



MODERNIST · CROSS-CULTURAL · NEW NORDIC TECHNIQUE · BASE / MIXER
/ POACHING LIQUID / BROTH

Agua de Tomate Lacto-Fermentada

Summer-peak heirloom tomatoes, blended with 2% salt by weight, fermented at room temperature for 5-7 days while wild lactobacillus bacteria transform the sugars into lactic acid + drive off bitter notes, then drip-strained through cheesecloth overnight to produce a gloriously clear, pale-pink, tomato-intense broth. Use it as: a cold summer consomme, a cocktail mixer (tomato-water bloody mary), a savory panna cotta base, a poaching liquid for seafood. The the Nordic foraging-school-era New Nordic technique adapted + widely adopted; reveals that lacto-fermentation amplifies flavor rather than masking it. 5 minutes active work + 5-7 days fermentation + overnight drip. Produces 500-700 ml from 1 kg tomatoes.

Protein None

Serves 5 0 0 - 7 0 0 ml (depending on tomato water content)

Difficulty Beginner-Intermediate

Active 1 0 min (setup + strain)

Total 5 - 7 days fermentation + overnight drip

The Technique That Made Tomato Taste More Like Tomato

Lacto-fermentation has been used for food preservation for 10,000+ years across every culture that eats vegetables: kimchi (Korea), sauerkraut (Germany), kosher pickles (Eastern Europe), achar (India), salted plums (Japan). The technique involves: cover vegetables in 2-3% salt brine; the salt inhibits harmful bacteria but lets lactic-acid bacteria (*Lactobacillus* species) thrive; the bacteria convert plant sugars into lactic acid; the plant tissues soften + the flavor profile transforms into acid-tangy-complex. For most of human history, this was practiced for preservation — vegetables that could keep through winter or travel long distances.

The the Nordic foraging-school-era New Nordic technique (popularized globally from 2010 onward) reframed lacto-fermentation as a flavor-amplification technique rather than a preservation technique. Lacto-fermented tomatoes are not just preserved tomatoes — they're tomatoes that taste MORE like tomato than fresh ones, because the fermentation process concentrates sugars, amplifies glutamate, and drives off certain bitter-unripe compounds. Extract the liquid portion via drip-straining and you get a crystal-clear broth that's pure tomato-essence — more intense than fresh tomato juice, more complex than dried, more pure than any extraction method.

The home process is radically simple. Ripe summer tomatoes, blended with 2% salt by weight, into a jar, loosely covered, left at room temperature 5-7 days. On day 2-3 you'll see bubbles forming (active fermentation). By day 5-7: small bubbles continue, the mixture has developed slight acid tang. Strain through cheesecloth-lined fine-mesh strainer, let drip overnight (don't squeeze — you want clear liquid). The result: 500-700 ml of clear pale-pink liquid from 1 kg tomatoes. Keeps refrigerated 2-3 weeks.

Applications: cold summer consomme with cucumber slices + basil leaves + flake salt. Cocktail mixer: tomato-water bloody mary (much cleaner than traditional) or tomato-water negroni variation. Poaching liquid for delicate seafood (shrimp, scallops). Base for savory panna cotta with gelatin + bottom layer of olive oil. Substitute for fish stock in modern plates. Savory cocktail: tomato-water gimlet. Strained pulp can also be used for sofrito base or as thick-juice for morning-drink variations.

Specs

<p>YIELD</p> <p>500-700 ml clear tomato water from 1 kg tomatoes</p>	<p>SALT RATIO</p> <p>2% by weight (20 g salt per 1 kg tomato; mandatory for safe fermentation)</p>	<p>FERMENT TIME</p> <p>5-7 days at room temperature 21-24°C (warmer = faster; 24°C gives 5 days, 21°C gives 7)</p>	<p>DRIP TIME</p> <p>Overnight (8-12 h) through cheesecloth; no squeezing</p>
<p>KEEP</p> <p>Refrigerated in sealed jar: 2-3 weeks; flavor peaks first week</p>	<p>DIFFICULTY</p> <p>Beginner-Intermediate</p> <p>●●○○○</p>	<p>ACTIVE TIME</p> <p>10 min (5 min blend + 5 min strain setup)</p>	<p>KEY RULE</p> <p>Salt is non-negotiable. 2% salt by weight prevents harmful pathogens + allows only Lactobacillus to thrive. Less than 2% = food safety risk. More than 3% = fermentation stalls.</p>

What Changed & Why

Two variables: tomato source + salt. Technique is identical. ● Tier A (Everyday) uses **ripe summer Miami grocery tomatoes** (May-October peak, Roma or heirloom from Whole Foods / Publix) + **non-iodized fine sea salt** (iodine interferes with fermentation — this is important) + **standard cheesecloth**. Produces genuinely excellent tomato water. ● Tier B (No Limits) uses **summer-peak heirloom tomatoes from Verde Miami** (Cherokee Purple, Brandywine, Mortgage Lifter — July-September peak) + **Sal de Ibiza fine sea salt** + **quality muslin or linen cheesecloth** (finer filtration). Tomato quality determines 80% of the final tomato-water flavor; farmer's-market heirloom tomatoes in peak season produce dramatically more complex + aromatic tomato water.

CHANGE	ORIGINAL	UMAMI VERSION	WHY
TECH	Press tomatoes through a strainer; collect juice	Blend with salt; ferment 5-7 days at room temp; drip-strain through cheesecloth overnight	Pressed tomato juice is just juice — fresh tomato flavor, no transformation. Lacto-fermentation produces a genuinely different ingredient: more intense tomato character, slight acid-tang, more complex aromatic profile, deeper color. The 5-7 day process allows Lactobacillus bacteria to transform sugars + develop complexity. Drip-straining (not squeezing) produces crystal-clear liquid — squeezing would push pulp + cloudy particles through the cloth.

CHANGE	ORIGINAL	UMAMI VERSION	WHY
TECH	—	Use a wide-mouth jar with a loose-fitting lid or cloth cover — NOT a fully-sealed jar	Lacto-fermentation produces CO2 as a byproduct. A fully-sealed jar accumulates pressure + can burst dangerously. A wide-mouth jar with a loose-fitting lid (or cloth + rubber band) allows gases to escape while preventing contaminants from entering. Standard 1-L mason jar with the metal lid placed on top but not screwed down is ideal. For extra security: use an airlock fermentation lid (~\$3-5 online).
ADD	—	Add 1-2 g of dry garlic cloves + 1-2 g of black pepper + 1 bay leaf during fermentation (optional but traditional-modern)	Aromatics added during fermentation integrate into the final tomato water. Garlic, pepper, bay leaves all add complexity to the base liquid + subtly shift the flavor direction toward savory-Mediterranean. For pure tomato-essence: skip these. For a more-complex savory liquid: include. The tomato water is versatile enough to accept either direction.

CHANGE	ORIGINAL	UMAMI VERSION	WHY
ADD	—	Reserve the strained pulp — it's still delicious + usable as a sofrito base, for morning tomato juice, or as a thick sauce base	The pulp remaining after drip-strain is still ~50% of the original tomato mass. It's been salt-fermented + has amplified flavor. Uses: (a) sofrito base — use in place of fresh tomato in sofrito-based recipes (cuts cook time since it's already 'broken down'), (b) morning tomato drink — dilute with water, salt, pepper, lime for savory morning drink, (c) thick sauce — reduce on stovetop for a concentrated sauce base. Don't discard; it's a second ingredient.
ELEV	Generic grocery tomatoes	Summer-peak heirloom tomatoes from Miami farmer's markets	Tomato quality determines 80% of finished tomato-water flavor + aroma. Grocery hothouse tomatoes: clean flavor, some body, but limited aromatic depth. Summer-peak heirloom tomatoes (July-September at Verde Miami, Redlands, Fresh King): dramatic aromatic complexity, deep color, multi-layered flavor. A 2-ingredient recipe where one of the ingredients is a single variable + the other is mostly salt means tomato choice is absolutely determinative. For the best possible tomato water, aim to time production with farmer's market peak.

CHANGE	ORIGINAL	UMAMI VERSION	WHY
SKIP	Add vinegar or sugar to 'balance' the fermentation	Just tomatoes + salt + time. No other additions at the fermentation stage.	Adding vinegar defeats the purpose — you want natural lactic-acid fermentation, not acetic-acid addition. Adding sugar alters the fermentation balance + can produce off-flavors. The beauty of lacto-fermentation is its simplicity: two ingredients + patience = transformation. Any addition is either a mistake or a preference-shift that moves away from the canonical technique.

INGREDIENTS

What You Need

Everyday

The Ingredients

- 1 kg **ripe summer tomatoes** — Roma, plum, or heirloom mix from **Whole Foods**, **Publix**, or Miami grocery. Summer peak (May-October) is essential; winter tomatoes won't produce the same result
- 20 g **non-iodized fine sea salt** — **Morton Kosher** or **Diamond Crystal Kosher** (no iodine). Iodine inhibits fermentation.
- Optional aromatics: 1-2 garlic cloves (unpeeled), 1-2 whole black peppercorns, 1 bay leaf

No Limits

The Ingredients (Tier B)

- 1 kg **summer-peak heirloom tomatoes** from **Verde Miami, Redlands farmer's market**, or **Fresh King** (July-September peak in Miami). Mix of Cherokee Purple + Brandywine + Mortgage Lifter ideal.
- 20 g **Sal de Ibiza fine sea salt** (non-iodized) or standard fleur-de-sel
- Optional: 1-2 cloves **Las Pedroñeras DOP purple garlic**, fresh Turkish bay leaves

EQUIPMENT

Your Kit

- Standard 1-L wide-mouth mason jar
- Blender or immersion blender
- Fine-mesh strainer
- Cheesecloth (2-3 layers for filtration)
- Kitchen scale
- Small mixing bowl
- Small plate + weight (for submerging vegetables during ferment, optional)

MISE EN PLACE

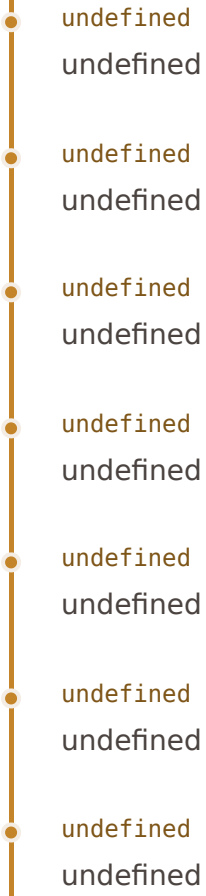
Before You Start

- Tomatoes washed + any blemishes removed
 - Salt measured (20 g per 1 kg tomatoes)
 - Mason jar sterilized (boil 5 min or dishwasher hot cycle)
 - Cheesecloth folded + ready for strain phase
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Workspace room-temperature (21-24°C)

MAKE - AHEAD

Timeline



METHOD

The Cook

1 Phase 1 · Blend + Start Ferment — 10 minutes

1. Weigh tomatoes to exactly 1000 g. Remove any damaged spots but otherwise keep whole. Cut large tomatoes in half for easier blending.
2. Place tomatoes in blender. Add 20 g non-iodized salt.
3. Blend until smooth — about 30-45 seconds. A small tomato-skin bit is fine; you just want liquid + pulp uniformly mixed.
4. Optional: add 1-2 garlic cloves + 1 bay leaf + peppercorns.
5. Transfer to a sterilized 1-L mason jar. Leave 3-4 cm of headspace (fermentation produces gas).
6. Cover with a cloth + rubber band, OR with the metal lid placed loosely on top (NOT screwed down). Alternative: fermentation airlock (\$3 online).
7. Place the jar on the counter — room temperature, away from direct sunlight. Any cool dark spot works; a cabinet is fine.



WHY THIS WORKS

Salt at 2% concentration creates an environment hostile to most bacteria + fungi but hospitable to *Lactobacillus* species (they tolerate 2-4% salt). When tomatoes are blended with salt: the salt extracts cellular fluid through osmosis; *Lactobacillus* bacteria naturally present on tomato skins begin colonizing the substrate; metabolism of sugars begins. Fermentation is anaerobic — covered but not sealed. The loose cover prevents mold spores from entering while allowing CO₂ to escape.

2 Phase 2 · Ferment — 5-7 days unattended

1. Day 1: No visible change. Carbohydrate in tomatoes is being consumed slowly.
2. Day 2-3: Small bubbles may begin forming on the surface; you might hear faint fizzing. This is normal + desirable.
3. Day 3-5: Active fermentation — bubbles constantly rising, slight smell of fresh-tomato-fermenting (not bad), mixture has darkened slightly. Taste cautiously with clean spoon; should taste tomato-slightly-acidic, not off-sour.
4. Day 5-7: Fermentation slowing; fewer bubbles. Taste: should have clear acid-tang, deeper tomato character than fresh. Ready to strain.
5. Rule of thumb: warmer room = faster ferment. 24°C = 5 days. 21°C = 7 days. 18°C = 10+ days (not ideal — too cold).
6. Do NOT open the jar daily. Let it ferment undisturbed; opening introduces oxygen + increases mold risk.



WHY THIS WORKS

Lactobacillus converts tomato sugars (glucose, fructose, sucrose) into lactic acid via fermentation. The pH drops from ~4.2 (fresh tomato) to ~3.2-3.5 (fermented). At this pH, most pathogens cannot survive; lactic-acid bacteria thrive. Over the 5-7 days, the fermentation progresses through several stages: initial bacterial colonization → active sugar consumption → lactic acid peak → slowing (most sugars consumed). By day 5-7, the mixture is ready for extraction.

3 Phase 3 · Strain — Overnight

1. Set up: place a fine-mesh strainer over a large bowl. Line the strainer with 2-3 layers of cheesecloth (overlapping).
2. Pour the fermented tomato mixture through the cheesecloth.
3. Let drip naturally. DO NOT press or squeeze the pulp. Squeezing pushes cloudy pulp through the cloth + defeats the clear-liquid goal.
4. Cover the bowl with a plate to keep contaminants out + prevent evaporation.
5. Let drip 8-12 hours (overnight is ideal). The liquid should slowly fill the bowl; by morning, you'll have 500-700 ml of clear, pale-pink liquid.
6. Reserve the pulp that remains in the cheesecloth — it's still a valuable ingredient. Scrape into a small container; refrigerate.
7. Transfer the clear tomato water to a sterile jar. Label with date. Refrigerate; use within 2-3 weeks.

WHY THIS WORKS

Drip-straining uses gravity + capillary action to pass clear liquid through the cloth while holding back solid particles. The slow process (overnight) is essential for maximum clarity. Squeezing would short-circuit the filtration + produce cloudy liquid. The pulp retained in the cloth is approximately 50% of the original mass but concentrated in fiber + some flavor compounds.

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Phase 4 · Store + Use — Up to 3 weeks

1. Tomato water should be stored in a sterile sealed glass jar in the refrigerator.
2. Typical uses: chilled consomme (serve over ice in a glass with a few basil leaves), cocktail mixer (tomato-water bloody mary or gimlet), poaching liquid (for delicate seafood like shrimp or scallops), panna cotta base, gazpacho-lite (mix with herbs + olive oil + vinegar).
3. Keeps 2-3 weeks refrigerated. Peak flavor within the first week; good through week 2; detectable decline by week 3.
4. Freeze for longer storage: fill ice cube trays (1 oz cubes each); freeze; transfer to zip bags. Thaws within 30 minutes; flavor holds 3-6 months.



WHY THIS WORKS

The acidic environment + refrigeration inhibit spoilage bacteria. The lactic acid continues contributing subtle fermented notes during storage. After 3 weeks refrigerated: flavor may become slightly muted; can still be used but is past peak.

QUICK REFERENCE

Timing Cheat Sheet

STEP	TIME	CUE
Blend + start ferment	Day 1 T- 0	Tomatoes + salt in jar, loose cover
Ferment unattended	5 - 7 days	Bubbles on day 2-3, slowing by day 5-7
Strain	Day 5 - 7 T- 0	Cheesecloth-lined strainer, no squeeze
Drip overnight	8 - 12 h	Crystal-clear liquid forms in bowl
Store	Day 6 - 8	Sterile jar, refrigerate, 2-3 weeks

Emergency Protocols

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Technique Notes

● Universal: Lacto-Fermentation as Flavor Amplification (vs Preservation)

FERMENTATION · SCIENCE · CROSS-CUISINE

Lacto-fermentation has been practiced for preservation for 10,000+ years. Since 2010 (the New Nordic era), it's been reframed as a flavor-amplification technique — fermented tomatoes taste MORE like tomato than fresh ones; fermented garlic (black garlic, honey-fermented garlic) tastes MORE complex than raw; fermented cucumbers (pickles) develop character beyond the ingredient. This reframe changes kitchen thinking: fermentation isn't just for winter storage; it's a way to make ingredients taste more like themselves. Applies to: agua tomate (this), black garlic, lacto-fermented hot sauce, sauerkraut-adjacent variations, any vegetable that's already naturally appealing. Reference: Fermentation Encyclopedia §Amplification Theory; Cross-Cuisine §Modern Fermentation.

● Universal: The 2% Salt Rule — Why It's Non-Negotiable

FOOD SAFETY · FERMENTATION

Lactobacillus bacteria can tolerate up to 4% salt; many pathogenic bacteria cannot tolerate 2%+. Below 2% salt: harmful bacteria may outcompete Lactobacillus + produce toxins (most dangerous: Clostridium botulinum). 2-3% salt: Lactobacillus thrives + pathogens are suppressed. Above 4% salt: even Lactobacillus is inhibited + fermentation stalls. The narrow window of 2-3% (sweet spot: 2-2.5%) is the safe-fermentation range. This is the single most important safety rule in fermentation. For 1 kg of fresh ingredient: weigh exactly 20-25 g of salt. Never estimate. Reference: Food Safety §Fermentation; Fermentation Encyclopedia §Salt Ratios.

● **Universal: Non-Iodized Salt Only for Fermentation**

SALT CHEMISTRY · CROSS-FERMENTATION

Iodized salt contains potassium iodide (added in 1920s-era for anti-goiter public health). Iodine inhibits Lactobacillus growth + other beneficial fermentation bacteria. For fermentation: use non-iodized salt only. Kosher salt (Diamond Crystal, Morton's) is non-iodized. Fine sea salt (most brands) is non-iodized. Rock salt + table salt (Morton's Blue) is iodized — don't use. Check the label; 'iodized' means no-go. This rule applies to all fermentation: lacto-fermented vegetables, honey-fermented garlic, miso, soy sauce, tempeh, sauerkraut, kimchi. Reference: Salt Encyclopedia §Iodized vs Non-Iodized; Food Safety §Additives in Fermentation.

● **Universal: Drip-Strain for Clarity**

EXTRACTION TECHNIQUE · CROSS-RECIPE

Drip-straining (letting liquid naturally gravity-drip through a filter overnight) produces crystal-clear liquid. Squeezing pushes pulp + cloud through the filter + defeats the purpose. This principle applies to: tomato water (this), consomme clarifications, fruit-water extractions, tea + coffee extractions (slow drip over ice). Overnight drip is the standard; faster drip (6 hours) produces less clarity; same-day drip (2-3 hours) produces cloudy liquid. Patience is the technique. Reference: Extraction Encyclopedia §Clarification; Cross-Recipe §Clear Liquids.

● **Universal: the Nordic foraging-school Influence on Home Fermentation**

MODERN KITCHEN TRENDS · CROSS-CULTURAL

The New Nordic movement (2018-2019) made fermentation the cornerstone of modern restaurant cooking + was slowly adopted by home cooks. The shift: fermentation from preservation-of-necessity to creative-ingredient-development. Modernist techniques in home kitchens now: lacto-fermented vegetables (this), black garlic, koji-fermented grains, garum (fermented fish sauce), miso variations, fermented hot sauces. For Pablo's library: Batch 14 (UMAMI-8 closure) demonstrates this lineage explicitly — agua tomate (this), garum koji, misozuke, honey-ferment garlic all represent modern adaptations of historical techniques. Reference: Cultural Context §Modern Kitchen Trends; Fermentation §New Nordic Influence.

● No Limits: Heirloom Summer Tomatoes Transform the Result

INGREDIENT QUALITY · TOMATO SOURCE

Cross-reference: salmorejo-cordobes-tm6 ● (Batch 10 · this workspace) + ajoblanco-malagueno-tm6 ● (Batch 10). Tomato quality accounts for 80% of tomato water's finished flavor. Summer-peak Miami heirloom tomatoes (Cherokee Purple, Brandywine, Mortgage Lifter, Green Zebra) produce dramatically more complex tomato water than grocery tomatoes. Key variables: variety (heirloom > hybrid), ripeness (fully ripe + slightly soft > firm), freshness (day of farmer's market > week-old grocery). For the best possible tomato water: plan production for August-September when heirloom tomatoes are at peak. Reference: Produce Encyclopedia §Heirloom Tomatoes; Sourcing §Miami Farmer's Markets.

● No Limits: Airlock Fermentation Lid

EQUIPMENT · FERMENTATION PRECISION

A fermentation airlock (\$3-5 online, from Amazon or a home-brewing supply) replaces the loose-lid approach with a precision valve: CO2 from fermentation escapes while no outside air enters. Result: cleaner fermentation, less contamination risk, easier no-attention ferment. Airlock lids fit standard mason jars. For weekly-to-monthly fermentation (which this tomato water recipe + any others represent): the \$5 investment prevents occasional ferment-failures from mold contamination. Strongly recommended for anyone starting a fermentation practice. Reference: Equipment Encyclopedia §Fermentation Tools; Food Safety §Air Locks.

PAIRING

What to Drink

🍷 Application — Cold Consomme Course

Serve chilled (4°C) in small glasses (75-100 ml each); garnish with 2-3 basil leaves + flake salt + a thin cucumber slice

A single cold consomme course opens an elegant multi-course dinner — low-calorie, clean-flavored, palate-preparing. Serves 5-7 people from a full batch. The tomato-essence + herbal garnish + cucumber's cooling freshness is a beautiful amuse-bouche.

Application — Tomato-Water Bloody Mary

2 oz vodka + 4 oz tomato water + 1/4 oz lemon juice + 2-3 dashes celery bitters + pinch salt + ice — garnished with a celery stalk

Dramatically cleaner than a traditional bloody mary (which uses V8 or blended tomato juice). The clarity + lightness of tomato water produces a cocktail that doesn't feel heavy — perfect for brunch or a summer afternoon. Bonus: you can see the color clearly through the glass.

Application — Poaching Liquid

Use 1 L tomato water as the poaching liquid for shrimp, scallops, or white fish. Heat to 80°C + hold 8-10 min.

Tomato-water poaching infuses the seafood with subtle tomato-essence while cooking. Different from stock-based poaching (which is meatier). Perfect for dinner-party seafood courses; produces delicately-flavored shrimp or scallops.

Application — Savory Panna Cotta

Tomato water + gelatin + cream/milk + herbs → savory panna cotta set in small ramekins; serve with olive oil + flake salt

Tomato-water panna cotta is a restaurant-level savory starter course. Soft, cold, flavor-intense. Works as first course before heavier mains.

Application — Cucumber-Tomato Summer Drink

Tomato water + cucumber slices + 1 tbsp lime juice + salt + pepper + ice → refreshing summer beverage

A lighter alternative to gazpacho. Perfect for Miami summer afternoons. Non-alcoholic + surprisingly satisfying.

Application — Stock Base Substitution

Use tomato water in place of fish stock in paella, risotto, or any Mediterranean-style main dish

Adds tomato essence without the acid + tomato body that a tomato reduction would produce. Softer, more elegant flavor profile. Works beautifully in Mediterranean-context dishes.

CONTEXT

Menu Ideas

Summer Tasting Menu Opener · 4-6 guests

1. Tomato water consomme with basil + cucumber (amuse-bouche, 75-100 ml each).
2. Continue with other dishes. An elegant, palate-preparing opener that sets the tone for summer-themed dining.

Brunch · 4 guests · Summer Miami

Tomato-water bloody marys (make 8 cocktails from 500 ml tomato water). Plus eggs benedict with saffron hollandaise (Batch 10). Coffee + bubbles. The classic summer brunch.

Fermentation Education · 6-8 guests

Full Batch 14 UMAMI-8 fermentation lineup: lacto-tomato water + black garlic + koji-garum + honey-ferment garlic. A tasting dinner where each course shows a different fermentation application. Educational + fascinating.

Dinner Party · 6 guests · Modern Mediterranean

1. Tomato-water consomme amuse-bouche (from this recipe).
2. Gambas al ajillo (Batch 11 area).
3. Lechazo castellano (Batch 12).
4. Simple dessert. The tomato water gives the dinner a modern sophistication + shows off fermentation craft.

YOUR NOTES

Cook Log

Session Notes

Date: _____ · Serves: _____ · Rating: __ / 5

Use this space to record what you changed, what worked, and what you'd do differently next time. Your future self will thank you.



Stop following recipes. Start understanding food.

