

Loaf is a Many-Splendored Thing
Three Types of 13th Century English Bread

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Introduction

Bread was absolutely *the* staple food in medieval England. Up to 80 percent of a harvest-worker's calories came from grains; for a soldier, 78 percent, and for the lay nobility, 65-70 percent (Woolgar et al). As an avid baker, about a year ago I decided I wanted to try to recreate medieval bread; the more I read about it, the more I realized that medieval bread was wildly different from modern bread.

Being such an important part of the medieval diet, I decided that researching and recreating bread would be an interesting project as part of my continued persona development efforts. As such, I have focused my research as much as possible on England during the late 13th century.

This entry consists of three loaves of bread, representing the three most "typical" of the many types of bread baked and consumed during this particular time period. I decided to focus on three types of bread: **wastel**, "white" bread made from sifted wheat flour which would have been consumed by the wealthy and the gentry, **maslin**, made with rye and wheat flours and widely consumed by many different classes of people, and **horsebread**, a multigrain loaf that would have been eaten by servants and peasants.

In this document, I will start by discussing (in broad terms) the research I worked from and my major conclusions about medieval bread, then move into the specifics of my recreation process.

Research Process

A 15th Century Bread Recipe

I started out by looking through my collection of period cookbooks and on the web for bread recipes. I quickly discovered that there are very few surviving medieval bread recipes. This likely is the result of several factors. First, by and large bread was baked by professional bakers (either members of guilds or employed by large households), who most likely would have transmitted their recipes orally rather than writing them down. Peasant women may have made their own bread at home (Bennett), but would not have required (or even been able to use) written recipes to do so. The consumers of most medieval cooking texts seem to have been the masters (and mistresses) of large households, who were not necessarily interested in recipes as we think of them but more in ideas that could be transmitted to their chefs; it seems that they had little use for bread recipes.

There is at least one medieval bread recipe, though, from Platina's 15th century *De Honesta Voluptate et Valitudine*:

Therefore I recommend to anyone who is a baker that he use flour from wheat meal, well ground and then passed through a fine sieve to sift it; then put it in a bread pan with warm water, to which has been added salt, after the manner of the people of Ferrari in Italy. After adding the right amount of leaven, keep it in a damp place if you can and let it rise. That is the way bread can be made without difficulty. Let the baker beware not to use more or less leaven than he should; in the former instance, the bread will take on a sour taste, and in the latter, it becomes heavy and unhealthful and is not readily digested. The bread should be well baked in an oven, and not on the same day; bread from fresh flour is most nourishing of all, and should be baked slowly. (Cullinan)

From this, we can surmise that bread was leavened using a sourdough starter (as indicated by the note that adding too much leaven will make the bread taste sour), the dough was salted, and sifted wheat flour was used (at least for this type of loaf).

Archeological and Historical Evidence from England

In order to build on this and gain more insight into the details of English bread specifically, I drew heavily from two books in particular, both of which followed a multi-disciplinary approach incorporating historical records and archeological findings: *Food and Feast in Medieval England*, by P.W. Hammond, and *Food in Medieval England: Diet and Nutrition* edited by C.M. Woolgar, D. Serjeantson, and T. Waldron. From these two works I

learned that many different types of bread incorporating different grains were baked historically, and that different people would have gotten their bread from different places.

During this period, bread was almost exclusively baked on a large scale. In towns and cities, bread was baked and sold by professionals (Hammond). Given its importance as a foodstuff, the selling of bread was heavily regulated. Knowing this, I decided to look at regulations from this time period for more insight into bread available. I found a translation of the Assize on Bread; from its introduction in the 13th century, the Assize on Bread dictated how big a loaf of bread of a standardized price (a farthing, a quarter of a penny) would be, depending on the price of wheat. (See Halsall in Sources for a link to the text of the Assize in modern English.)

The Assize specifically regulated **wastel** loaves, which were made from sifted wheat flour. In England, the climate and soil in most parts of the country made growing wheat difficult so other grains such as barley, oats, and rye, as well as legumes, were widely grown (Hammond; Woolgar et al; Bennett). Bread made from wheat flour only, therefore, was the most desirable (and expensive), while less desirable breads eaten by the lower classes were made from these other crops. The sizes of these other loaves, also sold for a farthing, were determined by the size of a farthing loaf of wastel as set out in the Assize on Bread.

On the manor, bread was baked in large quantities for use in the lord's household (Hammond; Woolgar et al). While not regulated the same way as bread sold by professionals, these loaves would have followed similar overall patterns, that is, higher-status individuals would have consumed smaller wheat loaves while lower-status individuals would have consumed larger mixed-grain loaves. A type of highly desirable "white" wheat bread was called *pain demaigne*, literally the bread of the demesne or the lord's bread (Hammond). Ovens seem to have been rare in most peasant holdings; most manor residents would have either used a neighbor's oven or a communal oven (Hammond). Given the many things that peasants and serfs were required to pay the manor-holder a fee for (Bennett), it seems likely that they may have mixed dough at home and paid for baking privileges.

Maslin, wheat and rye grown together in the same field, was an extremely common crop during this period and thus maslin bread was widely consumed – one record from the turn of the 14th century shows a Bishop receiving payments from peasants for the grinding of 158 bushels of maslin compared to only two bushels of wheat (Woolgar et al). Maslin bread was most likely consumed by an incredibly broad spectrum of the population, including peasants, workers and other town-dwellers, servants in manor households, and was used by the gentry for trenchers (Hammond).

In addition to maslin loaves, peasants and servants ate a wide variety of breads. Serfs and free peasants were required to work on the lord's land during harvest time, and were entitled to *boons* in exchange, typically bread (this obligatory work was thus called boon-work) (Bennett). Boons given during harvest time were often composed of maslin and rye (so, both the wheat and rye that had been grown together and some more rye flour), rye and barley, or just barley, however, this is probably not representative of what peasants ate the rest of the time (Woolgar et al). The *famuli* (servants) on demesne farms received mixed grain breads, which may be more representative of the typical peasant diet; one late 13th century household provided bread made from a mix of rye, barley, and "bulmong" (oat mixed with bean and pea) flours (ibid). This type of coarse mixed-grain bread was also called **horsebread** as it was also fed to horses, and it is possible that wheat bran, presumably left over from the production of wastel, may have been used as well (Hammond).

Recreation Process and Choices

Flours

I believe that a medieval baker would have used freshly milled flour, as grain keeps better than whole grain flour. Without a real grist mill at my disposal, I had to rely on a combination of purchased stone-ground flours (from Bob's Red Mill) and a (relatively) modern implement, a small hand-operated metal Corona brand grain mill with stone plates. (Incidentally, a medieval woman grinding her own grain like this would have been subject to a fine.) Neither is identical to historical flours: the purchased flour is not as fresh as that which a medieval baker would have used, and the home-ground flour is not as fine as can be produced by a large mill. My flours also differed from historical flours as modern grains differ significantly from historical grains; while this is a topic I am interested in and want to do more research into, I decided it was beyond the scope of this project.

Flours used for each loaf:

- For the **wastel** bread, I used modern hard red wheat berries that I ground twice, first very coarsely then somewhat more finely, before sifting. Historically, the flour would have been "bolted" through successively finer cloths to result in a "white" flour with much of the bran removed. All of my attempts to bolt flour failed, I simply could not find a piece of cloth with a fine enough – but not too fine – weave. I ended up using a very modern fine mesh metal strainer.
- **Maslin** flour is a mix of wheat and rye flours. I have not seen reference to what percentage of each type of flour was included in a maslin loaf; I suspect that this is because the word "maslin" actually refers to wheat and rye grown together in a field, which would have been harvested and ground together without being weighed separately first. I decided to use half wheat (home ground) and half rye (purchased).
- For the **horsebread**, I wanted to recreate the kind of bread that peasants and servants would have most commonly eaten. The late 13th century household record mentioned above for bread provided for the *famuli* was composed of 45% rye, 33% barley, and 22% "bulmong" (a mix of oat, pea, and bean flours) (Woolgar et al). It is this mix that I decided to use for my loaf – using purchased rye and barley flours and grinding the oat and pea flours myself. I omitted the bean flour as I did not think the mill I used could handle fava beans.

Sizes

Each of my loaves was baked by weight, as professional medieval bakers would have done (as the size of loaves was regulated by weight). I decided to assume that the weight of water added to the dough would escape as steam during baking; although this may not be true, weighing the flour alone is much simpler. This could result in over-weight loaves, but cannot result in under-weight loaves, which makes this a likely tactic used by medieval bakers. (However, if you look in the "Details of Each Loaf" chart you will notice that this proved inaccurate, and all loaves ended up heavier than intended.)

- **Wastel:** A half-penny loaf of wastel bread during the reign of Edward I weighed just about two pounds (Spufford), so I assume a farthing loaf likely would have weighed about a pound. The wheat loaves baked for various great households in the 13th through 15th centuries also hovered right around a pound in weight (Woolgar et al). I ended up using only about 12 ounces of sifted wheat flour, as the yield from grinding and sifting the grain was very low.
- **Maslin:** During the reign of Edward I, a half-penny loaf of "coarse bread" weighed twice as much as the same of wastel (Spufford), so I used a pound of wheat flour and a pound of rye flour for this loaf.
- **Horsebread:** Two early 14th century references to loaves given as boons show their size hovering just over and just under three pounds (Woolgar et al). I do not know how big mixed-grain loaves for servants or sold by professionals would have compared to this size, however since this was the best information I could find, I decided to use a total of three pounds of flour for this loaf. Using the percentages of grain given above (the 13th century record), and rounding up a little, I used 22 oz rye, 16 oz barley, 5.5 oz oat, and 5.5 oz pea flours (again, I opted to omit the bean flour).

Sourdough Starter

To leaven my breads, I used sourdough starters. Medieval bread may also have been baked with barm, the by-product of ale production, although I have not seen direct evidence of this (and I believe that barm was used to brew the next batch of ale). I have experimented several times with barm – depending on the brew, it can perform remarkably like modern commercial yeast. However, yeasts used in brewing typically produce more alcohol and less carbon dioxide than yeasts used for bread; this may also have been true historically as selective breeding of yeast is very easy.

Sourdough is easy to make and works well as a leavening agent – natural yeasts are captured when flour and water are mixed together and left alone until they grow bubbly and sour smelling (a starter), and a bit of each loaf can be saved to start the next. Despite having baked many times successfully with sourdough, I had no end of trouble with my starters during the duration of this project. I think that I simply haven't been doing enough baking for there to be enough yeast in the air in my kitchen to get a good starter. Also, I tend to keep my house quite cold, which is not optimal for yeast. I ended up "seeding" my starter initially with a small amount (1/8 tsp) commercial yeast.

I maintained both a wheat and a rye/wheat starter. I began the wheat starter a couple of months prior to this competition and kept it going through stirring, occasional "feeding" (adding flour), and baking bread at least semi-regularly to refresh the starter. During the first week I kept it in a container covered lightly with a cloth (with the hopes of some wild yeast being able to get in), and thereafter stored it in a covered plastic container. Then, about two weeks before the competition, I divided my wheat starter in half and put it into two containers. I added flour and water to each container to double to total volume of my starters, adding wheat flour to one and rye to the other. A week before the competition I noticed that both starters were looking kind of sad, so I opted to seed them again with a pinch of commercial yeast in each.

General Steps in Sourdough Baking

Previously when I have baked with sourdough I have followed a very long, multi-step process: letting a sponge develop overnight, waiting through two risings, and then proofing the loaves. I find this whole process usually takes at least one night and one full day. However, through my various test runs of this process I had a lot of trouble with following this completely. In several tests my doughs all turned to goo instead of rising (these were the starters that I ended up discarding), and in no case was I able to get the whole process to work in a day. Additionally, the recipe listed above, although later than the time period I was most interested in, does not suggest a multi-step process. So I shortened this process to developing a sponge, a single rise, and then baking the loaves.

To make my sponges, I mixed a quantity of starter (see details below) with equal amounts of flour and water then let them sit overnight (about 12 hours). A sponge is ready when it appears bubbly and somewhat “ropey” (caused by gluten, this will not happen with non-wheat flours). At this point I mixed in most of the remaining flour and some salt to form a sticky dough, then kneaded in the rest of the flour until the dough was smooth and elastic.

To let the dough rise, I moistened the surface, placed it in a bowl, covered the bowl with a cloth, and placed the bowl in a barely warm oven. Again, I have a very cold house and using a warm oven is the only hope I have for getting the dough to rise. I warm the oven by turning it on very, very low for only a few minutes before turning it off, and I test it with my hand before putting the dough in (it should feel warm but never hot).

For the actual baking, I do not have a medieval oven at my disposal. I have found in the past that the current fad of baking a loaf of bread inside an enameled cast iron Dutch oven can mimic some of the characteristics of historical ovens – more steam is retained and the loaf is exposed to three types of heat (radiation, conduction, convection). Each of these loaves was baked in this fashion. There are a few other methods of replicating a medieval oven which I will discuss in the section below titled Future Experiments.

While I cannot be certain that the methods I am following, which I have learned through trial and error and through consulting modern guides to sourdough baking (in particular see Denzer in Sources), are historically accurate, for my own self I am comfortable with their plausibility. Indeed, the largest deviation I have made from historical practice is in baking three distinctive types of bread at the same time at home and only baking a small amount at once.

Because of my work schedule, I had no choice but to bake these loaves two days before the competition (on Thursday). I found evidence, though, that this is closer to period practice; one household that I read of baked bread between six and eleven times per month (Woolgar et al), while another baked once per week (Hammond) – it may not be what we prefer, but day-old bread is likely quite authentic.

More Details for Each Loaf

Each loaf was baked in an enameled cast-iron Dutch oven, starting out with the lid on and finishing with the lid off.

Wastel:

As mentioned previously, I ground the wheat myself for this loaf and sifted it.

For the sponge, I used approximately a quarter of a cup of wheat starter, which I mixed with a half a cup of flour and a half a cup of water and let sit overnight. The next morning, I added another three-quarters of a cup of warm water, a teaspoon of salt, and the remaining flour and kneaded.

Wastel would have been baked at a higher temperature than lower-grade loaves (Hammond, Woolgar et al), which also results in a lighter, more airy crumb. I started this loaf at 400°F for 20 minutes with the lid of my Dutch oven closed, then removed the lid and baked for another 20 minutes.

Maslin:

I was unable to find whole rye berries, so I had to use store-bought rye flour for this loaf. I did, however, grind the wheat flour myself.

For the sponge, I used approximately a half a cup of cup of wheat starter, mixed with a cup of the mixed rye and wheat flours and a cup of water and allowed to sit overnight. The next morning I added a cup of water, a teaspoon and a half of salt, and the remaining flours and kneaded.

I baked this loaf at 350°F, again following the principle of higher-quality loaves using more fuel. I baked it for 30 minutes with the lid on and 30 minutes with the lid off.

Horsebread:

Again, being unable to find whole rye berries I purchased the rye flour for this loaf. I purchased hulled barley, but grinding it proved extremely difficult – it was very soft, and I kept ending up with rolled barley instead of flour; in the end I opted to buy barley flour. The oat and pea flours were freshly ground. I used split yellow peas as they were easy to find and grind – I have also brought some whole yellow peas to show how they differ.

For the sponge, I used a half a cup of the mixed rye/wheat starter mixed with a cup of rye flour, a quarter of a cup of mixed oat and pea flours, and a cup of water and allowed to sit overnight. The next morning, I added a teaspoon and a half of salt, all the remaining flours, and three cups of water. With such a low gluten content, this kind of dough does not require kneading; I kneaded it just enough to get it fully mixed.

It is my belief that horsebread would have been baked at a rather low temperature. For one thing, fuel was expensive in this period (Woolgar et al list coarse loaves using half as much fuel as wastel; considering how much larger a coarse loaf was, the effect must have been pronounced). I also found a reference (in *Earth Oven*) to some sourdough whole grain (non-wheat) loaves turning out tastier when baked at lower temperatures with lots of steam. I baked this loaf at 300°F, brushing the top generously with water before hand. I left the lid on for 40 minutes and continued baking the loaf for an additional 30 minutes after removing it.

Conclusions

This was an incredibly fun project. I was excited to learn more about what medieval bread was actually like, and I felt more in touch with what my persona may have eaten on a daily basis. Also, I feel like this research gave me an interesting window into the many differences between medieval and modern food generally. Even for someone who considers herself fairly knowledgeable about medieval food, I was genuinely surprised at just how different my recreations are from the bread I usually see served in the SCA; I would like to find a way to make my research accessible to more people in the SCA with the idea that maybe we can try to close this gap a little.

Toward this goal, I challenged myself to be more meticulous about my own baking habits so that I could accurately record my work with the idea that someone else could repeat it. I tend to be an instinctive baker, and so when I presented the first version of this project at the Arts and Sciences Championship of the Barony of Three Mountains my judges remarked that they wanted to know more about the precise quantities and times of my recipes. I have tried to remedy this – see in particular the chart titled “Loaves at a Glance” which shows details for each loaf of bread. I have also created a simple recipe for each loaf with the supporting documentation snipped away included at the end of this document (and distributed to anyone who expressed an interest in taking a copy).

I have a few quibbles with my own work, of course. I still am not certain that my white flour is equivalent to historical white flour. I think that the bolting process, using cloth, probably yielded a much finer and whiter final product than I was able to achieve. For more ways that I plan to continue this project, please see the next section of this document.

Future Experiments

I do not consider this project completed by any means. Some of the things I would still like to try:

- **Different Ovens:** I have gotten a few suggestions about other ways to recreate the characteristics of historical ovens without actually building one (although that too is high on my list). First is using a pan of water on the bottom shelf of a modern oven and several terracotta tiles on next shelf up. The bread is placed directly on the tiles instead of using a metal pan, while the steam from the water pan makes up for the steam lost by our open oven designs. Second is using a “cloche,” a ceramic container just the right size for one loaf of bread that can either be used in a modern oven or in a fire.
- **Better Starter:** I was deeply frustrated at my inability to keep a starter alive without using modern yeast. I want to keep working on this until I can get a good wild starter.
- **Flours:** I would like to eventually be able to bake each of these loaves using only freshly ground flour and compare the final product to loaves baked using purchased flour.
- **Even More Types of Bread:** I have not even come close to recreating all of the types of bread baked in medieval England. While I can probably never achieve that, I would like to experiment more with some of the other types of bread known from the historical record. For instance, there were many different grades of wheat bread, based on how much of the bran was sifted out before baking. Additionally, there were many other grades and types of mixed-grain breads which I would like to continue to research.
- **Not Actually Bread:** Other than in the south of the country, most of the population of England may not have eaten bread at all, instead relying on grain porridges (Hammond). I am very interested in tracking down more information about this and doing some further experimentation.

As you can see, this project will likely continue to occupy me for some time.

Sources

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