of sowing wheat is simply walking over a prepared field throwing out seed as you go, literally casting the seeds over a broad area. Though this might appear to be very simple, getting an even distribution of seeds is a skilled job. Even sown well, as the seeds lie on the top of the soil, a lot will be lost to birds and if weeds become a problem they cannot be hoed out as the wheat does not grow in straight lines.

### Equipment needed

Between 40g -50g of seed per square metre and a rake.

## Method

- 1) Rake the soil to break up the lumps of earth and make the surface as smooth as possible. Seeds will collect together in places and leave bare patches in others if you have large lumps and dips.
- 2) Children should stand about a metre apart on one edge of the plot and walk forward in as straight a line as possible. With each stride, each child gently casts out a handful of seed evenly in a horizontal arc from left to right (or right to left, if they're left-handed), attempting to keep it all within their one-metre strip.
- 3) Ideally, you should gently rake over the plot to cover the seeds, but this might not be practical on a larger plot.

If you plan to sow a large plot on an annual basis, you might want to seek out a seed fiddle, which broadcasts seed evenly and with less effort than throwing it. You can read more about this type of device at: [www.antiquefarmtools.info/page3.htm](http://www.antiquefarmtools.info/page3.htm)

## Drilling

Drilling is the most common modern method and on a farm and is done with a drill behind a tractor (invented by Jethro Tull in 1731) which places the seed in controlled amounts at a set depth in rows. This can be done manually by hoeing out a furrow, placing seed into this at even intervals, and then raking over. Sowing in lines makes it much easier to remove weeds between the rows of wheat plants.

## Equipment needed

Between 25g and 35g of seed per square metre\*, suitable hoe to create a furrow 4cm deep, rake, ruler or tape measure, small containers (or folded card), scales, string, sticks.

*\* This depends on the fertility of your grain and time of sowing. If the grain is less fertile or you are planting later in either the winter or spring season, you will need more. In the experience of Andy Forbes of The Brockwell Bake Association, the amount might be closer to 15-25g.*

## Method

- 1) Create a grid with the string and sticks dividing up your ground into 1m x 1m squares.
- 2) Create three furrows across each box, 4cm deep. Weigh 30g of seed (more or less depending on fertility and timing) into each cup, one for each square metre you are sowing.
- 3) Give one cup to each child or group of children. Their aim is to sprinkle the seed as evenly as possible in the three furrows inside their square metre box. They may want to divide the contents of their cup into three equal piles before they put it into the furrows.
- 4) Remove the string and gently rake over each plot to fill in the furrows without disturbing the seeds.

## Dibbing

Before larger drilling equipment was developed, a farmer would use a dibber to make holes of suitable depth and spacing, with the farmer's wife and children walking behind to place two or three seeds in each hole. In the UK today, the use of dibbing is mainly limited to non-commercial growing of vegetables, fruit and flowers and other garden plants.

Children can either work individually or in groups.

### Equipment needed

A maximum of 50 seeds per square metre, dibber(s) (you can make these for the children by cutting a broom handle into sections about 15cm long and, ideally, whittling each to a blunt point), rake, string, short sticks, ruler or tape measure.

### Method

- 1) Soak the seed overnight before sowing: this helps with germination but is not required unless ground is very dry. Alternatively if ground is dry, water it after sowing.
- 2) Measure and layout your rows 15cm apart. You can mark your rows with the string and sticks or perhaps light coloured sand.
- 3) Dib a hole 4cm deep and drop between two and four seeds. The distance between holes should be 15cm for spring wheat and 25cm for winter wheat.

A traditional seed-sowers rhyme goes: *'One for the rook, one for the crow, one will wither and one will grow.'*

- 4) Remove the string and gently rake over your plot to fill in each hole without disturbing the seeds.

If there is any doubt about the fertility of your seed or you are sowing late, make it three seeds per hole.

## Caring for your crop

### Watering

In the UK and many other parts of the world, wheat crops are not irrigated (watered). Watering wheat during the summer can interfere with its maturation and also encourage disease. That said, there may be periods such as a dry spring when watering might help your crop to become established.

### Weeding

Weeds are simply plants where you don't want them. Although many of us have been brought up with the idea that all weeds are unsightly and to be removed completely, once a crop is established, some non-crop plants can actually be of benefit to growers.

- Low-growing plants can help reduce competition to your wheat from taller non-crop plants.

- Some non-crop plants (including clover, with which organic farmers may under-sow winter wheat at the beginning of spring) help to 'fix' nitrogen in the soil, acting as natural fertiliser 'factories'.
- Non-crop plants provide habitat for insects and other wildlife, which not only helps improve the biodiversity of your plot but some of them can be helpful to you – for example, ladybirds eat aphids (including greenfly, whitefly and blackfly), which harm plants.
- As non-crop plants die and decompose, they release nutrients, helping to improve the health of the soil.

Other non-crop plants will interfere with your crop – for example broad-leafed docks and tall nettles will compete with your wheat for light and nutrients.

For a small patch of wheat, it's easy to pull out larger non-sown plants, though it's better to dig out deep-rooted plants such as thistles.

The Scottish Agricultural College (SAC) publishes a guide called Weed Control in Organic Wheat (OFTS51). Its advice includes:

- Sow at about 450 seeds per square metre, unless sowing very early in very favourable conditions.
- Sow in narrow rows to increase shading of the ground to reduce annual weed growth; narrow rows also tend to yield more.
- If you have perennial, tall grass or other difficult weeds, however, sow in wide rows (23-30cm) to allow the passage of a hoe.

[www.sac.ac.uk/mainrep/pdfs/ofts51weedwheat.pdf](http://www.sac.ac.uk/mainrep/pdfs/ofts51weedwheat.pdf)

Garden Organic also gives information and links to advice on organic weed control [www.gardenorganic.org.uk/organicweeds/](http://www.gardenorganic.org.uk/organicweeds/)



# Harvesting

Nowadays, most grain in Britain is gathered by combine harvesters, so called because they combine the tasks of cutting the stalks; threshing, winnowing and collecting the grains; and perhaps even baling the straw.

Historically, these would have been separate actions, carried out by manual labour. As your crop is so small (and you probably don't have a combine harvester) you'll get to experience the traditional methods.

Health and safety time again: supervise children (and anyone else who needs an eye keeping on them) at all times for all of the activities in this chapter. The use of protective clothing and equipment, such as goggles, strong boots, and gloves is also recommended. Remember that whatever you choose to use to harvest your wheat, it will be sharp; during threshing, grains can fly off in all directions (including towards eyes); and wheat husks can blow off to places they are not wanted, so be careful.

## Knowing when to harvest

Whether you planted your wheat in the winter or spring, it should be ready to harvest either in late July or in August. Farmers now use a variety of equipment and tests to know when the wheat is ready, with just the right amount of moisture and its protein is at the peak of its bread making potential.

A traditional way to test if your wheat is ready is to take an ear, roll it between your hands to free the berries, and then try to split a berry open by squeezing it between your thumbnail and forefinger. If you can't, then the wheat is ready to harvest. Ideally you would test berries from several plants in a field to get an average result.



## Cutting

Historically, wheat stalks would have been a valuable commodity, used for thatching and animal bedding, so would be cut as close to the ground as practical.

For a very small plot of wheat, your options for cutting equipment include:

- Strong scissors.
- Garden shears.
- A sickle.

For larger plots, you could consider using:

- A scythe.
- A garden strimmer (see Stephen Simpson's YouTube clip for an idea of how to adapt this for harvesting [www.youtube.com/watch?v=uTGilR95T44](http://www.youtube.com/watch?v=uTGilR95T44)).

Again, whether you're a child or adult, be VERY careful when using any of these tools. Children MUST NOT be left unsupervised with any of these tools.

## Drying

In modern farming, wheat grain is usually separated from the stalks by the combine harvester taken straight from the field and dried indoors using hot air blowers.

At harvest time, wheat grain has a moisture of about 18.5 -20%. To reduce the risk of the wheat becoming damaged during storage, it must be dried to a moisture content of 14.5% or less.

In the past, ears of wheat would have been left on the stalks after cutting. These would be bundled together into sheaves, which would be stacked upright into stooks in the field and left to dry for three to four weeks. The dried stooks would be taken to a barn or gathered together in the field and made into mows, ricks or thatched stacks.



### Making a stook

- Take five or six whole wheat stalks and twist them together to form a sort of rope.
- Gather together a bundle of wheat, as large as you can manage comfortably, with the cut ends all together and roughly level with each other.
- Wind your wheat rope around the middle of the bundle, ideally twice, and tuck the loose end in under the rope to stop it coming undone. Alternatively, wrap round once, twist the two ends across each other leaving one end much longer and tuck this end into the middle of the bundled wheat. This is your sheaf. If your stalks aren't long enough, you can use string or twine instead.
- Take a sheaf, bang the cut end to the ground at a slight angle to key it in with the stubble.
- Take a second sheaf, bang it into the ground opposite the first one a short distance away.



- Lean the two sheaves towards each other and gently rub the heads together to lock the two together and prevent them from blowing over.
- If you have more sheaves, make them into another stook right next to the first, brushing the two together for increased stability.
- An alternative method is to take at least five sheaves, arranged in a circular or rectangular formation, ideally with an additional sheaf on top to act as a roof.

As you've only grown a small amount of wheat, you might prefer to take your sheaves somewhere under cover (perhaps a shed) to dry, so it doesn't get soggy if it rains. Air needs to be able to circulate around the sheaf and ideally, this place should be rodent-proof. If you can't bring it inside, then securing a tarpaulin or plastic sheet of the sheaf will help to keep it dry.

## Threshing



Threshing and winnowing will cause wheat and chaff to fly off in all directions. Goggles or other eye-protection is recommended, as are overalls or other protective clothing to which chaff won't stick. If your crop includes bearded wheats, there is an even greater risk from bits of the awns sticking into an eye or other soft tissue.

Once your wheat has dried, you will need to thresh (or thrash) it to separate the grain from the stalks and hulls. To do this:

- Select a hard object that won't be damaged when you smash a bundle of wheat against it – like a wall, or an upturned, empty dustbin.
- Lay down a large piece of tarpaulin, plastic sheeting, old blanket, or similar to collect the grain.
- Hold a bundle of your wheat close to the root end in two hands.
- Smash the grain end against the hard object.
- Repeat until all of the grains have come free.

- Take another bundle and repeat the process.
- Hold the sheet by all four corners (it might require several people), gather together, and then tip the grain into a bucket or similar.

The Brockwell Bake Association threshes against a dustbin-sized, heavy duty polythene barrel and has constructed a wooden 'cage' with fine netting on all sides to catch the grain.

Alternatively, you could put your bundle of wheat into an old (and please, first do make sure nobody wants to use it again) pillowcase, ears first; gather the open end of the pillowcase around the stalks tightly; then smack the pillowcase against your hard object. The pillowcase should collect all of your grain and, hopefully, stop any of it flying off.

Other historical ways to thresh include:

- Lying the stalks down and walking over the heads. The walkers could be people or even animals, such as horses.
- Lying the stalks down and hitting the heads with a flail, a short stick joined to a long handle by a short chain or flexible leather hinge.
- A threshing drum, which is lined with ridges or spikes and revolves to knock the grain off the stalks.

## Sieving

Passing your grain through a sieve with grain-sized holes will help to remove bits of stalk and ears of wheat that didn't break up. Don't worry if you can't get hold of one of these as you can remove the unwanted bits by hand. Ideally, you should then use a sieve with a mesh size smaller than wheat berries, which will allow the smaller seeds of unwanted plants to fall through.

## Winnowing

The next stage is getting rid of the remaining husks or chaff. This is done in a light breeze by throwing portions of grain up in the air or dropping them down from as high as you can manage, so that the light chaff blows away leaving the heavier grain to be caught. Another option is to drop the grain into a bowl with a hair dryer (or vacuum cleaner, set to blow) positioned to blow away chaff. You can find videos of people winnowing online:



[www.youtube.com/watch?v=YG1hf9Uqd1w](http://www.youtube.com/watch?v=YG1hf9Uqd1w)

[www.pond5.com/stock-footage/467632/winnowing-chaff-ladakh.html](http://www.pond5.com/stock-footage/467632/winnowing-chaff-ladakh.html)



## Storing

It's not just people that see wheat as food: so do mice, rats, certain insects, and even yeasts, moulds, or other fungi. To make sure that something else doesn't chow down on your wheat before you get a chance, you need to store it somewhere that's cool, dry and rodent/insect proof. Depending on how much you've managed to grow, a large jar, plastic or metal container should do the trick.

To prevent it from going mouldy, do make sure that your wheat is completely dry.



# Mill it



Now you have your clean wheat, you need to convert it into flour. Unless you want to get really old school and bash your grain between two rocks or in a pestle and mortar, you'll need some sort of mill.

Modern mills use many pairs of steel rollers to separate the different parts of the grain and then grind each part separately. To make brown or wholemeal flour, the bran and germ has to be added back to the white flour. Research has shown that more of the nutrients in wheat are either removed or destroyed by roller milling than by traditional stone milling.

## Well wheat

Once you have removed chaff, stones and any other seeds from your wheat, please check it carefully before milling to make sure that there are no nasties in it. Sadly, if you spot any of the following, you'll need to throw it away:

- Weevils or other creepy crawlies in it.
- Mould.
- Any grain that is elongated and purple or black – this is a fungus called ergot, which is poisonous.
- Grains of an entire ear transformed into round small black balls which when burst smell of bad fish and contain a black to dark brown powder – this is smut, also called bunt. Though not poisonous, smut will spoil the taste of your flour and the spores of burst smut balls will infect the good grains.
- Black pellets amongst the grain – this is probably mouse poo.

Also, see the note in the previous chapter about drying – wheat that is damp or has a moisture content that is too high wheat will clog up any mill.

On a small scale, you won't have access to roller milling, so here are some options available to you:

### **Rotary quern**

The rotary quern developed the backwards-and-forwards action of the older saddle quern to a more efficient rotation. The lower, static stone is conical or dome-shaped, paired with an upper stone that is hollowed out to fit the lower one closely and has a hole in the top through which the grain is poured. The upper has one or two handles to turn it.

Working examples of querns can still be found around the world, and although we haven't found a UK importer, if you really want one you should be able to order one online.

### **Table-top stone mill**

Another option is basically a miniature version of a traditional wind or water mill, with the energy provided by your arms instead of Mother Nature.

Many different sizes of table-top mill are available, with stones from a few inches to a couple of feet in diameter. As with traditional mills, these consist of a pair of circular stones lying horizontally or vertically a very small distance apart. One - the bedstone - is fixed in place, whilst the other - the runner stone - turns. Some models have either a channel around the bedstone or a hopper beneath to collect the flour. In some mills the distance between the stones to be adjusted to produce coarser or finer flours.

Table top mills are available with a built-in electric motor or could be adapted to be driven by one or alternative power source, such as a static bicycle.

### **Plate mill**

In this mill, a grooved steel plate revolves very close to another, static, grooved steel plate. These are usually vertical and grain is fed in through a hopper at the top. Power is provided by a manually-cranked handle, or some models can be run by an engine or motor. Just make sure that the grain is fed in constantly and that the plates do not turn too fast - if the flour feels anything more than slightly warm, then you'll need to slow the mill down.

Plate mills used to be common on farms, and it might be possible to find one at a farm auction, antique shop or by an online search.

### **Coffee mill**

An electric, or hand-cranked, coffee grinder on its finest setting can be used to turn grain into flour. Some will only produce very coarse flour and it's a relatively time-consuming way of milling any more than a very small amount.

### **Food blender**

Another option is to use food processor or a jug-type blender.

### **A local traditional mill**

We have asked our friends at the Traditional Cornmillers Guild, the mills section of the Society for the Protection of Ancient Mills, and The National Trust to suggest that their members hold community milling days, on which local people will be invited to bring along their grain to be milled together.

Mills are also invited to add details of events to our online events calendar. For the latest information on events, join the Real Bread Campaign or sign up for Breadcrumbs, our monthly e-newsletter.

Please read the notes above on drying and well wheat before you take your wheat to a local traditional mill. Even if you do follow these guidelines, there are several very good practical and legal reasons why a miller might not be able to grind the grain you've grown, so please don't get disappointed or grumpy if the answer is 'no'.

Many traditional mills welcome visitors but some have set open days and others ask that you make an appointment first. Before visiting a mill with your wheat, we recommend that you contact the owners first, especially if the mill has not advertised a community milling day.

Unless they have educational facilities, it is unlikely that a modern roller mill would be able to invite members of the local community to mill their grain.

### **Bolting**

Having milled your wheat, you will have produced wholemeal flour.

To produce a lighter flour, you would need to sieve it (this process is also known as bolting) to remove the larger particles of bran and germ. Some of the finest particles of these very nutritious parts will always remain in your flour and in stone ground flours, as they will fall through even the finest sieve.

Sieve cloth was traditionally silk but now is usually steel or nylon. Small, drum-shaped flour sieves, which can be stacked on top of each other, are available for hand bolting. A good combination is one with a 650 micron to 1000 micron mesh to remove larger bran flakes, and a fine (375 micron) to produce a light brown flour. The fraction passing through the coarser sieve but not through the finer can be re-milled by some mills to extract further fine flour, which may be of particular benefit as this fraction is normally from the very nutritious aleurone layer.

### **Maturing**

Nutritionally, flour is at its peak just after milling, however in terms of bread making quality, it's better to leave flour to age or mature. If you've grown a very small amount of wheat, you needn't worry about maturing your flour.



# Bake it

So, you've grown and milled your own flour – how great does that feel? Before you can make Real Bread with it, though, you need a few (and only a few) more ingredients.

## The three other essential ingredients of Real Bread

### Yeast

Yeasts are microscopic, single-celled fungi that, like humans, give off carbon dioxide as a by-product of respiration. It's this gas that causes dough to rise. As yeasts produce enzymes that convert some of the starch in flour to sugars on which they feed, there is no need to add sugar to savoury bread recipes.

If you aren't using naturally-occurring yeast (i.e. a sourdough starter), the Real Bread Campaign recommends that you use either fresh bakers' yeast or dried active yeast. Almost every brand of instant (aka fast acting, easy blend, quick, or easy bake) dried yeast we've seen (including some organic ones) contains artificial additives, so please avoid those that do.

Breads made with chemical leavening (e.g. baking powder or soda) fall outside the Campaign's definition of Real Bread.

### Water

If you're thinking of using bottled water for baking, don't bother. There's nothing wrong with tap water and we think that bottled water is a waste of energy, natural resources and your money.

### Salt

Table salt is fine, though check to make sure it doesn't contain an anti-caking agent, like sodium hexocyanoferrate. You may prefer to use rock or sea salt instead.



## Why bake your own?

Due to the current state of the law, you can't always rely on the label for the whole truth about an industrial loaf. For example, the manufacturer could deem certain added enzymes to be 'processing aids' and legally they would not even have to mention that they have been used, let alone what they are or where they came from. As outlined in the Campaign's report, *Are Supermarket Bloomers Pants?* in-store bakery loaves may contain additives and could have been baked twice but advertised as fresh.

Not all loaves are created equal. Around 80% of the loaves we buy in the UK are produced by just seven industrial bakers at a handful highly automated factories. Many of these are made by the Chorleywood Bread Process, a high-speed system that does not allow the dough to ripen in its own good time, involves a cocktail of artificial additives, larger quantities of yeast than many historic recipes and perhaps a dose of processing aids, too.

A further 15-17% come from supermarket in-store bakeries. Though production may involve more input from bakers with some traditional craft baking skills, the loaves may still contain artificial additives. Some loaves may have been part-baked elsewhere, then re-baked in the supermarket and quite legally labelled as fresh. You can read about all of these issues at [www.realbreadcampaign.org](http://www.realbreadcampaign.org)

The Real Bread Campaign supports an increase in Real Bread being baked by highly skilled craft bakers within our local communities with nothing but natural ingredients, time and care.

## Other ingredients

As mentioned in the introduction, you don't need anything else to make Real Bread: even fat is not essential for a moist loaf, and flour gives yeast plenty to thrive on without added sugar. That said, certain recipes do call for additional ingredients to achieve a particular taste or texture. This is fine within the Campaign's definition of Real Bread, as long as they are natural.

## Measurements

For absolute accuracy, we use grams in recipes and recommend using electronic scales to weigh all ingredients including liquids.

If you don't have access to electronic scales, then accurate conventional scales, a measuring jug and measuring spoons (i.e. not just the ones you use to eat with) will help you to get the best results.

That said, don't panic! Unlike professional baking, the homemade loaf is a pretty forgiving thing. You can find some useful conversions on our website:

[www.sustainweb.org/realbread/homebake/](http://www.sustainweb.org/realbread/homebake/)

## Equipment

All you actually need to make Real Bread is something to measure your ingredients; something to mix them in or on; and an oven or hot surface (such as a griddle or dry frying pan) to cook the dough in or on. You can find list of other bits of kit that can be useful on our website, or in our *Lessons in Loaf* handbook, or in *Knead to Know: the Real Bread starter*.

## Recipes

Here are two recipes to get you started. You can find more recipes, including how to create your own sourdough starter, on our website, the *Lessons in Loaf* handbook, and in *Knead to Know: the Real Bread starter*.

### Everyday Real Bread

This is a basic Real Bread recipe using the flour that you have milled.

Makes a small loaf or four rolls / a large loaf

#### Ingredients

250g / 500g wholemeal flour  
175g / 350g hand warm (about 25°C) water  
5g / 10g fresh yeast (or half this weight of active dried yeast)  
3g / 6g salt

plus a little butter or margarine for greasing the baking tray.

#### Equipment

Electronic scales  
Large mixing bowl  
Tea towel (or an old but clean plastic bag)  
Loaf tin or baking tray  
Oven  
Oven gloves  
Wire cooling/cake rack

#### Method

Before you start, wipe down all work surfaces and wash your hands.

- Mix all of the ingredients in the bowl until you have a shaggy dough.
- Pick up all of the dough and knead (stretch and fold again and again) until it feels stretchy and silky. This will take about 10 or 15 minutes. Don't worry that it starts out sticky – it will get less so as you go. Please don't add extra flour as this will end up making the dough too stiff. Once you have finished kneading, you can scrape dough off your hands using a dough scraper or blunt knife.
- Roll the dough into a ball and place in the bowl. To stop the dough from drying out and forming a 'skin', cover the bowl with a damp towel or plastic bag (making sure that it can't touch the dough) and leave for about an hour to prove. This doesn't need to be anywhere particularly warm, though if the room is very cold, the dough will take longer to rise.
- Knock the dough back (which means to press and fold the dough gently) then mould into the desired shape. To make rolls, cut into four pieces and then roll into balls. To make a loaf, press the dough into a roughly square shape and then roll up like a Swiss roll and drop seam-side (where the join is) down into a greased tin.
- Cover the dough again and leave to rise for about another half an hour or forty minutes.
- About twenty minutes before the dough is ready to bake, turn the oven on to heat up to 220°C / gas mark 7.
- Uncover the dough, making sure the cover doesn't touch the dough (because it will stick, which could lead to the dough collapsing) and slide the tray or tin into the oven.

- The baking time will be about 15-20 minutes for rolls, 25 for a small loaf and 30-40 for a large loaf.
- Wearing oven gloves, remove your Real Bread from the oven, turn it out onto a wire rack and leave to cool before eating or putting into a bag/container.

## Staffordshire oatcakes

Tortillas, schmortillas – the Staffie is *the* great British flatbread for making wraps. Not only do they taste fantastic, but they are high in fibre and work well even if the flour you have produced turns out not to be strong enough to make a high-rising loaf.

Makes about 5 x 23cm diameter oatcakes

### Ingredients

100g porridge oats (not instant porridge or jumbo oats)  
 100g wholemeal flour  
 1g dried active yeast (or about 2g fresh)\*  
 350g milk, water or mixture of the two  
 2g salt

plus a little oil to grease the griddle or pan

\* avoid instant/fast acting/easy yeast unless you know it is additive-free. To find out, read the label.

### Equipment

Electronic scales  
 Large mixing bowl  
 Large plastic bag  
 Griddle or heavy-bottomed frying pan, ideally about 25-30cm in diameter  
 Hob (gas or electric)  
 Fish slice  
 Wire cooling rack and clean tea towel

### Method

Before you start, wipe down all work surfaces and wash your hands.

- Put the oats, flour, salt and yeast into a bowl and stir in the water and/or milk. The batter should be loose enough to ladle but not as thin as double cream.
- Cover the bowl and leave to ferment for about 30-60 minutes or until bubbles form at the surface of the batter.
- Oil lightly the griddle or heavy-bottomed frying pan, and place over a medium heat. Ladle in the batter and swirl around to form a pancake about 3mm thick.
- Cook until the batter sets and bubbles pop through the surface like those in a crumpet or pikelet.
- Flip over with a spatula or fish slice and cook for about a minute more.

### To serve

Use them as you'd use a pancake, tortilla, chapatti or other flatbread - flat, rolled or folded with the filling of your choice. They're best hot but can be eaten cold.

Oatcakes can be stored in an airtight container in the fridge for a day or two. To freeze, layer them between sheets of greaseproof paper, seal in a bag or container and freeze flat.



# Eat it



Image by: [www.flickr.com/photos/kstengnen/](http://www.flickr.com/photos/kstengnen/)  
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'The people of Britain need to be reminded that bread isn't just something to keep your fingers dry when eating a sandwich.' Andrew Wheeler, *Eat Britain! 101 Great British Tastes*

Whole wheat contains many vitamins and minerals (including iron, calcium and vitamins E, B1, B2, B6 and B12.) A lot of these are removed or destroyed during modern milling but in traditionally milled wholemeal and the flour that you have made, they remain more or less intact.

The type of fibre found in bread, especially wholemeal, can help to keep the digestive system healthy.

This calls for a sandwich!

## Storing bread

Always let bread cool completely before putting it away. Hot or even slightly warm bread will give off steam, which will condense on the inside of a container or wrapper. If this dampness doesn't make the bread soggy, it will encourage the growth of mould.

Although the low temperature in the fridge might slow down the growth of mould, it will accelerate staling. Also, if there is too much of a difference between the temperatures of the loaf and the fridge, it can cause condensation to form inside the loaf bag that could encourage the growth of mould as well.

## Bread bin

A good way to store bread that you are going to eat in a day or two is a bread bin. A loose fitting lid will mean the bread doesn't dry out, whilst allowing any excess moisture to escape.

## Freezing

Bread keeps very well if put in a plastic bag or container and kept in the freezer. Slicing it before freezing allows you to defrost and use it a slice at a time. Putting frozen bread somewhere too warm (e.g. in the oven) or in a microwave to defrost can cause it to dry out. It's better to leave at room temperature to thaw slowly.



## Leftovers

In the unlikely event that you manage not to scoff all of your yummy Real Bread before it goes stale, don't throw it away!

In his book, *Bread Matters*, Andrew Whitley writes that you can revive a stale whole large loaf by putting it in a hot oven (200-220°C) for around five minutes, or by warming a small loaf at around 170°C for about twelve to fifteen minutes.

Otherwise, here are some things into which stale bread can be recycled:

- Toast – the thing that stale bread was made for
- Bruschetta
- Panzanella
- Croutons
- Eggy bread (also known as French toast)
- Bread and butter pudding
- Bread pudding
- Treacle tart
- Brown bread ice cream

...or made into Real breadcrumbs, which can be used to make bread sauce, and stuffings or crumb coatings for all sorts of things.

Both the Real Bread Campaign and Love Food Hate Waste websites have a number of recipes for leftover bread: [www.lovefoodhatewaste.com/recipes/list?food=20-bread](http://www.lovefoodhatewaste.com/recipes/list?food=20-bread)

# Share your picture

We'd love to see and help you share your photos of Bake Your Lawners in action, as well as your wheat plots and Real Bread you bake.

You can do this via our Facebook page, Twitter feed, or Flickr stream:

[twitter.com/RealBread](https://twitter.com/RealBread)

[facebook.com/realbreadcampaign](https://facebook.com/realbreadcampaign)

[flickr.com/photos/realbreadcampaign/](https://flickr.com/photos/realbreadcampaign/)

Before sending us your photos, please check with them (or their legal guardian, if they're under 18) that they are happy for you to do so.

We may use photos we receive to help publicise our work.

# Suppliers

The following is simply a list and inclusion doesn't imply a recommendation. There are other suppliers out there and we suggest that you conduct your own research before making any purchase.

## Seed wheat

Here are the licensed seed merchants we've found that can supply bread making wheat seed in small quantities. We will continue to add to the online version of this list at our website this list as we find more suppliers.

### **Trevor Cope Seeds**

[www.copeseeds.co.uk](http://www.copeseeds.co.uk)

### **Organic Seed Producers**

Stone Cottage, Beyton, Bury St Edmunds, Suffolk IP30 9AF [roger.orgseeds@tiscali.co.uk](mailto:roger.orgseeds@tiscali.co.uk)  
or email [john.bradwell@zen.co.uk](mailto:john.bradwell@zen.co.uk) 01359 270410

### **Organic Farmers and Growers**

Publishes a list of organic seed suppliers.

[www.organicfarmers.org.uk](http://www.organicfarmers.org.uk)

### **OrganicXseeds**

The official UK database of organic seed availability funded by Defra and managed by the Soil Association, working in partnership with FiBL and NIAB. The website includes a list of licensed seed merchants and a list of available seed, sorted by type, e.g. spring wheat and winter wheat.

[www.organicxseeds.com/oxs/do/Login?paramCountry=188](http://www.organicxseeds.com/oxs/do/Login?paramCountry=188)

### **The Plant Varieties and Seeds Gazette**

Produced by Fera, the government department responsible for regulations surrounding the marketing of seeds, including wheat.

[www.fera.defra.gov.uk/plants/seeds/](http://www.fera.defra.gov.uk/plants/seeds/)

## Mills

The following sell one or more types of small grain mill.

### **UK Juicers**

[www.ukjuicers.com/grain-mills?gclid=CNOKsqXmkaUCFQ\\_-2AodgGrqOw](http://www.ukjuicers.com/grain-mills?gclid=CNOKsqXmkaUCFQ_-2AodgGrqOw)

### **Brow Farm**

Sells the Back to Basics 555 mill.

[www.browfarm.co.uk/online\\_store/grain\\_milling\\_grinding\\_machines.htm](http://www.browfarm.co.uk/online_store/grain_milling_grinding_machines.htm)

### **Lakeland**

[www.lakeland.co.uk/grain-mill/F/product/13303?src=gpbak&sq=grain%20mill](http://www.lakeland.co.uk/grain-mill/F/product/13303?src=gpbak&sq=grain%20mill) N.B sold out but Lakeland told us that they might consider re-stocking if demand was sufficient.

### **Wholistic Research Company**

[www.wholisticresearch.com/shop/home/m/Shop/c/15/](http://www.wholisticresearch.com/shop/home/m/Shop/c/15/)



**BeSmart**

[www.grain-mills.co.uk/](http://www.grain-mills.co.uk/)

**Grains to mill**

[www.grains2mill.co.uk](http://www.grains2mill.co.uk)

**Molenstenen**

Rotary querns and small hand cranked (or engine driven) vertical stone mill from Dutch stone mill stone builder, Hans Titulear

[www.molenstenen.nl](http://www.molenstenen.nl)

## Other equipment

**Riddles**

Sieves

[www.riddles-sieves.co.uk](http://www.riddles-sieves.co.uk)

**Alba**

Sieves

[www.albaonline.nl/handzeven.html](http://www.albaonline.nl/handzeven.html)

## Funding

Though the Real Bread Campaign is unable to offer any funding to Bake Your Lawn projects, you might be able to find financial support elsewhere. Here are some possibilities:

**Capital Growth**

A Sustain sibling to the Real Bread Campaign holds occasional funding rounds to provide small grants to groups who would like support to implement or expand a community food growing space in London. To find out if you might be eligible and further information, visit:

[www.capitalgrowth.org](http://www.capitalgrowth.org)

**Landshare**

'Landshare brings together people who have a passion for home-grown food, connecting those who have land to share with those who need land for cultivating food.' The website also has a forum for finding and sharing tips, including on sources of funding.

[www.landshare.net](http://www.landshare.net)

Teachers can find a longer list of suggestions for food-based projects in our Lessons in Loaf handbook.

## In kind support

Cold hard cash might be difficult to come by but you might have more luck in negotiating some support in kind. Maybe a local business or organisation might lend (or perhaps even donate) gardening equipment to you.

When it comes to digging, sowing, weeding and harvesting, maybe friends, family or other members of your local community might agree to lend a hand. This is particularly helpful if you are planting anything more than a few square metres. If you are planning to cultivate a small field, the offer of some of the resulting flour, or bread baked from it, in return might be an appropriate gesture of thanks.

If you are thinking of joining together with others to grow wheat, you might be interested in the idea of Community Supported Agriculture. You can find details in the 'what we do' section of the Soil Association's website: [www.soilassociation.org](http://www.soilassociation.org)

# Useful books and links

## For teachers

### **The Brockwell Bake Association (BBA)**

The BBA's teacher's wheat growing pack, on which parts of the Bake Your Lawn pack are based  
[www.brockwell-bake.org.uk/plant\\_wheat\\_teachers.pdf](http://www.brockwell-bake.org.uk/plant_wheat_teachers.pdf)

### **Farming and Countryside Education (FACE)**

An alliance of over 80 organisations, all of which have a commitment to educational work associated with food, farming and the countryside.  
[www.face-online.org.uk](http://www.face-online.org.uk)

### **Federation of City Farms and Community Gardens (FCFCG)**

The Federation of City Farms and Gardens represents the many community-owned farms and community gardens across the country. These are mainly found in urban areas and range from small vegetable plots to larger farms with a range of animals. Many will have an education officer eager to work with schools. FCFCG's own Grains Education Pack is available to download from:  
[www.farmgarden.org.uk/publications/133-grains-education-pack](http://www.farmgarden.org.uk/publications/133-grains-education-pack)

### **Garden Organic**

An organic growing charity, whose Education Programme includes quick-reference growing instruction cards, activity sheets and more, produced as part of the Food for Life Partnership and funded by the Big Lottery Fund.  
[www.gardenorganic.org.uk/organicgardening/schools.php](http://www.gardenorganic.org.uk/organicgardening/schools.php)

### **The Grain Chain**

An education site put together by three organisations (The Home Grown Cereals Authority, The Federation of Bakers, The Flour Advisory Bureau) that support the commercial interests of large scale industrial milling, baking and cereal farming. NB Some of the content might not be in line with the beliefs and values of the Real Bread Campaign.  
[www.grainchain.com](http://www.grainchain.com)

### **Growing Schools**

A department of Education website, providing information, including funding advice, health and safety tips, links to the National Curriculum for schools running gardening projects. [www.growingschools.org.uk](http://www.growingschools.org.uk)

### **John Innes Centre**

"JIC is custodian of the UK's cereal genetic resources and maintains, characterises and distributes stocks from major collections of wheat and barley germplasm," which includes older varieties and landraces, some dating back over a century. 'Material from the collections is available on request to research, academic and commercial companies subject to availability. Material is also available for educational displays and demonstrations.' i.e. teachers might be able to obtain seed of older wheat varieties.  
[www.jic.ac.uk/GERMPLAS/Index.htm](http://www.jic.ac.uk/GERMPLAS/Index.htm) [geneticresources@bbsrc.ac.uk](mailto:geneticresources@bbsrc.ac.uk)

### **Learning Outside the Classroom**

A government initiative to support education outside the classroom, including gardening in school grounds and links with farms.  
[www.lotc.org](http://www.lotc.org)

### **Learning Through Landscapes**

A charity dedicated to enhancing outdoor learning and play for children. Can help schools develop their grounds for education through gardening and growing schemes.  
[www.ltl.org.uk](http://www.ltl.org.uk)

### **Royal Horticultural Society (RHS)**

Provides information, including funding advice, for schools running gardening projects.  
<http://apps.rhs.org.uk/schoolgardening/teachershome/default.aspa>

## Wheat The Bigger Picture

An academic site, with more in depth information and images for the entire life cycle of the wheat plant. Aimed at adults and older students

[www.wheatbp.net](http://www.wheatbp.net)

## Grain

**Home Farm: A Practical Guide to the Good Life**, Paul Heiney, Dorling Kindersley; reissue (2010) [contains a chapter on small-scale cereal growing, harvesting etc.]

**Small-Scale Grain Raising: An Organic Guide to Growing, Processing, and Using Nutritious Whole Grains, for Home Gardeners and Local Farmers** [Paperback], Gene Lodson Chelsea Green Publishing Co; 2 edition (1 Sep 2009)

**Homegrown Whole Grains: Grow, Harvest, and Cook Your Own Wheat, Barley, Oats, Rice, and More**, Sara Pitzer Storey Publishing LLC; Original edition (2 Sep 2009)

**The new complete book of Self-Sufficiency**, John Seymour with Will Sutherland, Dorling Kindersley (2009) [contains a chapter on cereals]

<http://grainsandpulses.blogspot.com/>

'A forum for information exchange on grain and pulse production for food.'

### Scottish Agricultural College

Has information and advice on organic farming.

[www.sac.ac.uk](http://www.sac.ac.uk)

### Sowing the future

If you're a farmer or landowner, you might be interested in hosting a community-sowing event. An organisation that might be able to help you with this is Sowing the Future

For more information visit:

[www.avenirsem.ch](http://www.avenirsem.ch)

## Milling

**Water and Wind Power**, M Watts, Shire Publications 2000

### Society for the Protection of Ancient Buildings (mills section)

Represents many remaining traditional mills of all types and states of repair.

[www.spab.org.uk/spab-mills/](http://www.spab.org.uk/spab-mills/)

### The Traditional Cornmillers Guild

Represents many working traditional wind- and water-powered flour mills.

[www.tcmg.org.uk](http://www.tcmg.org.uk)

### The Mills Archive

Archive material available to schools. It also lists mills that provide their own education packs

[www.millsarchive.com/4schools/portal.aspx](http://www.millsarchive.com/4schools/portal.aspx)

## Baking

You can find a growing list of bread-related publications, courses and links to other sites on the Companions page at [www.realbreadcampaign.org](http://www.realbreadcampaign.org)



# Credits

Bake Your Lawn was edited and co-written by Chris Young, with the help of Sarah Moore. Sections of Bake Your Lawn were adapted from notes for schools on wheat growing written by Andy Forbes of The Brockwell Bake Association, who also contributed additional information to this guide.

Except as noted, all images are by Chris Young.

# Disclaimer

*Bake Your Lawn* is not definitive, is intended to provide guidance only and should not be taken as legal advice – this applies especially to notes on legislation. Awareness of, and compliance with, all parts of the most up-to-date versions of all relevant legislation, is your responsibility and you should check with the relevant authorities to ensure that you fulfil these obligations. Sustain cannot be held responsible for the results of following (or not following) any suggestions contained in *Bake Your Lawn*.

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When organising and running any practical projects, such as planting, harvesting or baking, you should always ensure that you have taken adequate precautions to ensure the health and safety of anyone involved.

We have made every effort to ensure accuracy of the information provided and whilst we apologise for any errors or omissions, cannot be held responsible for any consequences that might arise as a result.

Should you have any feedback that you feel would enhance any future editions of *Bake Your Lawn*, please send it to [realbread@sustainweb.org](mailto:realbread@sustainweb.org)

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