

RECIPE BOOK: STONE-REFINED MUSTARDS



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Stones**

Premier®
Chocolate Refiner



100%Lab

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Technique, Process, and Control

The making of mustard, though seemingly simple, involves a more precise process than it may appear at first glance. The **type and origin of the seed**, the **hydration medium**, **resting times**, and, most importantly, the **refining method** are decisions that directly influence **flavor**, **texture**, **aroma**, and **heat level**.

This recipe book is the result of testing and experimentation, with the aim of providing a clear and practical foundation for understanding these variables and working with mustard with greater control. Understanding how ingredients and process interact makes it possible to fine-tune formulations, anticipate outcomes, and avoid unwanted deviations.

All the recipes described are produced through **wet refining**. This method allows for processing at **low temperatures** and with **minimal friction**, **preserving aromatic compounds** and **maintaining heat stability**, something that is difficult to achieve with other milling methods.

This file includes **links** (internal to the file, and external URLs). These are **highlighted in different colours** to distinguish them for easier reading and interaction with the guide. The product codes mentioned at the end of the file are also linked to make them easier to find.

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1. TYPES OF SEEDS AND CHARACTERISTICS

		Heat	Aroma	Common uses
WHITE				
↳	Sinapis alba	→ Mild	Sweet, light	American mustards, pickles
BLACK				
↳	Brassica nigra	→ Very strong	Intense	Dijon style, Asian cuisine
BROWN				
↳	Brassica juncea	→ Medium-strong	Aromatic	Dijon style, European mustards

Advanced techniques like germinating seeds add herbaceous or green aromas, while toasting seeds reduces or eliminates heat and generates toasted or nutty notes. These techniques are uncommon and produce very different condiments (see [section 3.5](#)).

Thus, this guide focuses on hydration, seed combinations, and flavor development, the truly relevant variables for controlling texture, aroma, and heat.



Black mustard
Brassica nigra



White mustard
Sinapis alba



Brown mustard
Brassica juncea

2. TYPES OF MUSTARD

		Texture	Heat	Culinary uses
CLASSIC MILD	→	Smooth, creamy	Mild	Sandwiches, vinagrettes
DIJON / SPICY	→	Smooth, creamy	Medium-strong	Meats, sauces, marinades
RUSTIC / WHOLE GRAIN	→	Coarse, granular	Variable	Marinades, sauces, accompaniments



The type of mustard depends on how you want to release the heat and the desired final texture. The technique described below allows consistent control of both factors.



Smoked whiskey mustard
Prune mustard
U.S.A. mustard
Sundried tomato mustard

Sake mustard
Whole grain mustard
Piquillo pepper mustard
Whole grain fresh herb mustard

3. TECHNICAL PRINCIPLES OF PRODUCTION

3.1. Hydration and Enzymatic Activation

Mustard heat develops when myrosinase¹ converts seed glucosinolates² into isothiocyanates³, but this only occurs if the seed is hydrated and the husk has been opened⁴.

OPTIMAL PREPARATION

1. Hydrate intact seeds cold (refrigerator, ~48 h) to absorb liquid and soften.
2. **Break the husks after hydration**, allowing myrosinase to access glucosinolates and generate heat in a controlled manner.
3. Refine the paste at room temperature, evenly distributing the heat and adjusting texture to the desired style.

SEED : LIQUID RATIO

1:2 to 1:3, adjustable by seed type and desired density, enough for enzymatic activation without diluting the paste.

TEMPERATURE AND TIME

- Myrosinase active <50 °C; near-total inactivation >60 °C.
- 30–40 °C; fast reaction, max heat in 3–5 min.
- 15–25 °C; slower reaction, max heat ~15 min.

Once glucosinolates are depleted, neither heat nor time increases the heat.



Hydrate first, break after, this ensures total control over texture, aroma, and heat.

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1. A natural enzyme present in mustard seeds. It is responsible for the release of both heat and aroma.
 2. Natural compounds in the seed that are not spicy on their own. They undergo a transformation when they react with myrosinase.
 3. Volatile substances responsible for the mustard's pungent flavor. They are formed from glucosinolates and are heat-sensitive.
 4. The outer layer of the seed that protects it. Depending on the level of refining, it influences the final texture of the mustard.
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3.2. Grinding and Refining

Refining in wet stone mills defines both the texture and the release of heat. These mills preserve volatile aromatic compounds thanks to their low friction. We can work with two types of grinding, depending on the desired texture.

Wholegrain

Process:

partially break husks and/or reserve whole seeds to add at the end.

Result:

Gradual heat release, rustic texture.

Smooth

Process:

fully break husks and pass paste through fine strainer and/or *Claribag 250 µm*.

Result:

Creamy texture, integrated heat.

3.3. pH and Acidity Control

pH 6 - 7

Optimal myrosinase activation.

pH 4 - 4.5

preservation and product stability; stops enzymatic reaction and sets the mustard, preventing further heat development post-refining.

Adjusting pH controls heat intensity, texture, and shelf life, as an acidic medium halts isothiocyanate formation and stabilizes the paste.

Salt, sugar, vinegars, and spices modulate flavor and texture, enable customized mustards, and contribute to setting the paste, **providing consistency and stability**.

3.4. Process details



1. Seed Hydration: Cold liquid absorption for 48 hours.



2. Milling: Breaking of the seed coats (hulls) and enzymatic reaction.



3. Refining: Adjusting the texture and the desired heat level.

3.5. Strategies to Optimize Flavour and Heat

- **Seed combination (white, brown, black):** determines color, aroma, and heat strength.
- **Initial hydration:** controls texture and release of aromatic compounds.
- **Husk breakage:** partial; gradual heat; complete to maximum and homogeneous heat.
- **Activation temperature:** allows accelerating or slowing the reaction based on the objective.

ADVANCED NOTES

GERMINATION

Adds herbaceous or green aromas. Techniques like germinating seeds develop mustards with fresh character and intense vegetal notes.

TOASTING

generates toasted or nutty notes and attenuates heat. This method is used for mustards with warmer, rounder profiles.

FERMENTATION

some mustards are made from fermented seeds, producing distinctive lactic or acidic notes.

These techniques, among others, **enable specialized mustards**, ideal for developing lacto-acidic, herbaceous, or toasted nuances as desired. However, for the purposes of this guide, the focus remains on hydration, husk breakage, and refining, the critical variables for producing deep, customized mustards with precise heat control.

5. RECIPES

Whole Grain Mustard

Ingredients

- 96 g brown mustard seeds
(Brassica juncea)
- 96 g white mustard seeds
(Sinapis alba)
- 240 g white wine vinegar
- 120 g water
- 10 g salt

Method

1. Hydrate the seeds with the vinegar, water, and salt in a vacuum bag and refrigerate for 48 hours.
2. Set aside half of the hydrated seeds without processing them.
3. Place the other half in the stone mill (or refiner) and lightly crush the seeds until a partial paste is formed.
4. Incorporate the reserved seeds and mix gently without refining.
5. Adjust the texture if necessary and store in an airtight container or vacuum bag in the refrigerator.



Whole grain mustard cream sauce.

Dijon-style Mustard

Ingredients

200 g brown mustard seeds
(Brassica juncea)
150 g chopped yellow onion
6 g chopped garlic
30 g mustard powder
6 g garlic powder
160 g white wine vinegar
360 g white wine
240 g water
6 g salt

Method

1. Mix the white wine, water, vinegar, onion, and garlic.
2. Bring to a gentle simmer and cook briefly to infuse.
3. Strain the vegetables and let cool. Reserve the liquid.
4. Hydrate the mustard seeds in a vacuum bag with the flavored liquid for 48 hours under refrigeration.
5. Refine until a fine and homogenous paste is obtained.
6. Add the mustard powder and continue refining until fully incorporated.
7. Add the salt only once the peak pungency level has been reached.
8. Adjust the texture with water if necessary.
9. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

U.S.A. Mustard

Ingredients

38 g white mustard seeds
(Sinapis alba)
44 g mustard powder
45 g pickled onion
45 g pickle
15 g turmeric
3.8 g sweet paprika
13.6 g white wine vinegar
304 g blonde beer
70 g brown sugar
15 g salt

Method

1. Hydrate the seeds with the beer and refrigerate in a vacuum bag for 48 hours.
2. Finely chop the pickled onion and the gherkin (pickle).
3. Add the chopped vegetables, turmeric, and paprika to the hydrated seeds and refine until the mixture is homogenous.
4. Incorporate the salt, brown sugar, and white wine vinegar once the desired pungency is reached.
5. Pass the mixture through a fine-mesh strainer or a *250 µm Claribag*.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with a cheddar smash burger.

Raspberry Mustard

Ingredients

150 g white mustard seeds
(*Sinapis alba*)
20 g freeze-dried raspberry
(con *Lyochef*)
200 g raspberry vinegar
100 g red wine
150 g mineral water
40 g maple syrup
10 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Add the freeze-dried raspberries, red wine, and maple syrup to the hydrated seeds.
3. Refine until a homogenous paste is obtained.
4. Incorporate the salt and vinegar once the desired pungency is reached.
5. Pass the mixture through a fine-mesh strainer or a *250 µm Claribag*.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with duck breast.

Prune Mustard

Ingredients

100 g white mustard seeds
(*Sinapis alba*)
50 g brown mustard seeds
(*Brassica juncea*)
120 g prune purée
150 g rice vinegar
100 g water
25 g brown sugar
8 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Add the prune purée, rice vinegar, and brown sugar to the hydrated seeds.
3. Refine until a homogenous paste is obtained.
4. Incorporate the salt once the desired pungency is reached.
5. Pass the mixture through a fine-mesh strainer or a *250 µm Claribag*.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with roasted chicken.

Carrot & Curry Mustard

Ingredients

150 g brown mustard seeds
(Brassica juncea)
5 g curry powder
100 g carrot juice
30 g white vinegar
50 g water
8 g salt

Method

1. Place the seeds with the base liquid (carrot juice and water) in a vacuum bag and refrigerate for 48 hours.
2. Transfer the hydrated seeds to the refiner and process until a homogenous paste is obtained.
3. Add the curry powder and continue refining until fully integrated.
4. Once the desired pungency is reached, add salt and white vinegar.
5. Pass through a fine-mesh strainer or a **250 µm Claribag** if a smoother texture is desired. This step is unnecessary if a rustic texture is preferred.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with vegetable tajine.



Dill Pickle Mustard

Ingredients

120 g white mustard seeds
(Sinapis alba)
30 g black mustard seeds
(Brassica nigra)
150 g dill pickle
8 g dried dill
100 g apple vinegar
80 g water
10 g sugar
6 g salt

Method

1. Place the seeds with water and refrigerate under vacuum for 48 hours.
2. Add dried dill to the hydrated seeds.
3. Refine until desired texture is reached.
4. Incorporate vinegar, salt, and sugar.
5. Mix in the pickled cucumber cut into brunoise after finishing the mustard.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with smoked salmon.

Fresh Herb Mustard

Ingredients

150 g white mustard seeds
(Sinapis alba)
10 g brown mustard seeds
(Brassica juncea)
40 g fresh herbs
(tarragon, chervil...)
150 g white vinegar
220 g water
15 g honey
7 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Add the fresh herbs and honey to the hydrated seeds.
3. Refine until the desired texture is achieved.
4. Incorporate the vinegar and salt once the desired texture and consistency are reached.
5. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with burrata salad.

Piquillo Pepper Mustard

Ingredients

- 50 g brown mustard seeds (Brassica juncea)
- 10 g black mustard seeds (Brassica nigra)
- 280 g piquillo peppers
- 30 g pepper water
- 45 g hydrated sun-dried tomato
- 50 g red wine
- 140 g apple vinegar
- 80 g brown sugar
- 15 g salt

Method

1. Place seeds with base liquid (pepper water) in the wetstones refiner and hydrate under vacuum in the fridge for 48 hours. Refine the hydrated seeds in the refiner until a homogenous paste is obtained.
2. Add the piquillo peppers and the hydrated sun-dried tomatoes, and continue refining until fully integrated.
3. Once the desired pungency is reached, add the apple cider vinegar and salt, as well as the red wine and brown sugar.
4. Pass through a fine-mesh strainer or a **250 µm Claribag** if a smoother texture is desired. Or leave rustic.
5. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with roast potatoes, crème fraîche and caviar.



Smoked Whiskey Mustard

Ingredients

- 100 g black mustard seeds (Brassica nigra)
- 50 g white mustard seeds (Sinapis alba)
- 7 g bourbon-style whiskey
- 100 g malt vinegar
- 200 g water
- 25 g sugar
- 7 g salt

For the smoking

Jack Daniel's wood chips

Method

1. Place seeds with liquids (whiskey, water, vinegar) in the wetstones refiner and hydrate under vacuum in the fridge for 48 hours.
2. Refine everything together until homogenous.
3. Add salt and sugar during the refining process, pungency and sweetness.
4. Pass the paste through a fine-mesh strainer or a *250 µm Claribag* for a completely smooth texture.
5. Smoke the mixture with *Jack Daniel's wood chips* using an *Aladin Smoker* until the desired aroma is achieved.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with grilled meat.



Sake Mustard

Ingredients

100 g brown mustard seeds
(Brassica juncea)
50 g white mustard seeds
(Sinapis alba)
150 g sake
20 g mirin
20 g sugar
100 g water
7 g salt

Method

1. Place seeds with liquids (sake, mirin, water) in the wet-stones refiner and hydrate under vacuum in the fridge for 48 hours.
2. Refine until a homogenous paste is formed.
3. Pass the paste through a fine-mesh strainer or a **250 µm Claribag** to achieve a completely smooth texture.
4. Add sugar and salt once the desired texture is reached.
5. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with tempura vegetables.

Ginger Honey Mustard

Ingredients

120 g white mustard seeds
(Sinapis alba)
30 g black mustard seeds
(Brassica nigra)
20 g grated ginger
150 g apple vinegar
80 g water
40 g honey
7 g salt

Method

1. Place seeds with liquids (vinegar, water) in the wetstones refiner and hydrate under vacuum in the fridge for 48 hours.
2. Refine until a homogenous paste is formed.
3. Add the grated ginger and honey during the refining process.
4. Once the desired pungency and texture are reached, add the salt and adjust the vinegar if needed.
5. Pass the paste through a fine-mesh strainer or a **250 µm Claribag** for a completely smooth texture.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with tuna tartare.

Sun-Dried Tomato Mustard

Ingredients

120 g black mustard seeds
(Brassica nigra)
30 g white mustard seeds
(Sinapis alba)
80 g hydrated
sun-dried tomato
150 g red wine vinegar
100 g water
20 g brown sugar

Method

1. Place seeds with water and refrigerate under vacuum for 48 hours.
2. Refine until the desired texture is achieved.
3. Add the hydrated sun-dried tomato, red wine vinegar, and brown sugar once the desired texture is reached.
4. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with sardine espetos.

Banana Mustard

Ingredients

100 g white mustard seeds
(Sinapis alba)
30 g brown mustard seeds
(Brassica juncea)
100 g freeze-dried banana
(whith *lyochef*)
90 g rum
91 g apple vinegar
390 g water
390 g brown sugar
27.5 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Refine the hydrated seeds in the refiner until a paste is formed.
3. Add the freeze-dried banana, rum, and sugar; mix until fully incorporated.
4. Incorporate the salt and vinegar once the pungency is reached.
5. Pass the mixture through a fine-mesh strainer or a *250 µm Claribag*.
6. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with grilled suckling pig.

Black Olive Mustard

Ingredients

- 50 g semillas de mostaza blanca (Sinapis alba)
- 10 g semillas de mostaza negra (Brassica nigra)
- 220 g olivas negras
- 95 g vinagre balsámico
- 138 g agua
- 14 g sal

Method

1. Place seeds with water in the wetstones refiner and hydrate under vacuum in the fridge for 48 hours.
2. Refine the hydrated seeds in the refiner until a homogenous paste is obtained.
3. Add the chopped black olives and continue refining until fully integrated.
4. Once the peak heat level is reached, add the salt and balsamic vinegar.
5. Pass through a fine strainer or *Claribag 250 µm* for smoother texture, or leave as is for rustic texture.

Store in an airtight container or vacuum seal and refrigerate

6. for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with tomato salad.



Modena Cocoa Mustard

Ingredients

244 g white mustard seeds
(Sinapis alba)
58 g black mustard seeds
(Brassica nigra)
132 g cocoa powder
60 g white wine vinegar
184 g balsamic vinegar
2 g black pepper
840 g water
35 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Prepare a cacao and pepper paste with water.
3. Add the cacao and pepper paste along with the hydrated seeds and refine until a homogenous mixture is obtained.
4. Incorporate the salt and the vinegars once the desired pungency is reached.
5. Pass the mixture through a fine-mesh strainer or a *250 µm Claribag*; store in an airtight container or vacuum seal and refrigerate for at least one week, although it can be consumed immediately.

Serving suggestion

Serve with wild game.

Fig Mustard

Ingredients

150 g white mustard seeds
(Sinapis alba)
30 g mustard powder
120 g fig purée
100 g balsamic vinegar
150 g water
20 g sugar
6 g salt

Method

1. Hydrate the seeds with the water and refrigerate in a vacuum bag for 48 hours.
2. Refine until the desired texture is achieved.
3. Add the fig purée along with the balsamic vinegar, mustard powder, sugar, and salt once the desired texture is reached.
4. Store in an airtight container or vacuum seal and refrigerate for at least one week to allow flavors to mellow, although it can be consumed immediately.

Serving suggestion

Serve with Basque cheesecake.

5. CONSERVATION

Mustard preservation depends directly on the formulation:

- If the mustard contains around **2–3% salt**, it **acts as a preservative**.
- A **sufficient acidity level** ($\text{pH} \leq 4$, usually from vinegars $\geq 5^\circ$) contributes to **microbiological stability**.

Under these conditions and in temperate climates, mustard can be stored at room **temperature** (below $\sim 25^\circ\text{C}$) as long as the container is **sealed and protected from direct light and heat sources**.

To ensure the best quality, flavor maturation, and conservation, we recommend following the same protocol for all preparations: **vacuum pack and refrigerate**. This reduces oxidation, maintains color and aromatic profile, and extends sensory shelf life, especially for artisanal recipes or those with fresh ingredients.

If mustard is stored outside the fridge, keep it in an airtight jar, away from light, with a plastic film in direct contact with the surface or, at least, a thin layer of oil to prevent drying and oxidation.

Always use clean, dry utensils, close the container immediately after each use, and label with production and opening dates to track shelf life.



STONE-REFINDED MUSTARDS

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