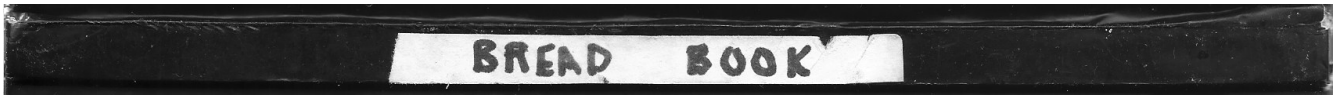

William Greenwood

Collection of recipes with bakers percentage and example weights. Recipes are stored in TOML format and periodically compiled to the website (https://bread.ozva.co.uk) and the accompanying printouts. This is done with a tool I built. Temperatures are listed in Celsius and should be assumed to be with fan when referring to baking. Currently 16 recipes at last compilation (September 7, 2025).

Recipes

- **Ciabatta**. Light Italian bread.
- **Kaiser rolls**. Chainbaker kaiser rolls.
- **Challah**. Jewish sweet-bread.
- **Panettone v3**. Panettone.
- **Sourdough white v4**. Sourdough sandwich loaf, similar to french bread.
- **Straight white yeasted v4**. Regular white yeasted bread.
- **Ciabatta with pre-ferment**. Light Italian bread with polish.
- **Levain De Pâte**. Levain De Pate recipe from 'Taste of Bread'.
- **Pain Au Levain**. Pain Au Levain recipe from 'Taste of Bread'.
- **White yeasted with polish pre-ferment v4**. Less acidic flavor than the v4 sourdough.
- **Kaiser rolls (vegan)**. Under development.
- **Polish pre-ferment**. Recommended polish recipe from 'Taste of Bread'.
- **Challah with pre-ferment**. Jewish sweet-bread with polish.
- **Levain De Pâte (wholemeal)**. Levain De Pâte ajusted for cheap chapatti flour. Under development.
- **Panettone Imitation**. Imitation Panettone from 'Taste of Bread'.
- **Seeded Sourdough Rye**. Sourdough rye with seeds. Can be used as a guide for other seeded breads.

Ciabatta

Light Italian bread.

Notes

High gluten is required for this so autolyse measurements have been provided. The gluten surface is very important for this one because the dough is not shaped as to retain as much air as possible. Use plenty of folds during ferment. Simply build up the bottom surface of the dough, using olive oil during folds for easy release, and tip out onto surface when fermented, divide and proof on surface.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	100%	276	552	1105	1657	2210
Autolyse Water	60%	166	331	663	994	1326
Water	18%	50	99	199	298	398
Salt	2%	5.52	11	22	33	44
Yeast	1.5%	4	8	17	25	33

Kaiser rolls

Chainbaker kaiser rolls.

Notes

This recipe is from Chainbaker, with only a small adjustment on the yeast. Each of these rolls should weigh around 110g. There is a specific way to plait these which I will try to describe: Roll the balls out into a length of around 20cm, tie a knot into the dough and pass the two loose ends back through the loop created so the ends are hidden. Can be brushed with milk or some other glaze and sprinkled with poppy seeds.

This is a brioche, so easily overheated, use cold milk or cool the flour off beforehand.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	100%	279	559	1117	1676	2235
Milk	44%	123	246	492	737	983
Egg	20%	56	112	223	335	447
Softened Butter	8%	22	45	89	134	179
Sugar	4%	11	22	45	67	89
Salt	2%	5.59	11	22	34	45
Yeast	1%	2.79	5.59	11	17	22

Challah

Jewish sweet-bread.

Notes

This is a straight dough and quite dense, so no autolyse is necessary. This bread is traditionally plaited. If you're making large loafs, I would recommend a 3 strand plait. This recipes source has recently put it behind a paywall so consider this one pirated.

Glaze with a mix of egg whites and milk after shaping and before baking. You're aiming for around #802b00 at its darkest points and a hollow sounding base.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	100%	278	556	1111	1667	2222
Water	25%	69	139	278	417	556
Egg	25%	69	139	278	417	556
Honey	16%	44	89	178	267	356
Neutral Oil	12%	33	67	133	200	267
Yeast	1.5%	4	8	17	25	33
Salt	1%	2.78	5.56	11	17	22

Panettone v3

Panettone.

Notes

Recommended that sourdough started is used 3 hours after refreshing. Flavoring should be mixed up and left to rest for 12h minimum before being incorporated. Stage 1 will take around 12h to rise (under the conditions we attempted to bake this) so this lines up well. Additionally, soak raisins overnight. Incorporate yolks and sugar slowly to prevent dough splitting. Recommended flour protein content is 16%, this is not elaborated on and ash content is not listed so its difficult to know what the original authors where going for.

Apparently during ferment it should rise 250-300%. Bench rest should be 20 minutes and proof should be 5-6 hours.

Cooking temperature is listed as 165° for 50 minutes. It is traditionally scored with a cross with a piece of butter placed in the center.

Orange zest, lemon zest and vanilla pods are all listed in units, rather than grams.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Flavoring Honey	6.5%	6	12	24	36	47
Flavoring Orange Zest	80.6%	74	147	294	441	588
Flavoring Lemon Zest	32.3%	29	59	118	177	236
Flavoring Vanilla Pods	32.3%	29	59	118	177	236
Stage 1 Flour	100%	91	182	365	547	730
Stage 1 Water	40.3%	37	74	147	221	294
Stage 1 Sourdough	19.4%	18	35	71	106	142
Stage 1 Sugar	16.1%	15	29	59	88	118
Stage 1 Yolks	16.1%	15	29	59	88	118
Stage 1 Butter	24.2%	22	44	88	132	177
Stage 2 Flour	19.4%	18	35	71	106	142
Stage 2 Water	16.1%	15	29	59	88	118
Stage 2 Yolks	19.4%	18	35	71	106	142
Stage 2 Sugar	24.2%	22	44	88	132	177
Stage 2 Butter	32.3%	29	59	118	177	236
Stage 2 Rasins	29%	26	53	106	159	212
Stage 2 Orange Peel	29%	26	53	106	159	212
Stage 2 Citron Peel	14.5%	13	26	53	79	106
Stage 2 Salt	1.3%	1.19	2.37	4.74	7	9.49

Sourdough white v4

Sourdough sandwich loaf, similar to french bread.

Notes

This is adjusted from my Straight White v4.

It's listed at 10% wholemeal at the moment. This is negotiable. If you need to go more than ±10% with the wholemeal, you might need to put together a different recipe or make the appropriate adjustments.

Bake in a loaf tin or shape into a boule.

Note that "Autolyse Water" is water to mix with the flour. "Water" can be mixed with the salt to help when mixing it into the dough or to incorporate the starter into the autolysed dough.

Note that it is assumed that the sourdough starter you're using has a hydration of 100%. Make the appropriate adjustments if not.

In our oven, this takes 30 minutes at 200° (fan), starting just before the oven has finished heating up.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	83%	250	500	1000	1500	2000
Wholemeal Flour	10%	30	60	120	181	241
Autolyse Water	50%	151	301	602	904	1205
Water	8%	24	48	96	145	193
Sourdough Starter	14%	42	84	169	253	337
Salt	1.5%	4.52	9	18	27	36

Straight white yeasted v4

Regular white yeasted bread.

Notes

I have included autolyse water measurements with this, although it may not be necessary. I imagine it depends on the flour and the kind of bread you like.

In the past, this has sat around 1.3% yeast. Although now I would be inclined to keep it lower (2-3h ferment). if you're short on time this could be brought up to 1.5% or higher (absolute maximum 2%).

It's listed at 10% wholemeal at the moment. This is negotiable. If you need to go more than ±10% with the wholemeal, you might need to put together a different recipe or make the appropriate adjustments.

This bread is easy to handle and usually gives very good results.

Bake in a loaf tin or shape into a boule.

Note that "Autolyse Water" is water to mix with the flour. "Water" can be mixed with the salt to help when mixing it into the dough or to hydrate the yeast depending on the type you're using.

In our oven, this takes 30 minutes at 200° (fan), starting just before the oven has finished heating up.

Ingredients

	Bakers %	**500g total**	**1kg total**	**2kg total**	**3kg total**	**4kg total**
White Flour	90%	269	539	1078	1617	2156
Wholemeal Flour	10%	30	60	120	180	240
Autolyse Water	55%	165	329	659	988	1317
Water	10%	30	60	120	180	240
Yeast	1%	3	6	12	18	24
Salt	1.5%	4.49	9	18	27	36

Ciabatta with pre-ferment

Light Italian bread with polish.

Notes

High gluten is required for this so autolyse measurements have been provided. The gluten surface is very important for this one because the dough is not shaped as to retain as much air as possible. Use plenty of folds during ferment. Simply build up the bottom surface of the dough, using olive oil during folds for easy release, and tip out onto surface when fermented, divide and proof on surface.

Classically, the polish (also known as "poolish" or "Vienna bread") was baked using only a preferment for leavening although now it is common to use yeast in addition to the preferment. This can be done and at any level up to a maximum of an additional 1.5%. Pre-ferment should be mixed in advance (temp from mixer 25°) and rested for 3h minimum (at 25°) or 16h minimum refrigerated (at 4°). The polish here is 69% hydration and makes up 15% of the flour weight. It is taken from Raymond Calvel's "Taste of Bread". The polish alone can be found on this site for reference.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Polish Flour	15%	42	84	169	253	337
Polish Water	10.35%	29	58	116	174	233
Polish Salt	0.3%	0.84	1.69	3.37	5	7
Polish Yeast	0.15%	0.42	0.84	1.69	2.53	3.37
White Flour	85%	239	478	955	1433	1910
Autolyse Water	50%	140	281	562	843	1124
Water	17.65%	50	99	198	297	397
Salt	1.7%	5	10	19	29	38

Levain De Pâte

Levain De Pate recipe from 'Taste of Bread'.

Notes

This is from page 93 of Raymond Calvel's 'Taste of Bread' (or 'Le Goût De Pain').

The levain stage should be mixed and 1st speed for 10 minutes and then proof for 5-6h @ 24° (or 10h at 15-18°).

Main dough should be mixed at 1st speed for 5 minutes, autolysed for 30 minutes and then mixed at 2nd speed for 10 minutes (yeast added towards the end). Fermentation is 45 minutes followed by 35 minutes of dividing and resting. Proof for 1 hour 50 minutes (@27°) and bake for 25-40 minutes at 230°.

Dough temperature for both stages should be kept at the recommended 25°.

The recipe notes that abcorbic acid can be used at 20 ppm.

There is a disparity between the translation and the original which is 0.2% extra salt content in this recipe (1.8% total in the French original). Calvel states that when the dough is likely to be underdeveloped, 0.2% extra salt can be added to make up the difference. I have chosen to include this change because I enjoy mixing by hand.

Ingredients

	Bakers %	**500g total**	**1kg total**	**2kg total**	**3kg total**	**4kg total**
Levain Flour	14.3%	37	74	149	223	298
Levain Water	8.58%	22	45	89	134	179
Levain Chef	3.58%	9	19	37	56	75
Main Flour	100%	260	521	1042	1562	2083
Main Autolyse Water	50%	130	260	521	781	1042
Main Water	14%	36	73	146	219	292
Main Salt	2%	5	10	21	31	42
Main Yeast	1%	2.6	5	10	16	21

Pain Au Levain

Pain Au Levain recipe from 'Taste of Bread'.

Notes

This is from page 91 of Raymond Calvel's 'Taste of Bread' (or 'Le Goût De Pain'). This is made in three stages, each using the last, with the first one using peice of the last batch of bread (called a 'chef'). Calvel recommends a dough temperature of 25-26℃ for all the stages. The first stage is the 'rafrachi' (or 'refresher'), this should be mixed on low for 10 minutes and allowed to proof for 5-6h (3.5x starting volume). The second stage is the 'levain', this should be mixed on low for 10 minutes and allowed to proof for 4-6h (3.5x starting volume). The final stage is the complete dough that will become the finished loaf, it should be autolysed for 30 minutes before being mixed on low for 12 minutes. Fermentation should be 50 minutes, at this point a piece of dough can be torn off for the next batch and the bread can be divided and rounded over 10 minutes. Bench rest should be 10-20 minutes. Shaping is a further 10 minutes followed by a 4h proof stage (3.5-4x starting volume). The recipe also mentions that 0.2% yeast (maximum) can be used.

It is recommended that the bread is baked for 30-40 minutes at 230℃ (It's difficult to tell if this is 'fan' or not, especially since this was written in 1990 and was based on commercial bread ovens). The author does note that it should be baked at a lower temperature than yeasted breads due to the slowness of the oven-spring. Calvel also notes that a good crust is built on a relatively long baking time and a relatively low oven temperature. You're aiming for #834a1d on un-scored parts of the loaf with some areas darker (from the color plates).

This one has been organised slightly strangely and there is greater than 100% flour, there may be some mistake. I will be baking it to double-check. It is also a fairly spread out recipe, so may not be appropriate for a single loaf at a time unless you have very accurate scales. Autolyse in this one is 'optional' but highly recommended. Because of the higher acidity of sourdough, the gluten network is slower to develop. As much development as possible is desirable due to the comparatively lower leavening power of natural yeast cultures.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Rafraichi White Flour	2%	5	10	21	31	41
Rafraichi Water	1.2%	3	6	12	19	25
Rafraichi Chef	1.54%	4	8	16	24	32
Levain White Flour	5.24%	14	27	54	81	108
Levain Rye Flour	0.46%	1.19	2.37	4.74	7	9.48
Levain Water	3.41%	9	18	35	53	70
Levain Rafraichi	4.77%	12	25	49	74	98
Main White Flour	95%	245	490	979	1469	1959
Main Rye Flour	5%	13	26	52	77	103
Main Water	64%	165	330	660	990	1320
Main Levain	13.85%	36	71	143	214	286
Main Salt	1.8%	4.64	9	19	28	37

White yeasted with polish pre-ferment v4

Less acidic flavor than the v4 sourdough.

Notes

I have included autolyse water measurements with this, although it may not be necessary. I imagine it depends on the flour and the kind of bread you like.

Classically, the polish (also known as "poolish" or "Vienna bread") was baked using only a preferment for leavening although now it is common to use yeast in addition to the preferment. This can be done and at any level up to a maximum of an additional 1.5%.

It's listed at 10% wholemeal at the moment. This is negotiable. If you need to go more than ±10% with the wholemeal, you might need to put together a different recipe or make the appropriate adjustments.

This bread is easy to handle and usually gives very good results.

Bake in a loaf tin or shape into a boule.

Note that "Autolyse Water" is water to mix with the flour. "Water" can be mixed with the salt to help when mixing it into the dough or to help incorporate the preferment.

Pre-ferment should be mixed in advance (temp from mixer 25°) and rested for 3h minimum (at 25°) or 16h minimum refrigerated (at 4°). The polish here is 69% hydration and makes up 15% of the flour weight. It is taken from Raymond Calvel's "Taste of Bread". The polish alone can be found on this site for reference.

In our oven, this takes 30 minutes at 200° (fan), starting just before the oven has finished heating up.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Polish Flour	15%	45	91	182	273	364
Polish Water	10.35%	31	63	125	188	251
Polish Salt	0.3%	0.91	1.82	3.64	5.45	7
Polish Yeast	0.15%	0.45	0.91	1.82	2.73	3.64
White Flour	75%	227	455	909	1364	1818
Wholemeal Flour	10%	30	61	121	182	242
Autolyse Water	50%	152	303	606	909	1212
Water	4.65%	14	28	56	85	113
Salt	1.2%	3.64	7	15	22	29

Kaiser rolls (vegan)

Under development.

Notes

This recipe is from Chainbaker. Each of these rolls should weigh around 110g. There is a specific way to plait these which I will try to describe: Roll the balls out into a length of around 20cm, tie a knot into the dough and pass the two loose ends back through the loop created so the ends are hidden. Can be brushed with a milk alternative or some other glaze and sprinkled with poppy seeds.

It has been adjusted in the following ways: milk substituted for alternative (water % of milk differs little so this has not been changed), butter substituted for neutral oil (butter is 80% butterfat so alternative has been reduced by 20% and hydration has been increased by the equivalent.)

This is a brioche, so easily overheated, use a cooled milk alternative or cool the flour off beforehand.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	100%	281	562	1124	1685	2247
Milk Substitute	45.6%	128	256	512	769	1025
Silken Tofu	20%	56	112	225	337	449
Neutral Oil	6.4%	18	36	72	108	144
Sugar	4%	11	22	45	67	90
Salt	2%	5.62	11	22	34	45
Yeast	1%	2.81	5.62	11	17	22

Polish pre-ferment

Recommended polish recipe from 'Taste of Bread'.

Notes

The polish here is 69% hydration and should make up 15% of the flour weight. It is taken from Professor Raymond Calvel's "Taste of Bread". Pre-ferment should be mixed in advance (temp from mixer 25°) and rested for 3h minimum (at 25°) or 16h minimum refrigerated (at 4°). It should be mixed for 4 minutes at first speed and 3 minutes at second speed.

Note that he specifies between 1-2% yeast, which I have averaged to 1.5%. I would assume this can be changed to account for your schedule and environment.

Ingredients

	Bakers %	**500g total**	**1kg total**	**2kg total**	**3kg total**	**4kg total**
White Flour	100%	291	581	1163	1744	2326
Water	69%	201	401	802	1203	1605
Yeast	1.5%	4.36	9	17	26	35
Salt	2%	6	12	23	35	47

Challah with pre-ferment

Jewish sweet-bread with polish.

Notes

This is a straight dough and quite dense, so no autolyse is necessary. This bread is traditionally plaited. If you're making large loafs, I would recommend a 3 strand plait. This recipes source has recently put it behind a paywall so consider this one pirated.

Glaze with a mix of egg whites and milk after shaping and before baking. You're aiming for around #802b00 at its darkest points and a hollow sounding base.

Classically, the polish (also known as "poolish" or "Vienna bread") was baked using only a preferment for leavening although now it is common to use yeast in addition to the preferment. This can be done and at any level up to a maximum of an additional 1.5%. Pre-ferment should be mixed in advance (temp from mixer 25°) and rested for 3h minimum (at 25°) or 16h minimum refrigerated (at 4°). The polish here is 69% hydration and makes up 15% of the flour weight. It is taken from Raymond Calvel's "Taste of Bread". The isolated polish can be found on this site for reference.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Polish Flour	15%	42	85	169	254	339
Polish Water	10.35%	29	58	117	175	234
Polish Salt	0.3%	0.85	1.69	3.39	5	7
Polish Yeast	0.15%	0.42	0.85	1.69	2.54	3.39
White Flour	85%	240	480	960	1441	1921
Water	14.65%	41	83	166	248	331
Egg	25%	71	141	282	424	565
Honey	16%	45	90	181	271	362
Neutral Oil	12%	34	68	136	203	271
Salt	0.7%	2	4	8	12	16

Levain De Pâte (wholemeal)

Levain De Pâte ajusted for cheap chapatti flour. Under development.

Notes

The levain stage should be mixed and 1st speed for 10 minutes and then proof for 5-6h @ 24° (or 10h at 15-18°).

Main dough should be mixed at 1st speed for 5 minutes, autolysed for 30 minutes and then mixed at 2nd speed for 10 minutes (yeast added towards the end). Fermentation is 45 minutes followed by 35 minutes of dividing and resting. Proof for 1 hour 50 minutes (@27°) and bake for 25-40 minutes at 230°. It may be a good idea to perform one or more folds on the dough to get the desired structure with the weakened gluten network.

Dough temperature for both stages should be kept at the recommended 25°.

The recipe notes that abcorbic acid can be used at 20 ppm.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Levain Flour	14.3%	36	73	146	219	292
Levain Water	8.58%	22	44	88	131	175
Levain Chef	3.58%	9	18	37	55	73
Main Flour	100%	255	510	1020	1531	2041
Main Autolyse Water	50%	128	255	510	765	1020
Main Water	18%	46	92	184	276	367
Main Salt	2%	5	10	20	31	41
Main Yeast	1%	2.55	5	10	15	20

Panettone Imitation

Imitation Panettone from 'Taste of Bread'.

Notes

This is from page 178 of Raymond Calvel's 'Taste of Bread' (or 'Le Goût De Pain'). It is described as 'An Imitation Panettone by Sponge and Dough Method'. He says 'A panettone can be leavened with baker's yeast. However, this is not an authentic panettone and remains only a pale imitation of the real thing in terms of flavor and keeping qualities. If the baker chooses not to use a naturally leavened sponge, the sponge and dough system, [this recipe] is the least objectionable method.'.

Also include 2 drops of orange essence per kg of flour in the main dough.

Mix the sponge on low speed for 6 minutes then rest for 4h @25° (or 15h @4°). Add to the main dough and mix for 4 minutes on low, then 2nd speed beater for 10 minutes. Ferment for 1 hour 40 minutes (degassing at 50 minutes in) then divide and rest for 40 minutes. Proof for 2 hours 20 minutes then bake for 40 minutes @210°

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
Sponge Flour	25%	56	112	224	336	448
Sponge Water	14%	31	63	126	188	251
Sponge Yeast	0.5%	1.12	2.24	4.48	7	9
Flour	75%	168	336	673	1009	1345
Water	2%	4.48	9	18	27	36
Eggs	30%	67	135	269	404	538
Yeast	3.5%	8	16	31	47	63
Butter	25%	56	112	224	336	448
Whole Milk Powder	4%	9	18	36	54	72
Orange Flower Water	5%	11	22	45	67	90
Vanilla	0.01%	0.02	0.04	0.09	0.13	0.18
Raisins	30%	67	135	269	404	538
Candied Fruit	10%	22	45	90	135	179

Seeded Sourdough Rye

Sourdough rye with seeds. Can be used as a guide for other seeded breads.

Notes

This recipe was baked as part of the Salford Christmas market and had a moderate demand among a certain audience. It was the 2nd last to sell out, and was popular for being the "healthiest" as well as being vegan. As far as the health benefits go, I would personally doubt that homemade rye is significantly better than homemade white. There are, however, provable benefits of the LAB colonies present in sourdough (linked). I estimated it to cost around £0.74 per kilogram. Priced at £2 per loaf we easily sold 10 kilograms over 4 hours.

Autolyse measurements have been included but this my not be necessary.

For using seeds in bread, it is recommended that they are soaked for 1 hour before being used. This lines up nicely with the autolyse period. I have been told that this is so they cannot draw out water from the gluten network although I am unsure about this. This water is accounted for as "Soaker Water" and is double the weight of the seeds to be included. Any seeds can be used.

The sourdough starter is assumed to be 100% hydration.

Ingredients

	Bakers %	500g total	1kg total	2kg total	3kg total	4kg total
White Flour	50%	128	255	510	765	1020
Rye Flour	50%	128	255	510	765	1020
Autolyse Water	30%	77	153	306	459	612
Soaker Water	20%	51	102	204	306	408
Water	19%	48	97	194	291	388
Sourdough Starter	15%	38	77	153	230	306
Seeds	10%	26	51	102	153	204
Salt	2%	5	10	20	31	41