Bread making the medieval way
(A compilation of research by Jean le Renaud de Pyranees (John Fox))

1. Hygiene.

a) Before.
Before starting bread making ensure that your hands are meticulously clean, you will be using them to knead the bread.

Before starting with any cooking it is essential to ensure that all equipment is clean and that ingredients are stored and dispensed hygienically. With the production of sourdough bread hygiene is important, but the rules are different.

Most of the time we take great care to ensure that food does not ferment, foods which will ferment are refrigerated. An important step in production of bread is fermentation of the dough, in modern bread making this is achieved by adding yeast to the mix of ingredients, in sourdough bread making fermentation is achieved by capturing yeasts from the air around and allowing the bread mixture to ferment naturally. So whilst most kitchen hygiene rules apply, in sourdough we do not take steps to prevent the mixture from fermenting.

b) During.
During production of sourdough normal kitchen hygiene rules apply with the exception that we still allow fermentation conditions whilst guarding against mould.

c) After.
When the bread has been baked it should be stored and used in the way that any bread is. Normal kitchen hygiene applies.

2. Equipment.

As in any field of cooking, it is a lot easier if specific equipment is kept for sourdough bread making, a good kit will include:

a) Glass jars with tight fitting lids – for storage of sourdough starter in the refrigerator, jars recycled from pickled onions etc (the type with the half turn tightly fitting metal lids) are good

b) Flour containers – airtight containers to keep bread flours dry, the plastic barrels used for bulk goods may be available from health food etc shops.

c) Mixing bowls – A large mixing bowl to mix the ingredients can be a stainless steel or plastic (a plastic hand-washing dish can be purchased and kept for the production of bread). A large enough bowl can be used as a kneading space when the bread reaches that stage. Also needed will be small bowls/containers for starter maintenance, medium ice cream containers are good.

d) Working surface – A clear surface with sufficient space to lay out all ingredients and equipment and with space to knead the dough, a stainless steel or marble bench top is very nice, but lacking a commercial kitchen, the kitchen sink and a bench top is all that is required.

e) Spoons etc – metal and wooden spoons, medium and small spatulas and measuring spoons/cups will all be useful.

3. Ingredients

a) Flour – the base of bread is flour.
In the Middle Ages flour was not controlled by regulation, so you could not be sure what grain had been used to manufacture it. Often if there was not enough wheat the wheat flour would be boosted using rye flour, and if you were lucky it did not have ergot (fungus) infection which may kill you.

In the current middle ages we have the creative anachronism of regulation of food content and purity, if you buy unbleached bread flour you can be certain that it is made from hard wheat. If you buy rye flour or whole meal flour you can be sure that you get what you want.

The best flour for bread making is unbleached white bread flour. It is made from hard wheat and the bran etc has been removed. This flour makes a lighter loaf as there is more gluten liberated from the grain to trap the carbon dioxide produced by the fermentation process. It is the trapped carbon dioxide which produces the small hollows which are typical in bread.

b) Starter

Bread begins life as a fermented mixture of flour and water with other ingredients added to improve texture and flavour. The fermentation is started in modern bread by the addition of yeast, sourdough fermentation is produced by a sour "starter".

In the middle ages you could not duck out to the grocery store for a packet of dried yeast, it had not yet been developed, neither had the grocery store. In order to produce a light bread it was necessary to use natural methods to produce gas in the dough by allowing it to be infected with naturally occurring yeasts.

Some of the fermented dough could be stored away and if it was cared for properly would be ready to 'start' the fermentation in the next bread making.

c) Fat

Fat in the form of oil or butter improves the texture of the loaf.

d) Water

Water is necessary so that the ingredients can combine well.

e) Salt

Salt stabilises the fermentation.

4. Method

a) Making a starter.
The sourdough starter is a fermented mixture of flour and water. To make your own organic sourdough starter follow these steps. Consider your sourdough starter a pet, it will become seriously ill if you do not care for it.

- Select a container that your "pet" will live in.
  The first thing your pet will need is a place to live. It likes a container which allows it to breathe without being contaminated by airborne debris. A large necked plastic, glass or stainless steel container is ideal, Do not use any metal other than stainless steel otherwise the starter will react with it. I usually use a plastic ice cream container.

- Blend a cup of warm water and a cup of flour, and pour it into the jar.

  Your pet is a combination of water and flour, combine one cup of flour and one cup of warm water, stir well to mix and incorporate some air (this is where the wild yeast which will do the work comes from). The flour can be unbleached bread flour or wholemeal bread flour, tap water is OK.

- Every 24 Hours, Feed the Starter.

  Make feeding of your 'pet' a regular event to be carried out at about the same time each day. To feed your starter add half a cup of flour and half a cup of water to the container and stir vigorously, do this each day until the started becomes active. After a day or two you will see some surface bubbles forming, this indicates that the starter is on the way to becoming active. It is not active until the bubbles are scattered throughout the mixture (this is indicated when the surface of the starter becomes frothy and the sour smell permeates the room you are working in.

- Refrigerate the Starter.

  When the starter has activated it can be refrigerated. Put two cups of starter in a screw top jar (pickle jars are ideal) and put it in the refrigerator. Once it has been refrigerated, the starter feeding can be reduced to about once a week (when you make bread is a good time). When the starter matures somewhat it will develop a pool of hooch over the surface. The hooch is normally a dark colour and smells of alcohol (cos alcohol is a product of fermentation). Hooch should be stirred in when feeding the starter. By all reports hooch is not good to drink.

b) The sponge.

Several hours before you plan to make your dough (recipe below), you need to make a sponge. A "sponge" is just another word for a bowl of warm, fermented batter. This is how you make your sponge.

- Put your starter in a large plastic or stainless steel mixing bowl.

  Wash the starter storage jar and dry it.

- Add a warm water and flour to the bowl.

  Add two cups of water and two cups of flour to the mixture and stir well, set it in a warm place for several hours. This allows the yeast to multiply and is called "proofing," another word for fermenting. Sourdough bakers have their own language; use it to impress your friends.

- Watch for Froth and then Sniff.

  When your sponge is bubbly and has a white froth, and it smells a little sour, it is ready. The longer you let the sponge sit, the more sour flavour you will get.

- Put two cups of the sponge back in the refrigerator.

  This is the new starter ready for next time you make bread, remember to treat it kindly and feed regularly if you do not want to use it soon

The proofing-time varies. Some starters can proof up to frothiness in an hour or two. Some take 6-8 hours! Just experiment and see how long yours takes. If you're going to bake in the morning, set your sponge out to proof overnight.

c) The recipe:

2 cups starter

3 cups flour (at least 2 cups should be unbleached white bread flour, the other cup can be unbleached white, rye or wholemeal (or a mixture).

2 tablespoons fat (olive oil or softened butter)

4 teaspoons sugar

2 teaspoons salt

To the “sponge” add sugar, salt and fat, mix well and add flour ½ cup at a time mixing with a wooden spoon until the mixture will not stick to your hands. As soon as the mixture is dry enough you can begin kneading to incorporate the remaining flour. The dough will seem very dry at first but will moisten as the flour is incorporated (the moisture content of flour varies depending on the weather and how it is stored), if the flour is very dry it may be necessary to add a little water a tablespoon full at a time. If the dough is too wet when it is finished the resulting loaf will be flat rather than round. Kneading should continue from ten to fifteen minutes after the flour has been incorporated, this develops the gluten in the dough so that it will trap carbon dioxide produced by the yeast in the starter, causing the dough to rise.

To knead, press down on the dough with the heels of your hands, flattening the dough, fold the dough away from you and continue kneading, this will produce a wide flat piece of dough. Turn the mixing bowl/dough 90 degrees and continue kneading, turning as the dough shape requires. Properly kneaded dough is smooth, elastic and does not stick to the bowl or hands. If necessary rub hands together from time to time to remove dough adhering to them, incorporate the removed dough into the loaf.

Remove the dough and clean the mixing bowl, put a little olive oil in it, form the dough into a ball and roll it in the oil so that the entire surface is covered in a thin layer of oil, this will stop the dough from drying as it cures (rises) prior to making your loaf.

Cover the mixing bowl with a damp tea towel and put it in a warm place to cure (rise) until approximately doubled in size (note that sourdough rises more slowly than yeast bread). When a finger poked into the top of the dough creates a pit that doesn't "heal" (spring back), you've got a risen dough.

Punch the dough down and knead it a little more. Make a ball and place it on a baking sheet (lightly greased). Slit the top if you like, cover the loaf with a tea towel or the inverted mixing bowl and place it in a warm place to rise again, until doubled in bulk.

Preheat your oven to 200 degrees Celsius and bake the bread for approximately 1 hour, turning at 15 minute intervals to ensure even cooking. Check the loaf at 45 minutes to see if it is done. The loaf is done when the crust is brown and the bottom sounds hollow when thumped with a wooden spoon. Turn the loaf out onto a cooling rack or a towel and let it cool for an hour before slicing.

5. Storing a starter for later use

a) Refrigeration.

Short term storage is best done in the refrigerator. Put two cups of starter in the fridge (not the freezer) in a screw top jar. The starter will require feeding with at least ½ cup of flour and ½ cup of water once a week. If you bake bread once a week, keep two cups of refrigerated starter per loaf and the above method will ensure that it is well fed and ready to use.

b) Drying.

Dried starter will keep well and is easy to make.

On a metal baking tray, put a sheet of waxed paper or a "Glad" brand product called "Go Between" (used to keep things from sticking together in the freezer). Using a spatular spread a thin layer of active starter on the tray and put it in a warm place to dry. When the starter has dried, remove it from the tray and crush it using a mortar and pestle. The dried sourdough powder can be stored in an airtight container until about one week before it is needed.

To activate the starter, put about one tablespoon of the powder into a wide necked container and add ½ cup water and ½ cup unbleached bread flour, leave it in a warm place to ferment. Although the starter will activate quite quickly, it will need about a week of daily feeding to attain its characteristic sourness.

6. References.

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f) Darrel Greenwood's sourdough links

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