

# The Fresh Flour Troubleshooting Bible

150 FIXES FOR DENSE LOAVES,  
DRY DOUGH, WEIRD TEXTURE



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## How to Use This Troubleshooting Bible

### What This Book Does, and Why Fresh Milled Flour Acts Different

Fresh milled flour is alive in a way store bought flour is not. It is warmer right after milling, it contains the whole grain including bran and germ, and it can change how your dough drinks water and how it ferments. Bran behaves like a sponge and a tiny razor at the same time, it absorbs water and it can weaken gluten if you rush mixing. Enzymes are more active, especially when flour is very fresh or your dough runs warm.

Temperature matters more than most beginners expect, because warm flour and warm kitchens speed fermentation and can push dough past its best window before you notice.

This book is built for real life baking. You do not need perfect technique to get good bread. You need a calm way to diagnose what happened and a simple way to fix it next time. The fastest path is to treat every bake like a small experiment, then change one thing at a time.

### The Symptom to Cause to Fix Method

Each fix in this book follows the same logic. You start with what you can see and feel, then you choose the most likely cause, then you apply a small correction that fits your situation.

#### **Symptom:**

Name the problem using plain language, for example dense loaf, dry dough, sticky crumb, pale crust, collapsed top, bitter flavor.

#### **Likely cause:**

Pick the simplest explanation that matches your process. Many bread problems come from hydration, temperature, timing, or underbaking, even when they look like something more mysterious.

#### **Fast fix:**

Make the smallest change that can realistically improve the next bake. Small changes are easier to repeat and easier to learn from.

#### **Why it works:**

A short explanation helps you build intuition, so you can solve new problems without guessing.

#### **Prevention next time:**

A simple habit that keeps the issue from coming back.

When you use this method, you stop chasing perfection and start building consistency.

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## Your Three Question Diagnosis

Before you flip through fixes, answer three questions. Do it quickly, then move on.

### **Question one, how did the dough feel?**

Was it stiff and tearing, or loose and spreading. Did it feel strong after resting, or did it turn into a sticky paste. Fresh milled dough often tightens after a rest because bran absorbs water over time, so first impressions can be misleading.

### **Question two, what did fermentation look like?**

Was the rise slow, normal, or fast. Did the dough feel airy and jiggy, or dense and heavy. Did it smell mild and wheaty, or sharp and acidic. Timing problems usually show up here.

### **Question three, what did the baked result show you?**

Look at the crust color, the height, and the crumb. A pale crust often points to low heat, weak steam, or a loaf that did not bake long enough. A gummy center can be underbaking, too much moisture trapped by a fast crust, or slicing too soon.

These three answers narrow your search faster than reading everything.

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## Safety and Basic Kitchen Hygiene

Fresh milled flour can go rancid faster than refined flour because the germ contains oils. If your flour smells sharp, paint like, bitter, or stale, do not bake with it. Store whole grains cool and dry, and keep milled flour in an airtight container. If you see moisture, clumps that feel damp, or any sign of mold, discard it. If you are unsure, trust your nose and your eyes.

Also watch cross contamination. Keep scoops dry, keep lids closed, and do not return flour to a bin after it has touched a wet surface.

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## Test One Variable at a Time

If you change five things, you will not know what helped. Use a simple one change rule.

1. Pick the single symptom you want to improve, for example dense loaf.
2. Choose one likely cause to test, for example dough was too dry.
3. Apply one small fix next bake, for example add a short rest plus a small water adjustment.
4. Write down what you changed and what happened.

This book will often offer multiple possible causes. That is normal, because bread is a system. Your job is to run calm, small tests until the pattern becomes obvious.

If you do that, the learning curve gets easier, your bread gets better, and you stop feeling like fresh milled flour is unpredictable.

## Your Baseline Setup, Before You Fix Anything

### The point of a baseline

Fresh milled flour is more alive than store flour. It absorbs water differently, it can feel thirstier after a short rest, and small temperature changes show up fast in the bowl. Troubleshooting works best when you start with a stable baseline: the same tools, the same simple method, and a repeatable test loaf. When your baseline is steady, every fix becomes clearer because you can tell what changed and why.

### Water, the quiet troublemaker

If your dough feels unpredictable, start with water. Water temperature drives dough temperature, and dough temperature drives fermentation speed.

**Symptom:** Dough rises too fast, then collapses.

**Likely cause:** Water was too warm.

**Fast fix:** Use cool tap water and aim for dough that feels barely cool, not warm, after mixing.

**Why it works:** Cooler dough ferments more steadily, giving gluten time to strengthen.

**Why it works:** Note room temperature and water temperature, even if it is just "cool, neutral, warm."

Hard water can tighten dough, very soft water can make it feel slack. Chlorine or chloramine can slow fermentation, especially in sourdough.

**Symptom:** Fermentation seems sluggish despite good timing.

**Likely cause:** Chlorinated water.

**Fast fix:** Use filtered water, or let water sit uncovered for a few hours.

**Why it works:** Less chlorine stress helps yeast and bacteria perform normally.

**Why it works:** Choose one consistent water source and keep it.

### Salt, yeast, and sourdough, the minimum rules

Salt is not optional. It strengthens gluten, improves gas retention, and keeps fermentation from running wild.

**Symptom:** Dough feels loose and sticky, loaf bakes up flatter than expected.

**Likely cause:** Salt was forgotten or measured low.

**Fast fix:** Weigh salt when possible and add it every time.

**Why it works:** Proper salt tightens structure and steadies fermentation.

**Why it works:** Add salt at the same moment in your method, every batch.

**Yeast issues are often storage or dosing issues.**

1. Check the date and storage.
2. Dissolve a pinch in lukewarm water with a tiny bit of sugar.
3. If it does not foam within 10 minutes, replace it.

For sourdough, baseline starts with starter strength.

**Symptom:** Long bulk, little rise, dense crumb.

**Likely cause:** Starter is underfed or too cold.

**Fast fix:** Feed at a predictable rhythm for a day or two and bake when it reliably doubles after feeding.

**Why it works:** Strong starter produces gas on schedule, so your timing becomes readable.

**Why it works:** Keep one simple feeding routine you can repeat.

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## Tools that matter, and what you can skip

A scale removes guesswork, and guesswork is the enemy of troubleshooting. A basic thermometer helps you keep dough temperature consistent. A timer keeps rests honest, especially with fresh milled flour where a short rest can change the dough a lot.

Pans and ovens can create "false problems." A thin dark pan browns early, tempting you to stop baking too soon. A different pan shape changes bake time. While you diagnose, use the same pan and the same rack position. If your oven is inconsistent, preheat longer than you think you need, and avoid opening the door during the first half of the bake. Consistency first, precision later.

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## The control loaf, your testing anchor

A control loaf is a plain, repeatable loaf you use as your anchor. Keep it simple: fresh milled wheat flour, water, salt, and either yeast or a standard amount of starter. Skip seeds, sweeteners, dairy, and eggs. The goal is not the most exciting loaf, it is the most informative loaf.

Choose a loaf size you can repeat. Use the same pan, or bake the same freeform shape, so you are not comparing apples to oranges. If you decide to sift, sift the same way every time, and write down how much bran you removed. Small changes in extraction can change hydration and rise.

Keep your method consistent: mix the same way, rest the same way, fold the same way, shape the same way, bake the same way. Change only one variable per test.

1. Choose one flour blend you can repeat for several bakes.
2. Keep hydration the same for the control loaf.
3. Change only one variable at a time, such as grind size, rest time, or fermentation temperature.

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## Your logbook, the fastest path to skill

A logbook turns "I think" into "I know." Keep it short so you will use it.

- Write the date, flour blend, grind setting, and whether you sifted.
- Write water amount and whether the water was cool, neutral, or warm.
- Write mixing time, rest time, and fold count.
- Write bulk time and proof time, plus one observation about dough feel.
- Write bake temperature and bake time, then one note on crust color and crumb texture.

After a few bakes, patterns show up. Dense loaves often track back to fermentation timing, hydration, or milling choices. Sticky centers often track back to underbaking or slicing too early. When you can name the pattern, you stop guessing, and you start fixing with purpose.

## Milling Problems, Grind Size, Heat, and Flour Age

### What Fresh Milling Changes

Fresh milled flour is not standardized. Bran is intact, germ oils are newly exposed, and particle size varies with your mill setting, grain, and batch size. That is why a dough can feel "different" even when the recipe is identical.

**Symptom:**

Results vary from bake to bake.

**Likely cause:**

Grind size, flour temperature, sifting, or rest time after milling is changing.

**Fast fix:**

Hold one baseline steady for three bakes: same grain, same setting, same rest time, same sifting choice.

**Why it works:**

Consistency makes the real problem visible.

**Prevention next time:**

Log mill setting, grain, and whether the flour felt warm.

### Bitter, Harsh, or Overly Strong Flavor

**Symptom:**

Bread tastes bitter, sharp, or "burnt bran," especially in the crust.

**Likely cause:**

Flour overheated during milling, or a very assertive grain choice at 100 percent.

**Fast fix:**

Cool the flour before mixing, and blend in a milder wheat for the next bake. If bitterness is concentrated in the crust, try a partial sift that removes a portion of the finest bran.

**Why it works:**

Heat and very fine bran can intensify harsh notes, and some wheats are naturally bolder.

**Prevention next time:**

Mill smaller batches so the mill runs cooler, and keep blends consistent.

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## Dull, Heavy Loaves and Tight Crumb

**Symptom:**

Loaf is dense and heavy, with a tight, dry crumb.

**Likely cause:**

Grind is too coarse, or the flour did not get enough time to hydrate.

**Fast fix:**

Go slightly finer, then add a rest before gluten development. Mix only until no dry flour remains, rest 20 to 40 minutes, then continue with gentle folds.

**Why it works:**

Coarse particles and bran hydrate slowly. A rest softens bran and evens out absorption.

**Prevention next time:**

If you like a coarser grind for flavor, compensate with longer rests and a small hydration increase.

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## Sandy, Gritty, or Rough Mouthfeel

**Symptom:**

Crumb feels gritty, even when baked through.

**Likely cause:**

Large particles from a coarse setting, or insufficient hydration time.

**Fast fix:**

Mill finer or double mill, then extend the initial rest. If you want to keep rustic texture, reserve the coarser flour for flatbreads and muffins rather than tall loaves.

**Why it works:**

Reducing the largest particles improves the way the crumb sets.

**Prevention next time:**

Use one "bread setting" for pan loaves and freestanding loaves, then experiment elsewhere.

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## Dough That Tears and Will Not Stretch

**Symptom:**

Dough rips during stretching and shaping, and feels fragile.

**Likely cause:**

Too much sharp bran in the dough, a very fine grind that distributes bran everywhere, or a weaker grain used alone.

**Fast fix:**

Try a partial sift and add back only part of the bran. If you are baking with spelt or soft wheat, blend in a stronger wheat for structure.

**Why it works:**

You keep flavor while reducing gluten disruption.

**Prevention next time:**

Choose grain blends based on the product. Tall loaves usually need at least some strong wheat.

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## Flour Temperature, An Invisible Accelerator

**Symptom:**

Fermentation runs fast, dough feels slack early, or the loaf bakes up pale and flat.

**Likely cause:**

Warm flour from milling raised your dough temperature.

**Fast fix:**

Adjust water temperature downward, or cool the flour before mixing. If the dough is already warm, shorten warm bulk or move the dough to a cooler spot.

**Why it works:**

Dough temperature controls yeast and enzyme speed.

**Prevention next time:**

Aim for repeatable dough temperature by controlling flour and water together.

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## Sifting Strategy, When to Do It

**Symptom:**

Whole grain dough is consistently sticky and weak at higher hydration, yet dense at lower hydration.

**Likely cause:**

Bran load is too high for the current technique or bread style.

**Fast fix:**

Use a partial sift as a dial. Remove the coarsest bran, then add back some until the dough is manageable and holds shape.

**Why it works:**

Less coarse bran means less tearing of gluten and easier shaping.

**Prevention next time:**

Treat sifting as a tool, not a moral choice. Save removed bran for porridge, toppings, or quick breads.

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## Rest After Milling, Stabilizing Absorption

**Symptom:**

Dough starts tight, then turns sticky later, or your hydration feels inconsistent.

**Likely cause:**

Flour went straight from mill to bowl, and temperature and humidity had not equalized.

**Fast fix:**

Rest the flour 15 to 30 minutes before mixing, and keep that window consistent.

**Why it works:**

Fresh flour redistributes moisture and cools, which changes absorption.

**Prevention next time:**

Use the same rest time for your control loaf.

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## Flour Age, Storage, and Rancidity Checks

**Symptom:**

Flour smells stale, soapy, paint-like, or the bread has a rancid nut note.

**Likely cause:**

Oxidation of germ oils from time, warmth, light, or loose storage.

**Fast fix:**

Do not bake with flour that smells off. Start with fresh grain and mill what you will use soon.

**Why it works:**

Rancid oils do not improve in the oven.

**Prevention next time:**

Store berries sealed, cool, and dry. Store milled flour airtight, away from heat and light, and use promptly. For longer storage, refrigerate or freeze, then let it warm up sealed to avoid condensation.

# Hydration Problems, Too Dry, Too Wet, and Dough That Won't Cooperate

## What hydration looks like with fresh milled flour

Fresh milled flour behaves like a sponge with opinions. The bran and germ pull in water slowly, then keep pulling as the dough rests. That is why a dough can feel "perfect" at mixing, then turn stiff 20 minutes later, or why a dough can feel sticky at first, then settle down into a smooth, workable mass after a rest. Your goal is not a single perfect number, it is a dough that moves the way the recipe needs: strong enough to hold gas, relaxed enough to expand.

**Symptom:**

The dough changes dramatically after mixing, either tightening up or turning slack.

**Likely cause:**

Bran absorption and temperature effects are still catching up.

**Fast fix:**

Build in a rest pause early, then correct hydration after the rest.

**Why it works:**

Fresh milled flour hydrates in phases, rest lets the flour finish drinking.

**Prevention next time:**

Plan hydration in two steps, initial mix, rest, then fine-tune.

## When dough is too dry, tearing, rough, and stubborn

A too-dry dough usually feels pebbly or shaggy, it tears when you stretch it, and it fights your hands. In the baked loaf you see dense areas, cracking along the sides, and a crumb that feels dry even when fully baked.

**Symptom:**

Dry, rough dough that tears during stretching or shaping.

**Likely cause:**

Not enough water, flour measured heavy, warm dry kitchen air, or flour that is cooler than you think.

**Fast fix:**

Use bassinage, add water slowly after a short rest.

1. Mix the dough to a shaggy mass and rest it 10 to 15 minutes.
2. Wet your hand, pinch and fold the dough, adding a teaspoon to a tablespoon of water at a time.
3. Wait 2 minutes after each addition, then reassess before adding more.

**Why it works:**

Small additions let gluten catch up, instead of turning the dough into soup.

**Prevention next time:**

Weigh flour, keep a note of how much water you added during bassinage, then start slightly higher next bake.

**Symptom:**

Dough feels dry only at the surface, but tight underneath.

**Likely cause:**

Too much bench flour or a dry bowl skin forming.

**Fast fix:**

Stop adding dry flour, cover the dough, and do a short rest, then knead lightly with damp hands.

**Why it works:**

Rest equalizes moisture, damp hands add micro-hydration without changing the dough wildly.

**Prevention next time:**

Oil the bowl lightly, cover well, and use water on hands instead of flour.

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## When dough is too wet, sticky, and slack

Too-wet dough is not just "sticky." It smears, pools, and spreads. It can rise fast but lacks strength, then bakes into a loaf with a gummy line or a collapsed top.

**Symptom:**

Sticky, slack dough that spreads instead of holding shape.

**Likely cause:**

Too much water, warm flour, warm kitchen, or rye and spelt acting fast and loose.

**Fast fix:**

1. Do drip corrections every 5 minutes instead of panic-flouring.
2. Cover the dough and wait 5 minutes.
3. With wet hands, do a fold to build strength.
4. If it still puddles, sprinkle a small amount of flour on the surface and fold it in, then wait 5 minutes and reassess.

**Why it works:**

Time plus folds builds structure, and tiny flour additions avoid a dry, dense finish.

**Prevention next time:**

Hold back a small portion of water at mixing, add it only after the first rest if the dough can take it.

**Symptom:**

Dough is sticky only during handling, but looks fine in the bowl.

**Likely cause:**

Under-developed gluten, not necessarily too much water.

**Fast fix:**

Give it two or three extra folds with rest between, before changing hydration.

**Why it works:**

Many "wet" doughs are actually "young" doughs.

**Prevention next time:**

Use a rest pause after mixing so the dough strengthens earlier.

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## Quick tests that tell you what to do next

These tests are fast, repeatable, and keep you from guessing.

**Symptom:**

You are unsure if the dough needs water, flour, or time.

**Likely cause:**

The dough is between phases, early mixing confusion is common.

**Fast fix:**

Run one of these tests, then change only one variable.

- **Squeeze test:**

Pinch a walnut-sized piece. If it cracks and will not hold together, it is too dry. If it turns to glue that coats your fingers heavily, it is too wet. If it holds together with a slight tack, it is in a workable range.

- **Stretch test:**

Gently stretch a small piece. If it tears immediately, rest and hydration may be low. If it stretches thin but breaks like wet paper, it may be too wet or too warm, and needs folds and time.

- **Bowl smear test:**

Drag two fingers across the dough stuck to the bowl. If it smears like paste and does not pull away, it is too wet or under-developed. If it breaks into dry crumbs, it is too dry. If it smears a little then lifts in a soft sheet, you are close.

**Prevention next time:**

Test at the same time point each bake, after the first rest, so your notes mean something.

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## The hidden causes, flour temperature, measuring errors, and humidity

Hydration problems often start before water touches flour.

**Symptom:**

Same recipe, different day, totally different dough.

**Likely cause:**

Flour temperature, water temperature, or humidity changed.

**Fast fix:**

Check flour temperature by touch and adjust water temperature. Cooler flour can make dough feel stiff, warmer flour can make it feel wetter and ferment faster.

**Why it works:**

Temperature changes absorption rate and gluten behavior.

**Prevention next time:**

Keep grains and flour in a consistent spot, and use room-temperature water as your default.

**Symptom:**

Dough is consistently too dry even when you add more water.

**Likely cause:**

Flour is being measured by volume, or packed in the cup.

**Fast fix:**

Switch to weighing flour. If you must use cups, fluff the flour, spoon it in, level lightly, and expect to need more water than bagged flour.

**Why it works:**

A small measuring error becomes a big hydration swing with fresh milled flour.

**Prevention next time:**

Standardize your measuring method and write it down.

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## Grain-specific hydration guidelines, hard wheat, soft wheat, spelt, rye

Different grains want different handling.

**Symptom:**

Hard wheat dough feels tight and dries out during bulk.

**Likely cause:**

High absorption from bran and stronger gluten that tightens.

**Fast fix:**

Use a longer rest after mixing, then add water with bassinage if needed. Keep folds gentle and spaced out.

**Prevention next time:**

Start slightly higher hydration for hard wheat, and avoid rushing the dough.

**Symptom:**

Soft wheat dough feels weak and tears, even when not too wet.

**Likely cause:**

Lower gluten strength, it cannot hold high hydration the same way.

**Fast fix:**

Use moderate hydration, keep mixing minimal, and rely on rest. Choose pans for structure if needed.

**Prevention next time:**

Blend soft wheat with hard wheat for bread-style loaves.

**Symptom:**

Spelt dough turns slack quickly and gets sticky.

**Likely cause:**

Spelt gluten breaks down faster, and it overmixes easily.

**Fast fix:**

Reduce mixing intensity, shorten bulk, and build strength with gentle folds. Hold back water until after the first rest.

**Prevention next time:**

Aim for a slightly lower hydration than your wheat baseline, and keep fermentation warm but not hot.

**Symptom:**

Rye dough stays gummy and feels like clay or paste.

**Likely cause:**

Rye has different structure builders, it will not behave like wheat gluten.

**Fast fix:**

Avoid chasing a wheat-style window. Use higher hydration, mix until combined, then handle minimally. Consider a pan loaf for support.

**Prevention next time:**

Blend rye with wheat for a more familiar dough feel, or choose rye-appropriate recipes and judge doneness by bake and cooling, not by dough elasticity.

## Mixing and Kneading Errors, Underworked vs Overworked

### Why fresh milled dough feels unpredictable

Fresh milled flour contains more bran and more active components than store bought flour. Bran absorbs water quickly, then keeps absorbing as the dough rests. It can also interrupt gluten if you try to force strength too early. This is why fresh flour dough can feel strong at first, then turn slack later, or feel "mixed" but still bake up dense. Your goal is gentle strength: enough structure to trap gas, without overheating or tearing the network.

### Fast diagnosis, underworked or overworked

**Symptom:**

Loaf spreads, tears, or bakes up tight with weak oven spring.

**Likely cause:**

Underdevelopment, not enough alignment and strength.

**Fast fix:**

Add time and folds instead of harder kneading.

**Why it works:**

Rest hydrates bran and lets gluten organize without damage.

**Prevention next time:**

Mix briefly, rest, then fold on a simple schedule during bulk.

**Symptom:**

Dough becomes stiff, then smears or tears, bread feels dry or rubbery.

**Likely cause:**

Overmixing, overheating, or aggressive mixing late.

**Fast fix:**

Stop mechanical mixing earlier and switch to folds.

**Why it works:**

Whole grain gains strength with time, too much friction breaks it down.

**Prevention next time:**

Use low speed, short bursts, and pauses.

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## Autolyse and bassinage, two beginner friendly tools

**Symptom:**

Dense crumb and a dough that feels rough or grainy.

**Likely cause:**

Bran has not fully hydrated before kneading.

**Fast fix:**

Do an autolyse.

**Why it works:**

Water softens bran and starts gluten formation with almost no effort.

**Prevention next time:**

1. Mix flour and most of the water until no dry bits remain.
2. Rest 20 to 45 minutes, covered.
3. Add salt and leavening, then mix briefly to combine.

**Symptom:**

Dough tears during folds or shaping, even after resting.

**Likely cause:**

Hydration is too low for this batch of grain, or the dough is cold and tight.

**Fast fix:**

Use bassinage, add a small amount of water gradually after the autolyse.

**Why it works:**

Fresh flour can need extra water, added slowly it absorbs without turning soupy.

**Prevention next time:**

Hold back a little water at the start, then add it in small splashes as the dough relaxes.

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## Mixing targets, what "enough" looks like

Fresh milled dough rarely makes a perfect white flour windowpane. Aim for these calm checkpoints: the dough looks cohesive rather than shaggy, it stretches farther than it did at the start, and it can take a gentle fold without ripping. If it does that after a rest, stop chasing perfection. Your next improvements come from fermentation and folds, not from more kneading.

**Symptom:**

You keep mixing because the dough is not perfectly smooth.

**Likely cause:**

You are judging before hydration finishes.

**Fast fix:**

Stop, cover, and rest 10 to 15 minutes, then reassess.

**Why it works:**

Rest often creates smoothness better than more mixing.

**Prevention next time:**

Plan pauses into your routine and trust them.

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## Underworked dough fixes

**Symptom:**

Compact crumb, loaf rises a little then stalls.

**Likely cause:**

Too little strength early in bulk, gas leaks out.

**Fast fix:**

Add one extra fold set early, then lengthen the rest between folds.

**Why it works:**

Early folds build a framework while fermentation is producing fresh gas.

**Prevention next time:**

Do 2 to 4 fold sets during bulk, stop when the dough holds shape.

**Symptom:**

Random big tunnels with dense zones around them.

**Likely cause:**

Weak structure plus rough handling during shaping.

**Fast fix:**

Give a short bench rest after preshape, then shape with smoother tension.

**Why it works:**

Rest evens pressure pockets, gentle tension redistributes gas.

**Prevention next time:**

Handle the dough firmly enough to shape, gently enough to keep bubbles.

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## Overworked dough fixes

**Symptom:**

Dough turns warm, sticky, and slack after mixing.

**Likely cause:**

Friction heat and overdevelopment weaken the network.

**Fast fix:**

Cool the dough, then use folds only.

**Why it works:**

Cooling slows breakdown, folds rebuild strength without more heat.

**Prevention next time:**

Use the lowest mixer speed and stop as soon as the dough is cohesive.

**Symptom:**

Dry, crumbly bite even with decent hydration.

**Likely cause:**

Overmixing and oxidation, or too much late degassing.

**Fast fix:**

Shorten mixing next time and extend covered rest before shaping.

**Why it works:**

Less oxidation preserves tenderness, rest redistributes moisture.

**Prevention next time:**

Mix to combine, then build strength with time and folds.

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**Stand mixer rules that prevent trouble****Symptom:**

Results vary from bake to bake with the same recipe.

**Likely cause:**

Small changes in mixer time, speed, and dough temperature.

**Fast fix:**

Use short mix bursts and check dough temperature by touch.

**Why it works:**

Consistency comes from controlling heat and stopping early.

**Prevention next time:**

If the dough feels warm, stop mixing, rest, then fold.

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**The calm finish**

Stop kneading when the dough can stretch without snapping and can hold a fold after a rest. From there, let fermentation do its work and use gentle folds to guide structure.

Fresh milled bread rewards patience, not force, and your crumb will get lighter as your mixing gets quieter.

# Bulk Fermentation Failures, Slow Rise, Overproof, Underproof

## What bulk fermentation is really doing

Bulk fermentation is the time after mixing when the dough gains strength and traps gas. With fresh milled flour, it can feel less predictable because bran absorbs water, enzymes stay active, and dough temperature swings faster. Do not chase the clock. Read the dough.

## Your quick readiness check

### Symptom:

You are unsure if the dough is ready to shape.

### Likely cause:

You are using time as the main indicator.

### Fast fix:

Look for a moderate rise, visible bubbles along the sides, a lighter feel when you lift an edge, and a gentle wobble when you shake the bowl.

### Why it works:

Fresh flour can run faster or slower, but the physical signs of fermentation remain consistent.

### Prevention next time:

Use the same clear container, mark the starting level, and note temperature.

## Slow rise, dough barely changes

### Symptom:

After waiting, the dough still looks flat and shows few bubbles.

### Likely cause:

Dough is too cold, yeast is weak or underdosed, starter is not active enough, or salt was mismeasured high.

### Fast fix:

Warm the dough gently by moving it to a warmer spot, then recheck in 20 to 30 minutes. If you use commercial yeast and suspect you missed some, dissolve a tiny pinch in water and knead it in briefly.

### Why it works:

Fermentation rate climbs quickly with temperature, and yeast correction can restart gas production.

### Prevention next time:

Measure salt by weight. Use water that lands the mixed dough in a moderate temperature zone. For sourdough, use a starter that doubles reliably after feeding.

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## Rises a little, but stays heavy and tight

### Symptom:

The dough grows a bit, yet feels dense and resists stretching.

### Likely cause:

Underfermentation plus weak structure, often from too few early folds or flour that was milled very warm.

### Fast fix:

Extend bulk and add one gentle fold. Wet your hand, lift and fold each side over the center, then rest and recheck bubbles and wobble.

### Why it works:

A fold evens temperature, redistributes food for yeast, and tightens the network so gas is held instead of escaping.

### Prevention next time:

If flour feels warm after milling, let it cool briefly. Build strength with a few early folds instead of heavy kneading.

---

## Overproofed in bulk, puffy then collapsing

### Symptom:

The dough balloons, then spreads, tears easily, and feels weak.

### Likely cause:

Bulk went too long or too warm, especially with strong starter, high hydration, or a hot kitchen.

### Fast fix:

Shape sooner and shorten the final proof. Use a pan if the dough cannot hold itself. Handle gently, avoid aggressive degassing.

### Why it works:

Once the network is overstretched, extra time will not rebuild strength. Earlier shaping captures what structure remains.

### Prevention next time:

Lower dough temperature, reduce inoculation, or choose a cooler bulk location.

---

## Underproofed bulk, oven blowouts and tight crumb

### Symptom:

The loaf bursts at the side and the crumb is tight even with scoring.

### Likely cause:

Bulk ended too early, or shaping was too tight because the dough was not extensible yet.

### Fast fix:

Before shaping, wait for more bubbles at the edges and a lighter, jiggly feel. If you already shaped, give a longer final proof and watch for a gentle spring back when pressed.

### Why it works:

Extensible dough expands through the score instead of tearing at the weakest seam.

### Prevention next time:

Track dough temperature and use the same container marks so you learn your baseline.

---

## Too sour, too slack, too sticky

### **Symptom:**

The dough smells sharply tangy, feels sticky, and spreads during shaping.

### **Likely cause:**

Fermentation went too warm or too long, and acidity plus enzyme activity weakened structure.

### **Fast fix:**

Move to cooler fermentation and end bulk earlier next time. In the moment, shape into a pan loaf, proof briefly, and bake fully to set the center.

### **Why it works:**

Cooler dough slows acid production and enzyme action, protecting handling and crumb.

### **Prevention next time:**

Reduce starter percentage, shorten bulk, and avoid pushing hydration until your timing is consistent.

---

## Warm bulk versus cool bulk

### **Symptom:**

The same recipe acts different from week to week.

### **Likely cause:**

Dough temperature is shifting your timeline.

### **Fast fix:**

Pick a temperature range and stick to it. Warm bulk moves faster and needs more check-ins. Cool bulk is slower and easier to schedule, but can overferment if you forget it.

### **Why it works:**

Temperature is the biggest lever for predictable fermentation.

### **Prevention next time:**

Adjust water temperature at mixing so the dough starts where you want it.

---

## Emergency plan when you are late

### **Symptom:**

Bulk went farther than planned and you need a save.

### **Likely cause:**

Time slipped or the kitchen warmed up.

### **Fast fix:**

Refrigerate the dough to slow it down. Shape with minimal handling, then bake a bit longer to ensure a set crumb. If it is very loose, bake as a pan loaf or small rolls.

### **Why it works:**

Cold buys time, and smaller shapes depend less on perfect structure.

### **Prevention next time:**

Set timers for check-ins, not for finish time, and write down what you saw, not just how long it took.

# Shaping, Surface Tension, and Pan vs Freeform Loaves

## Why shaping matters with fresh milled flour

Fresh milled flour dough can feel softer, stickier, and more fragile because bran absorbs water slowly and can interrupt gluten if you handle the dough aggressively. Shaping is not about forcing a perfect loaf. It is about organizing the dough so it holds gas and expands upward.

**Symptom:**

Loaf spreads sideways instead of rising.

**Likely cause:**

Too little surface tension, often from shaping while the dough is slack.

**Fast fix:**

Pre-shape loosely, rest the dough covered, then final shape with short tucks that pull the dough under itself.

**Why it works:**

Rest lets hydration catch up and gluten relax, so you can build a smooth outer skin without tearing.

**Prevention next time:**

Use a bench rest every time.

## Pre-shape and bench rest, the fastest way to stop tearing

Pre-shape is a light organization step. Bench rest is the pause that makes final shaping possible.

**Symptom:**

The surface tears or looks rough during shaping.

**Likely cause:**

You tightened the dough before it relaxed, or you used too much flour so the layers cannot grip.

**Fast fix:**

Cover and rest 10 to 20 minutes, then shape again using fewer, calmer moves.

**Why it works:**

A relaxed dough stretches into a continuous skin that traps gas.

**Prevention next time:**

Cover the dough so the surface does not dry.

**Symptom:**

Lopsided loaf, seam slides, or ends split.

**Likely cause:**

Uneven pre-shape, or bench rest without cover.

**Fast fix:**

Re-center the dough after rest, then seal the seam firmly with steady pressure.

**Why it works:**

Even tension and a sealed seam control where the loaf expands.

**Prevention next time:**

Make your pre-shape symmetrical.

---

## Surface tension without over-flouring

Surface tension is a stretched outer layer. Too little gives spread. Too much creates tearing and blowouts.

**Symptom:**

Dense bottom with a wide, flat loaf.

**Likely cause:**

Not enough tension, or dough is too warm and slack.

**Fast fix:**

Shape in two passes. First pass organizes. Second pass tightens lightly, stopping as soon as the skin looks smooth and slightly taut.

**Why it works:**

Two passes build strength gradually without ripping the gluten network.

**Prevention next time:**

Cool the dough slightly before shaping.

1. Lightly wet hands instead of adding more bench flour when sticking starts.
2. Use a bench knife to tuck and rotate, rather than dragging the dough.
3. Stop tightening the moment you see small surface tearing.

---

## Pan loaves, support is not the same as structure

A loaf pan supports the sides, but it cannot fix weak shaping.

**Symptom:**

Top collapses after baking, or sinks during cooling.

**Likely cause:**

Overproof in the pan, or a weakly shaped cylinder.

**Fast fix:**

Bake earlier. Aim for dough that crowns slightly over the rim and springs back slowly when touched.

**Why it works:**

Earlier baking preserves strength and captures expansion in the oven.

**Prevention next time:**

Keep your pan size and fill level consistent.

**Symptom:**

Dense corners, or the loaf pulls away from the sides.

**Likely cause:**

Too much flour on the outside skin, or poor contact with the pan.

**Fast fix:**

Brush off excess flour, place seam-side down, and press gently into the corners.

**Why it works:**

Good contact improves heat transfer and supports rise.

**Prevention next time:**

Keep the shaped dough slightly tacky.

---

## Freeform loaves, managing spread and blowouts

Freeform loaves show every weakness, but they also teach you fast.

**Symptom:**

Boule becomes a wide disc on the peel.

**Likely cause:**

Dough is too wet, under-developed, or too warm at shaping time.

**Fast fix:**

Use a proofing basket, and in your next bake reduce water slightly or add one extra fold during bulk.

**Why it works:**

Support during proofing and stronger gluten both encourage upward expansion.

**Prevention next time:**

Build strength earlier, then proof only until the dough feels aerated.

**Symptom:**

Loaf bursts on the side instead of along your score.

**Likely cause:**

Underproof, weak seam, or uneven surface tension.

**Fast fix:**

Pinch the seam closed firmly, proof seam-side up in a basket, then score with one clean, confident cut.

**Why it works:**

A sealed seam and a clear score line direct expansion.

**Prevention next time:**

Avoid rushing the oven.

---

## Basket proofing, sticking, flouring, and seam management

Baskets help fresh milled flour dough hold shape while bran continues hydrating.

**Symptom:**

Dough sticks to the basket and tears on release.

**Likely cause:**

Wrong dusting flour, not enough dusting, or proof went too long and turned sticky.

**Fast fix:**

Dust with rice flour or a rice flour blend, and shorten final proof slightly.

**Why it works:**

Rice flour stays powdery and releases cleanly.

**Prevention next time:**

Use a liner in humid kitchens.

**Symptom:**

Seam opens in the basket, loaf unfolds, or loses tension.

**Likely cause:**

Seam was floured, or not sealed with enough pressure.

**Fast fix:**

Seal seam firmly before basket, keep seam mostly flour-free, then set seam-side up so gravity helps it close.

**Why it works:**

Dough bonds best when it is clean and slightly tacky.

**Prevention next time:**

Treat the seam as a glue line.

# Baking and Oven Problems, Pale Crust, Burnt Bottom, Gummy Center

## Oven reality check before you change the dough

**Symptom:**

Your loaf looks underdone, pale, or scorched even when you followed the recipe.

**Likely cause:**

Your oven temperature is not what the dial says, heat is uneven, or the rack position is working against you.

**Fast fix:**

Place an oven thermometer in the center of the oven and preheat longer than you think you need. Give the oven time to saturate the walls, the rack, and any stone or steel.

**Why it works:**

Fresh milled dough is more sensitive to bake conditions because the bran and natural oils influence browning and moisture retention. A small oven error becomes a big texture problem.

**Prevention next time:**

Pick one rack position and keep it consistent while you troubleshoot. Middle rack is a safe baseline. If using a stone or steel, preheat it fully.

## Pale crust and weak browning

**Symptom:**

The loaf sets but stays blond, the crust feels soft, and the flavor is flat.

**Likely cause:**

Oven runs cool, not enough bake time, too much steam late in the bake, or the dough is overproofed and lacks energy for a strong finish.

**Fast fix:**

Increase bake temperature slightly, or extend the bake time until the crust is truly set. If you are steaming, stop steam after the first phase of baking and let the crust dry.

**Why it works:**

Browning is partly time at temperature. Whole grain dough often needs either a touch more heat, a touch more time, or both.

**Prevention next time:**

Use a clear end point: crust color plus internal doneness signals. If your loaf is pale but done inside, finish the last 5 to 10 minutes with the oven door cracked slightly to vent moisture.

**Symptom:**

Crust is pale and tough at the same time.

**Likely cause:**

Too little initial steam, or the crust dried too early so expansion was restricted.

**Fast fix:**

Add steam only at the beginning, then remove it. Use a covered bake, or add steam with a preheated pan and boiling water.

**Why it works:**

Early steam delays crust setting so the loaf can expand, then dry heat builds color and crispness.

**Prevention next time:**

Choose one steam method and repeat it exactly until results stabilize.

---

## Steam problems, too much or too little

**Symptom:**

Crust is dull, leathery, or turns wrinkly after cooling.

**Likely cause:**

Too much steam for too long, or cooling in a humid environment.

**Fast fix:**

Stop steam after the first part of baking. If using a Dutch oven, remove the lid for the second part. Cool the loaf on a rack with airflow.

**Why it works:**

Steam is a tool for expansion, not a finishing environment. A crust cannot crisp while humidity stays high.

**Prevention next time:**

Decide your steam window and stick to it. If you are troubleshooting, avoid complicated setups, keep it simple and repeatable.

**Symptom:**

Crust splits wildly and the loaf bursts at the side.

**Likely cause:**

Not enough steam early, poor scoring, or underproofing.

**Fast fix:**

Add a stronger early steam phase and score with a confident, shallow angle. If your loaf is clearly underproofed, extend proof time slightly next bake.

**Why it works:**

Steam supports controlled expansion. Scoring gives the dough a planned release point.

**Prevention next time:**

Score right before baking, not earlier. If the surface dries, it resists clean expansion.

---

## Burnt bottom, scorched edges, bitter crust

**Symptom:**

Bottom is dark or burnt while the top looks normal.

**Likely cause:**

Heat source too close, dark pans, a stone or steel running too hot, or sugar and milk solids browning fast.

**Fast fix:**

Move the loaf up one rack. Place an empty sheet pan on the rack below as a heat shield. If using a stone or steel, reduce temperature slightly or shorten the preheat.

**Why it works:**

Bottom scorching is usually excess radiant heat. A simple shield diffuses it without changing your dough.

**Prevention next time:**

Avoid very dark pans while you troubleshoot. If you bake enriched dough, lower the bake temperature a bit and bake slightly longer.

**Symptom:**

Crust tastes bitter or harsh.

**Likely cause:**

Overbaking, flour dust burning on the crust, or scorching from uneven heat.

**Fast fix:**

Brush off excess flour before baking. Bake until done, not until black. If the oven has hot spots, rotate once during the final phase of baking.

**Why it works:**

Fresh milled flour carries more flavor compounds. Burnt flour on the surface is more noticeable and can dominate.

**Prevention next time:**

Use a consistent target crust color. If you rotate, do it the same way every time.

---

## **Gummy center, wet line under the crust, sticky crumb**

**Symptom:**

The center is tacky, a wet band sits under the top crust, or slices stick to the knife.

**Likely cause:**

Underbaking, slicing too soon, too much steam late, or a loaf that set its crust before the interior finished.

**Fast fix:**

Bake longer. Use internal doneness signals: the loaf should feel lighter for its size, sound hollow when tapped, and the crumb should not feel tacky when fully cooled.

**Why it works:**

Whole grain loaves retain moisture. They often need extra time for the interior to fully set and for excess moisture to redistribute.

**Prevention next time:**

Give the loaf a full cooling window on a rack. If you want warm bread, bake earlier and rewarm slices later.

**Symptom:**

Outside is dark but the center is still gummy.

**Likely cause:**

Oven too hot at the start, pan blocks heat penetration, or the loaf is too large for the bake plan.

**Fast fix:**

Lower the oven temperature slightly and extend the bake. If you use a pan loaf, consider tenting the top with foil during the final phase while the inside finishes.

**Why it works:**

A slower bake allows heat to move to the center without over-darkening the crust.

**Prevention next time:**

Match pan size to dough weight. If you scale up, extend bake time rather than cranking heat.

---

## Collapsed loaf, sunken top, or dense center after baking

**Symptom:**

The loaf rises, then falls as it cools, or the center compresses.

**Likely cause:**

Overproofing, underbaking, or weak structure that could not support expansion.

**Fast fix:**

Confirm it is baked through, then adjust proof shorter next time. If the dough felt very soft, strengthen it with slightly more folding before shaping.

**Why it works:**

A loaf can look done on the outside while the interior structure is still fragile. When steam escapes during cooling, the crumb can collapse.

**Prevention next time:**

Use a consistent bake end point and a consistent proofing cue. If you change one, keep the other stable.

---

## Cooling, the invisible final bake

**Symptom:**

Crust softens quickly and the crumb turns gummy after slicing.

**Likely cause:**

Cooling trapped in the loaf, or slicing before the crumb sets.

**Fast fix:**

Cool on a rack with airflow. Wait until the loaf is no longer warm to the touch, then slice.

**Why it works:**

As the loaf cools, moisture migrates from the center outward. Cutting early traps steam and collapses the crumb structure you worked to build.

**Prevention next time:**

Treat cooling as part of the bake. If you need speed, bake smaller loaves rather than cutting a large one early.

## Texture and Crumb Defects: Dense, Dry, Sticky, and Weird

### Read the Crumb Before You Change Anything

Fresh milled flour behaves differently because bran and germ keep absorbing water after mixing. Texture problems often come from timing and feel, not from "bad recipes".

Before you tweak ingredients, read three clues on a fully cooled loaf: the center crumb, the area right under the top crust, and the bottom slice. Then pick one bucket to fix first: dense, dry, or sticky. Most fixes are small, and they work best on the same test loaf.

**Symptom:**

Crumb is tight everywhere with small holes.

**Likely cause:**

Underfermentation, dough too cold, or not enough strength building.

**Fast fix:**

Warm bulk fermentation and add one extra fold after a short rest.

**Why it works:**

Warmer dough ferments predictably and folds build structure without overmixing.

**Prevention next time:**

Track rise in the same container and stop bulk when the dough looks puffy and jiggly.

### Dense Crumb, Heavy Slice, and Tunnels

**Symptom:**

Loaf is heavy but not raw, flavor is fine, crumb is dull.

**Likely cause:**

Bran interference plus short resting, or shaping without surface tension.

**Fast fix:**

Add a longer first rest, then do gentle folds, then shape with clear tension.

**Why it works:**

Hydrated bran is less "sharp", and tension helps gas stay evenly distributed.

**Prevention next time:**

If your flour is very coarse, sift lightly, then add part of the bran back after the dough has rested.

**Symptom:**

One or two large tunnels near the top, with dense crumb below.

**Likely cause:**

Underproofed final proof, or a big bubble trapped during shaping.

**Fast fix:**

Proof longer and press out obvious bubbles during pre shape.

**Why it works:**

Gas needs time and structure to divide into many small cells.

**Prevention next time:**

Use the poke test: a slow spring back usually means the dough is ready.

---

## Dry, Crumbly, or Thick Crust

**Symptom:**

Crumb crumbles, feels dry on day one, or tastes chalky.

**Likely cause:**

Hydration too low, too much bench flour, or overbaking.

**Fast fix:**

Add a small splash more water and reduce dusting flour, then bake until set and cool completely before slicing.

**Why it works:**

Bran keeps drinking water, and extra bake time can steal moisture you needed.

**Prevention next time:**

Use steam early, then finish uncovered so the crust sets without drying the center.

**Symptom:**

Crust is very thick and hard, crumb is only slightly dry.

**Likely cause:**

Crust set too early from low steam or too much heat up front.

**Fast fix:**

Add steam for the first stage, then lower temperature slightly after the loaf has expanded.

**Why it works:**

Steam delays crust setting, so the loaf can expand and hold moisture.

**Prevention next time:**

Keep preheat and steam consistent so you do not compensate by baking longer.

---

## Sticky, Gummy, Rubber-Like, or a Wet Line Under the Crust

**Symptom:**

Crumb is sticky or rubbery even after cooling.

**Likely cause:**

Underbaked center, cutting too soon, or fermentation not completed.

**Fast fix:**

Bake a bit longer at a slightly lower temperature, then cool fully before slicing.

**Why it works:**

Starches gel during baking and then firm up as steam leaves during cooling.

**Prevention next time:**

Use internal temperature plus a set feel, then wait until the loaf is cool to the touch.

**Symptom:**

A shiny wet line sits just under the top crust.

**Likely cause:**

Moisture condensed under a crust that set early, from a short bake or trapped steam.

**Fast fix:**

Extend bake time slightly and vent steam earlier in the second half of the bake.

**Why it works:**

That line is condensed steam, not raw dough.

**Prevention next time:**

If you bake covered, uncover sooner to let the surface dry and finish setting the crumb.

---

## When Fat, Yogurt, or Tangzhong Helps

**Symptom:**

Your loaf bakes through but stales fast and feels crumbly by the next day.

**Likely cause:**

Your grain blend needs more tenderness or water retention.

**Fast fix:**

Add a small amount of fat or yogurt, or use tangzhong with a small portion of flour and water.

**Why it works:**

These tools bind water and soften the crumb without forcing higher hydration.

**Prevention next time:**

Use enrichment only after fermentation and bake are solid.

**Symptom:**

You want tangzhong to fix a gummy loaf.

**Likely cause:**

The loaf is underbaked or underfermented.

**Fast fix:**

Skip tangzhong and correct bake time and fermentation indicators first.

**Why it works:**

Extra gelled starch can make an already underbaked crumb feel more sticky.

**Prevention next time:**

Add tangzhong only when your crumb sets cleanly.

---

## Fast Repairs Without Rewriting the Recipe

**Symptom:**

Results change wildly from bake to bake.

**Likely cause:**

Too many variables change at once: water, timing, temperature, handling.

**Fast fix:**

Run one control bake with the same flour blend, salt, pan, and schedule, then change only one variable next time.

**Why it works:**

A stable process makes the real cause obvious.

**Prevention next time:**

Keep a simple log of dough feel after mixing, after rest, and at the end of bulk.

## Flavor Problems, Bitter, Sour, Flat, or Too Wheaty

### Quick flavor diagnosis before you change the recipe

**Symptom:**

The loaf tastes bitter, sharply sour, bland, or overwhelmingly "wheaty".

**Likely cause:**

Fresh milled flour amplifies small shifts in grain choice, milling heat, fermentation, salt, and bake.

**Fast fix:**

Taste three points: dry flour, mixed dough, cooled bread. Note where the flavor turns.

**Why it works:**

Pinpointing the moment the flavor changes tells you which lever to adjust.

**Prevention next time:**

Change one variable per bake and write down grain blend, dough temperature, and rise times.

### Bitter notes, bran bite, and harsh aftertaste

**Symptom:**

Bitter finish, astringent bite, or a harsh cereal taste that lingers.

**Likely cause:**

Coarse bran, a strong grain blend, warm milling, or flour and berries that are past their best.

**Fast fix:**

Let flour cool to room temperature after milling. For the next loaf, blend in milder wheat, and if needed sift out only the coarsest bran and save it for muffins or porridge. If bitterness is strong, smell your flour, any paint like or stale nut aroma is a stop sign.

**Why it works:**

Bran concentrates intense flavors, and heat and age push whole grain oils toward bitterness.

**Prevention next time:**

Store berries cool, dry, and sealed. Mill in shorter bursts if your mill warms the flour.

### Sour that is sharp, vinegary, or overpowering

**Symptom:**

Acidic flavor that crowds out sweetness, sometimes with a slightly tacky crumb.

**Likely cause:**

Overfermentation, too warm bulk, or a very acidic starter or preferment.

**Fast fix:**

Shorten bulk and use cooler water, then proof colder if you want more aroma without more acid. If using sourdough, feed your starter at a higher ratio for a day or two and use it younger, when it smells bready and lightly tangy, not sharp.

**Why it works:**

Fresh milled flour can ferment quickly. When the dough runs long, acids climb faster than flavor complexity.

**Prevention next time:**

Aim for steady, moderate dough temperature and stop bulk when the dough feels elastic and aerated, not fragile.

---

## Flat flavor, dull aroma, or "it tastes like nothing"

**Symptom:**

The bread looks fine but tastes muted and one note.

**Likely cause:**

Underfermentation, low salt, rushed hydration, or aggressive mixing that oxidized aroma.

**Fast fix:**

Add a short autolyse or soak, then mix gently and build strength with folds. Confirm salt by weight and ensure it dissolves well. If the loaf is pale, bake a little longer to deepen crust aroma.

**Why it works:**

Hydration unlocks sweetness, salt makes grain taste fuller, and gentle development protects aroma.

**Prevention next time:**

If you need more flavor, fix fermentation and bake first, before adding sweeteners or extra ingredients.

---

## "Too wheaty", grassy, or overly earthy

**Symptom:**

Strong whole grain taste that feels raw, grassy, or too rustic for sandwiches.

**Likely cause:**

A high percentage of strong flavored wheat, coarse bran, or not enough time for the dough to mellow.

**Fast fix:**

Blend for balance, use a mild base wheat and add stronger grains in smaller portions. Give the dough a little more time at cooler temperatures, and do not judge flavor until the bread is fully cooled.

**Why it works:**

Cooler, slightly longer fermentation softens sharp edges and brings nutty notes forward.

**Prevention next time:**

Mill finer for bread, or remove only the coarsest bran so you keep nutrition without the roughest flavor.

---

## Oxidation, warm milling, and protecting aroma

**Symptom:**

The flour smells amazing, but the baked bread smells faint.

**Likely cause:**

Flour got hot in the mill, sat exposed too long, or the dough was mixed hard for too long.

**Fast fix:**

Mill close to bake time, then cool the flour before mixing. Mix only until cohesive and rely on time and folds. If you must pre-mill, freeze flour airtight and use it soon.

**Why it works:**

Whole grain aromas and oils are fragile. Heat and oxygen dull them quickly once the grain is broken.

**Prevention next time:**

If flour feels warm, pause milling. Keep milled flour sealed and out of light.

---

## Salt timing and simple upgrades for deeper flavor

**Symptom:**

The loaf is almost there, but flavor still feels unbalanced or thin.

**Likely cause:**

Salt is low, uneven, or late, and the process has no built in flavor time.

**Fast fix:**

Dissolve salt in a small portion of water and add it after autolyse, then mix until smooth.

For more depth with minimal effort, choose one upgrade: an overnight cold proof, a slightly darker bake, or a small portion of toasted berries blended into your flour.

**Why it works:**

Even salt distribution boosts everything. Time and browning create depth without adding complexity.

**Prevention next time:**

Set salt next to the flour before you start, and keep one consistent "flavor upgrade" you can repeat when you want a richer loaf. If you are chasing a sweet, rounded profile, keep the dough cooler and stop fermentation earlier. If you want a deeper, rustic profile, extend time in the cold and bake a shade darker, while still avoiding sharp sourness.

# Add-Ins and Enrichment Issues, Seeds, Nuts, Honey, Fat, Dairy

## The hidden reason add-ins change everything

Fresh milled flour dough is already busy: bran absorbs water, enzymes stay active, and the gluten network is building while you mix, rest, and ferment. Add-ins can shift that balance fast. Seeds and nuts can steal moisture or slice through structure. Sugar and honey can slow fermentation and make dough feel looser early on, then dry later. Fat and dairy can soften crumb, but they can also reduce strength if you add them at the wrong time. This chapter helps you troubleshoot the common outcomes, then fix them with small, repeatable adjustments instead of rewriting your whole recipe.

**Symptom:**

Loaf looks fine at proof, then collapses in the oven.

**Likely cause:**

Too many add-ins for the dough strength, or add-ins added too early, so gluten never fully developed.

**Fast fix:**

Hold back add-ins until the dough has some strength, then fold them in gently after a short rest.

**Why it works:**

You build the gluten framework first, then load it.

**Prevention next time:**

Choose one enrichment change at a time, either more add-ins or more richness, not both on the first test.

## Seeds and nuts that turn dough heavy or tear it

**Symptom:**

Dense loaf with a tight crumb, especially near the bottom.

**Likely cause:**

Seeds absorbed water and left the dough underhydrated, or heavy mix-ins sank during proof.

**Fast fix:**

Soak seeds before mixing, then drain well and add them after the dough has begun to strengthen.

**Why it works:**

Pre-hydrated seeds stop stealing water from the crumb during baking.

**Prevention next time:**

Reserve a small amount of water and adjust only after a 10 minute rest, so the dough can show its true hydration.

**Symptom:**

Tears during shaping, or the loaf has random tunnels.

**Likely cause:**

Sharp nut pieces or stiff seeds cut gluten, or add-ins were forced in during mixing.

**Fast fix:**

Chop nuts smaller and fold them in with gentle turns, not aggressive kneading.

**Why it works:**

Folding distributes without shredding structure.

**Prevention next time:**

Toast nuts lightly, cool fully, then add late so oils do not smear into the dough during early gluten development.

**Symptom:**

Uneven rise, with one side higher than the other.

**Likely cause:**

Add-ins clumped, creating heavy pockets that resist expansion.

**Fast fix:**

Spread add-ins in a thin layer on the bench, then laminate them into the dough with one careful fold.

**Why it works:**

A wide, even layer prevents clumps.

**Prevention next time:**

Dust add-ins with a spoonful of flour before adding, especially sticky dried fruit.

---

## Honey, sugar, and sweeteners that slow fermentation

**Symptom:**

Dough rises much slower than usual and feels tight.

**Likely cause:**

High sugar competes for water and stresses yeast, especially in cooler kitchens.

**Fast fix:**

Increase dough temperature slightly and give it more time, rather than adding extra yeast right away.

**Why it works:**

Warmth restores fermentation speed without throwing off flavor.

**Prevention next time:**

Add sweeteners after the initial mix and rest, once gluten has begun to form.

**Symptom:**

Dough feels slack and sticky, then bakes up dry.

**Likely cause:**

Honey can make dough feel wetter at first, but the baked crumb can dry if overall hydration was low or bake time was long.

**Fast fix:**

Hold back a small portion of flour at mixing, then add it only if the dough stays soupy after a rest.

**Why it works:**

Rest reveals true absorption, especially with fresh milled flour.

**Prevention next time:**

Use a shorter bake at slightly lower heat for enriched loaves, and cool fully before slicing.

**Symptom:**

Loaf browns too fast, but the center is gummy.

**Likely cause:**

Sugars brown early, masking an underbaked interior.

**Fast fix:**

Lower oven temperature a bit and extend bake time, then check doneness by internal temperature and crumb set cues.

**Why it works:**

You finish the interior without burning the crust.

**Prevention next time:**

Tent with foil once the crust is the color you want, then continue baking until the loaf feels light for its size.

---

## Fat, dairy, and eggs that soften, weaken, or split

**Symptom:**

Loaf spreads, lacks oven spring, and feels fragile when you score.

**Likely cause:**

Fat was added too early, coating flour particles and slowing gluten development.

**Fast fix:**

Mix flour and water first, rest, then add fat after the dough has some strength.

**Why it works:**

Gluten forms more easily before the fat coats it.

**Prevention next time:**

Add butter or oil in small pieces, folding between additions until fully absorbed.

**Symptom:**

Crumb is tender but the loaf is heavy and under-risen.

**Likely cause:**

Dough is too rich for the fermentation strength, or dairy cooled the dough too much.

**Fast fix:**

Use room temperature dairy and extend bulk fermentation, watching for dough cues instead of the clock.

**Why it works:**

Rich dough often needs more time to fully aerate.

**Prevention next time:**

Reduce richness slightly when using high-bran blends, or use a pan to support the rise.

**Symptom:**

Top collapses after baking, especially in pan loaves.

**Likely cause:**

Overproofing is easier in enriched dough, and a weak top sets late.

**Fast fix:**

Bake earlier, when the dough still has a gentle spring-back, and score lightly or not at all for very soft dough.

**Why it works:**

You capture oven spring before the structure is exhausted.

**Prevention next time:**

Use a cooler final proof and shorten it, then rely on the oven to finish expansion.

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## Simple correction rules you can apply without rewriting recipes

**Symptom:**

Any enriched dough feels inconsistent from one bake to the next.

**Likely cause:**

Multiple changes were tested at once, so you cannot see what helped.

**Fast fix:**

1. Keep flour, water, salt, and fermentation method the same.
2. Change only one add-in category at a time, seeds, sweetener, or fat.
3. Record dough feel after mix, after rest, after bulk, and at shaping.

**Why it works:**

A single variable test reveals the real driver.

**Prevention next time:**

Build your own reliable version in three bakes, strength first, then flavor, then texture.

**Symptom:**

You love the flavor of add-ins, but they keep sabotaging structure.

**Likely cause:**

The dough strength is too low for the load.

**Fast fix:**

Use one strengthening move, longer rest, one extra fold, or slightly earlier shaping, then keep everything else the same.

**Why it works:**

Small structure upgrades carry a surprising amount of add-ins.

**Prevention next time:**

Choose add-ins that match your goal, softer inclusions for soft sandwich bread, crunchier inclusions for denser hearth loaves.

# Special Grain Behaviors, Spelt, Rye, Oats, Durum, Soft Wheat

## Why these grains feel "different" the moment you mix

Fresh milled flour is lively, but each grain has its own rules. Some grains have strong gluten potential, some have weaker gluten, and some rely on other structures that behave nothing like wheat gluten. When you treat every dough the same, the dough pushes back with the classic complaints: slack, sticky, tight, dense, or fragile. This chapter helps you stop wrestling and start steering. Your goal is not to force a grain to act like white bread flour. Your goal is to choose the right technique so the grain can shine.

### **Symptom:**

The dough feels wrong early, and it never really improves.

### **Likely cause:**

You are using a wheat technique on a non wheat structure, or on a wheat that has weaker gluten.

### **Fast fix:**

Change the method before you change the recipe: adjust mixing intensity, rest time, fold style, and proof cues.

### **Why it works:**

Technique changes can unlock structure without adding more flour or more kneading.

### **Prevention next time:**

Decide the grain first, then decide the style of bread.

## Spelt, slack dough, fast fermentation, and sudden overproof

Spelt often feels soft and loose. It can look strong right after mixing, then relax quickly. Many bakers respond by adding more flour, which can create a dry loaf with a tight crumb. With fresh milled spelt, a calmer approach usually wins.

### **Symptom:**

Spelt dough turns slack, spreads during shaping, or bakes up flatter than expected.

### **Likely cause:**

Spelt gluten is more extensible and can lose strength with heavy mixing, long bulk, or warm dough.

### **Fast fix:**

Mix gently until combined, then rest longer and fold less aggressively.

1. Mix just to hydrate, then rest 20 to 30 minutes.
2. Use coil folds or gentle stretch and folds, stop once the dough holds shape.
3. Shorten bulk, end bulk when the dough looks aerated and slightly domed, not when it doubles.

### **Why it works:**

Spelt often benefits more from rest than from force. Rest improves hydration and cohesion, gentle folds build structure without tearing.

**Prevention next time:**

Keep spelt dough cooler, and proof by feel, not by the clock. Consider blending spelt with hard wheat for more backbone.

**Best blend idea:**

If you want a taller loaf, try majority hard wheat with a smaller portion of spelt for flavor.

---

## Rye, gummy crumb, stickiness, and "it never looks done"

Rye is famous for confusing bakers because it does not rely on gluten the same way wheat does. Rye has pentosans, they bind water and create a gel like structure. Fresh milled rye can feel sticky and can bake up gummy if the bake and cool are rushed.

**Symptom:**

Sticky dough, dense loaf, gummy interior, or a wet line under the crust.

**Likely cause:**

Too much mixing, too short bake, slicing while warm, or treating rye like a wheat dough with long gluten building.

**Fast fix:**

Use minimal mixing, consider a pan loaf, bake longer, and cool fully.

1. Mix just until no dry flour remains, then stop.
2. Shape with wet hands, use a pan for support.
3. Bake until fully set, then cool for several hours before slicing.

**Why it works:**

Rye structure sets through heat and starch gelation, not through elastic gluten strength. Cooling finishes the set.

**Prevention next time:**

Lower expectations for open crumb, aim for even, moist, sliceable crumb. If you want lighter texture, blend rye with hard wheat rather than increasing kneading.

**Best blend idea:**

Use rye as a flavor grain, not the whole structure, unless you are intentionally making a traditional dense rye loaf.

---

## Oats, fragile dough, and the crumb that crumbles

Oats bring sweetness and tenderness, but they do not bring gluten. Fresh milled oats can also increase softness and reduce structure if used heavily.

### **Symptom:**

Dough tears easily, loaf crumbles when sliced, or feels delicate and cake like.

### **Likely cause:**

Too much oat flour in the blend, not enough gluten structure, or not enough time for oats to hydrate.

### **Fast fix:**

Limit oats, add rest, and build structure with wheat.

1. Keep oats as a smaller portion of the flour blend.
2. Add a longer rest after mixing to let oats absorb water.
3. Use a pan loaf format for support.

### **Why it works:**

Oats need time to hydrate, and they need wheat gluten around them to hold shape.

### **Prevention next time:**

If you want more oat flavor, add rolled oats as an add in, or toast oats lightly for flavor without overloading the dough structure.

---

## Durum, tight dough, and the loaf that resists expansion

Durum can feel stiff and tight, and it may resist stretching. It can also deliver beautiful flavor and color. Fresh milled durum often needs different expectations for extensibility.

### **Symptom:**

Dough feels very tight, shaping feels like a fight, loaf bursts or cracks.

### **Likely cause:**

Durum can absorb water differently and may need more rest to relax. Over tightening during shaping can trap tension.

### **Fast fix:**

Increase rest and let the dough relax, then shape with lighter tension.

1. Add rest between mixing and folds.
2. Use fewer, gentler folds, focus on dough alignment.
3. Proof until the dough feels puffy and responsive, do not rush the bake.

### **Why it works:**

Rest allows hydration and gluten relaxation. Durum often rewards patience more than strength.

### **Prevention next time:**

Use durum as a portion of the blend for flavor, unless you are aiming for a durum forward style like certain rustic loaves.

---

## Soft wheat, tender crumb, and why your loaf turns cakey

Soft wheat is wonderful for cakes, muffins, and tender quick breads, but it often underperforms for lofty yeast bread when used alone.

### **Symptom:**

Yeast bread turns dense and tender, with low rise and a soft, cakey bite.

### **Likely cause:**

Lower protein and weaker gluten strength compared with hard wheat.

### **Fast fix:**

Use soft wheat where it belongs, or blend it with hard wheat for bread.

1. If making sandwich bread, blend soft wheat with hard wheat for structure.
2. If making muffins or pancakes, embrace the softness and avoid overmixing.

### **Why it works:**

Soft wheat delivers tenderness, hard wheat delivers lift and chew.

### **Prevention next time:**

Match the grain to the goal: tender bakes vs lofty loaves.

---

## What not to force, and a quick chooser

### **Symptom:**

You keep adding flour, kneading harder, or extending fermentation, but the loaf gets worse.

### **Likely cause:**

You are forcing a grain to behave like strong wheat.

### **Fast fix:**

Choose the right format and method for the grain.

### **Why it works:**

Right grain plus right technique beats heroic effort.

### **Prevention next time:**

Use this quick chooser when you plan.

- If you want tall sandwich loaves, choose hard wheat as the base, then add small portions of spelt, rye, oats, or durum for flavor.
- If you want moist, sliceable traditional loaves, rye can be the star, use a pan, bake longer, cool longer.
- If you want tender breakfast bakes, choose soft wheat, keep mixing gentle, and enjoy the softness.
- If you want rustic color and rich flavor, add durum and give the dough extra rest.
- If you want a gentle, nutty loaf with easy digestibility, use spelt, keep fermentation shorter, and handle the dough softly.

# The 150 Fix Index, Checklists, and Fast Decision Trees

## How to Use This Chapter

Name the problem in one sentence. Use the index to choose a likely direction, then try the smallest fix first. Fresh milled flour shifts with grind, heat, and time, so repeatable habits beat dramatic rescues. If you are torn between causes, follow the decision trees. Record one change in your logbook so success is not an accident.

## Alphabetical Symptom Index, Quick Pointers

- Bitter: Warm milling, harsh bran, or long warm fermentation.
- Blowouts: Underproofing, weak tension, or steam imbalance.
- Collapsed loaf: Overproofing, underbaking, or hydration too high for structure.
- Cracked crust: Dough too dry, proof too short, or oven too hot early.
- Crumbly slices: Underhydration, weak strength, or too much bran for the method.
- Dense: Bulk too short, dough too cool, or not enough strength built.
- Flat flavor: Salt timing, short fermentation, or grain blend too mild.
- Gummy center: Underbaked, steam too long, or sliced too soon.
- dry late, or flour on the surface.
- Harsh sour: Too warm, too long, or starter imbalance.
- Pale crust: Oven runs cool, steam too long, or short dry finish.
- Rough, sandy bite: Grind too coarse, not enough rest, or bran not softened.
- Rubbery chew: Underbaked, overmixed, or fermentation too short.
- Slack and spreading dough: Overhydration, overfermentation, or no shaping tension.
- Sticky dough that never strengthens: Too wet for the grain, no rest plan, or weak folds.
- Tearing during shaping: Too dry, not enough rest, or rough handling.
- Tough crust: Overbaked, oven too

---

## The 10 Most Common Problems, Three Reliable Fixes Each

### **Problem: Dense loaf.**

**Symptom:** Tight, heavy slice.

**Likely cause:** Bulk ended too early.

**Fast fix:** Warm dough and extend bulk.

**Fast fix:** Add one extra fold set.

**Fast fix:** Raise hydration slightly next time.

### **Problem: Dry dough.**

**Symptom:** Stiff dough, tearing.

**Likely cause:** Too little water or rest.

**Fast fix:** Work in a small splash of water.

**Fast fix:** Cover and rest 15 minutes.

**Fast fix:** Add a longer first rest next time.

### **Problem: Sticky dough that will not strengthen.**

**Symptom:** Smears, stays slack.

**Likely cause:** Too much water for grain and grind.

**Fast fix:** Rest, then use coil folds.

**Fast fix:** Chill briefly, then shape.

**Fast fix:** Lower hydration slightly next time.

### **Problem: Gummy center.**

**Symptom:** Shiny crumb, knife drag.

**Likely cause:** Underbaked or sliced warm.

**Fast fix:** Bake longer to a set center.

**Fast fix:** Vent steam earlier, finish dry.

**Fast fix:** Cool fully before slicing.

### **Problem: Pale crust.**

**Symptom:** Tall loaf, weak color.

**Likely cause:** Cool oven or steam too long.

**Fast fix:** Preheat longer and hotter.

**Fast fix:** Shorten steam time.

**Fast fix:** Extend uncovered finish.

### **Problem: Blowouts and side splits.**

**Symptom:** Bursts at side or bottom.

**Likely cause:** Underproofing, weak scoring, low tension.

**Fast fix:** Proof longer, use clear dough cues.

**Fast fix:** Score deeper with a confident angle.

**Fast fix:** Build more tension in shaping.

### **Problem: Collapse after baking.**

**Symptom:** Sinks during cooling.

**Likely cause:** Overproofing or underbaking.

**Fast fix:** Shorten final proof.

**Fast fix:** Bake longer to set.

**Fast fix:** Reduce hydration a touch next time.

### **Problem: Crumbly loaf.**

**Symptom:** Slices fall apart.

**Likely cause:** Too dry or too weak.

**Fast fix:** Add water and a long rest.

**Fast fix:** Use folds instead of heavy kneading.

**Fast fix:** Blend in stronger wheat.

### **Problem: Harsh bitter or musty flavor.**

**Symptom:** Sharp aftertaste, stale notes.

**Likely cause:** Rancidity, warm milling, oxidation.

**Fast fix:** Smell check, discard if off.

**Fast fix:** Keep flour cool, store airtight and cold.

**Fast fix:** Blend milder grains, shorten warm time.

**Problem: Tough crust and dry mouthfeel.**

**Symptom:** Thick crust, dry bite.

**Likely cause:** Overbake or dry finish.

**Fast fix:** Reduce bake time slightly.

**Fast fix:** Protect crust partway through.

**Fast fix:** Increase hydration modestly next time.

---

## One Page Checklists

- **Milling:** Keep settings consistent, avoid hot flour, plan a long rest to soften bran.
- **Storage:** Cool before sealing, store airtight away from heat and light, discard flour with paint or crayon odor.
- **Mixing:** Weigh ingredients, mix to no dry spots, rest, then build strength with folds.
- **Fermentation:** Keep dough temperature steady, end bulk by bubbles and lightness, not minutes.
- **Shaping:** Preshape, rest, tighten without tearing, seal seams, choose pan or basket support.
- **Baking:** Preheat fully, steam early then vent, bake to a set center, cool completely before slicing.

Use the checklists as a reset button when you are frustrated. If you are not sure where the mistake happened, run the stage checklists in order, milling through baking, and stop at the first item you cannot confirm. Fix that one thing, then bake again before changing anything else. This keeps you from stacking guesses and losing the real cause.

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## Fast Decision Trees

### Dense loaf:

1. If bulk barely rose, warm and extend bulk.
2. If bulk rose but loaf is tight, proof longer or improve shaping tension.
3. If proof looks right, add a rest and raise hydration slightly next time.

### Dry dough:

1. Add a small splash of water, then rest.
2. Keep dough covered during bench time.
3. Adjust hydration or bake time slightly next time.

### Sticky crumb:

1. Cool longer before slicing.
2. Bake longer, vent steam earlier.
3. Shorten fermentation if sticky and sour.

### Pale crust:

1. Verify oven heat.
2. Shorten steam, extend dry finish.
3. Ferment a bit longer for better browning.

### Collapse:

1. Shorten proof and strengthen in bulk.
2. Extend bake and cool fully.
3. Lower hydration and improve shaping.

---

## Logbook Pages and One Variable Testing

### Logbook template:

Date and room temperature: \_\_\_\_\_

Grain blend, mill setting, flour temperature: \_\_\_\_\_

Hydration, salt, yeast or starter: \_\_\_\_\_

Rest times, folds, bulk cues: \_\_\_\_\_

Final proof cues: \_\_\_\_\_

Bake setup, temperatures, steam plan: \_\_\_\_\_

Cooling time: \_\_\_\_\_

Results, crumb, crust, flavor: \_\_\_\_\_

Test protocol: \_\_\_\_\_

Pick one control loaf and repeat it.

Change only one variable.

Repeat the change twice before judging.

Keep what improves results, reset what does not.