



POLAVA
GUIDE TO MAKING THE PERFECT
Yeast Raised Donut

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MAKE UP INSTRUCTIONS

INGREDIENTS	WEIGHT / KG	WEIGHT / KG
Donut Mix	1000gm	12500gm
Water	460gm	5750gm
Fresh Yeast	30gm	375grams
Dry Yeast	16gm	200grams

METHOD

The aim is to achieve a well-developed dough with a temperature between 26°C and 28°C.

1. Add ingredients to a mixing bowl and mix, checking the dough for good development.
2. Cover and rest for 10 minutes, knock back and divide into loaves.
3. Cover and rest for a further 10 minutes.
4. Cut desired shapes and proof for 40 - 45 minutes at 35°C - 40°C heat and 65% - 70% humidity.
5. TEST DONUTS TO ENSURE THEY ARE ADEQUATELY PROVED BEFORE FRYING.
6. Fry at 180°C for 50 - 60 seconds each side until a golden colour is achieved.

Note: These instructions should be used as a guide only and may require changes to suit individual conditions.

If in doubt, contact a Polava Representative for technical assistance.



THE PERFECT YEAST DONUT:

- The Crust should be an even golden brown colour with no formation of bubbles and no apparent oil absorption.
- The donut will have a bold curved profile with a defined pale cream expansion ring.
- The Texture is even, fluffy that is light elastic and open, and has a short eating sensation in the mouth.
- The donut should taste light and tender and not tough or oily.
- The donut should have a shelf life at least 24 hours.

Trouble Shooters Guide

Donuts collapse

- a) Too much humidity.
Over proofed
- b) Dough sat on the bench too long.

Inconsistent sizes

- a) Dough needs to be more relaxed.
- b) The thickness of dough is not even.
- c) Dough sticking to the bench (dust)

Spread out & flat

- a) Too much humidity.
- b) Not long enough on the bench
- c) Under mixed

Too small

- a) Not enough on the bench
- b) Under mixed
- c) Too tight

Oil absorption

- a) Dough too warm.
- b) Too much humidity
- c) Oil quality needs to be better.
- d) Over proofed

Blisters

- a) Too much humidity
- b) Dough too warm
- c) Oil is too hot.

No Expansion ring

- a) Not enough on the bench
- b) Under mixed
- c) Dough too cold

Breaking when iced

- a) Not long enough on the bench.
- b) Over proofed
- c) Too much humidity

Large Bubbles

- a) Too much Water.
- b) Need more bench time.
- c) Reduce dough temp.
- d) Reduce the amount of yeast.
- e) Dough too soft/weak.

Dry Donut

- a) Over frying.
- b) Under-developed dough.
- c) Proof box too hot
- d) Under proofed

1. The Theory of Yeast Raised Dough Manufacture

1.1 Dough Mixing and Development

Purpose of dough mixing:

- Hydration of ingredients
- Formation and development of gluten (protein strands that gives dough structure) with intensive mixing

Advantages of intensive dough mixing:

- Reduction of fermentation time
- Improvement of dough characteristics
- Improvement of fermentation stability (capacity to retain gas)
- Improvement of product quality
- Large volume
- Smaller cells of the crumb
- Better bloom / longer fresh-keeping qualities
- Better taste

Deficiencies due to under mixed dough are:

- Small volume
- Insufficient development
- Insufficient colouring of crust
- Coarse crumb

KNOW MORE.....

- Through intensive mixing, the flour components are well distributed in the dough, thus enhancing the swelling of the dough.
- The reduced amount of free water causes the dough to firm up.
- Friction during mixing increases: the dough warms up.
- A longer mixing time and a warmer dough temperature favour the yeast fermentation process.
- Fermentation gases are incorporated into the dough texture as the same as air.
- The volume of the dough increases.
- After the mixing stage is finished, the dough has very small cells, which persist during the subsequent phase.
- The mixing is completed when the dough has reached its highest development stage.

How to determine the optimum mixing time:

- The dough reaches its highest degree of firmness.
- The dough should have a smooth, lighter-coloured surface and a non-tacky feel with a silky texture appearance.
- The dough becomes detached from the mixing bowl and arm during mixing.

- By the window test; a piece of dough is stretched lightly with the fingers;
 - If it breaks too easily, the dough is under-mixed;
 - If it becomes nearly clear - like a window - optimum time has been reached.

KNOW MORE.....

What factors determine the mixing time?

The Mixing Speed: The dough development time decreases as the mixing speed increases.

The Mixer: The larger portion of dough is constantly worked by the mixer, and the higher the compression of the dough, the shorter the dough development time.

The Dough Temperature: As the temperature increases, the development time decreases, and warmth enhances the swelling of the dough.

The Firmness of the Dough: In cases of firm dough, the desired degree of swelling of the dough is achieved earlier due to a higher flour content and a higher degree of warming (caused by higher friction in firmer dough).

The Flour Quality: Dough made with high-protein flour takes longer to develop than dough made with low-protein flour.

What are some symptoms of over-mixed dough?

- Decreasing firmness during mixing
- Increasing shiny-moist dough surface
- Increasing the extensibility of the dough
- Flowing of the dough

Over-mixing causes product deficiencies:

- Small product volume
- Poor colouration
- It is a blander tasting product.
- Reduced shelf life (fresh keeping qualities)

1.2 Floor Time – (Bulk Fermentation)

- This initial fermentation process starts after the dough is fully developed, normally at bakery ambient conditions.
- The finished dough temperature should be around 27 °C – 29 °C.
- The dough may be fermented in the mixing bowl using a plastic sheet to cover the bowl.
- Alternatively, if making more dough, remove it and place it in a large bin or container covered with a dry cloth or sheet to prevent the dough from crusting. Be sure to protect the dough from drafts.
- The dough is rested for 15 – 25 minutes until it is between two to three times its original bulk.

1.3 Loafing/Rounding

- The dough must be knocked back and loafed before proceeding with further fermentation.
- Portion and cut dough into approx. 2kg (or enough to handle) and loaf by hand.
- The dough should only be loafed until soft and smooth surfaces are achieved.
- Cover the dough with a dry cloth or sheet for intermediate proofing.

Purpose:

- Eliminate air pockets and develop a uniform tension in the dough.
- Achieve a smooth dough surface.
- Distribute yeast cells and dough temperature evenly throughout

1.4 Intermediate Proofing

- Intermediate proofing refers to the resting of the dough piece after loafing, normally at bakery ambient conditions for 15 – 20 minutes.
- The dough should be fermented until it is between two and three times its original bulk.

Purpose:

- To relax the dough so it can be rolled or sheeted without tearing.
- Allow fermentation to proceed.

1.5 Dough Pining and Cutting

- The bench must always be lightly dusted with flour when pining or rolling out dough. Care must be taken to use just enough dusting flour to prevent the dough from sticking to the bench.
- Avoid excess dusting. Brush the flour off before final proofing.
- Dough pining should always start from the centre of your dough and then working or pining the dough outwards.
- Repeat with this method until the dough piece is complete.
Try to roll out the entire piece of dough to a uniform thickness.
- Ensure that any entrapped gas bubbles are removed or pinned out. The dough surface should be smooth and even.
- Be sure to fully shrink and relax your dough piece after pining out.
- Cut dough at approx. 40g weight on a 1cm-dough thickness.
- Cut into a straight line or row each time to minimise dough scrap or rework.
- Place dough downside onto a wire rack and ensure the dough is at least 5 - 7 cm apart to allow further rise in the final proofing stage.
- All rework dough should be collected and allowed to rest, covered for 15 – 25 minutes before pining.

This procedure should be repeated for any rework.

1.6 Final Proofing

- Proofing should occur with cabinet temperature between 35 °C – 37.8 °C with 60 –70% relative humidity.
- For a 40g cut dough, proof for 25 – 30 minutes until the dough has more than doubled in volume.
- Extend proofing time for the larger cut dough.
- To check if the dough is ready, touch it lightly with a fingertip.
 - If fingerprint marks dough, proofing is complete.
 - If the dough springs back, extra proofing time is required.
- Don't overproof or proof too wet, as this will weaken the structure of your product.
- If the dough appears moist (due to high humidity), leave the rack at room temperature for approx. To avoid forming bubbles in the crust, 5 –10 minutes to remove any surface moisture before frying.

1.7 Frying

- The donut should be fried at 180°C (350 °F)
- Place the wire rack into a cradle and gently lower it into the fryer.
- Allow the first side of the donuts to cook until golden brown (approx. 50 - 60 seconds.) Using chopsticks, flip the donuts over to cook the other side.

- Once the second side has been cooked, flip the donuts back before removing from the oil, and allow the oil to drip before removing onto cooling racks.