The Why Waste? Cookbook

ZERO-WASTE RECIPES TO DELIGHT AND INSPIRE
Introduction

According to the United Nations Environment Program, over one billion tonnes of food is wasted every year, contributing to up to 10% of global greenhouse gas emissions.

Chefs have the power to change perceptions around food waste and show that the food we throw away can be used to create delicious meals, not only helping the environment but also helping to tackle hunger.

This is the basis of the Why Waste? series, produced by Fine Dining Lovers in collaboration with chef Massimo Bottura of the three-Michelin-starred Osteria Francescana restaurant in Modena, Italy and the Food for Soul non-profit, which works to transform surplus food into meals for the needy.
The second season of Why Waste? sees Bottura challenge his world-renowned chef friends César Troisgros, Dominique Crenn and Sat Bains to get creative with food waste, devising new dishes from vegetable scraps, overripe fruit and stale bread.

In this cookbook, you’ll find all the recipes from Why Waste? Season 2 alongside recipes from the young chefs of the S.Pellegrino Young Chef Academy, who were set the task of creating recipes from leftover ingredients for the ‘Why Waste? Challenge’. The Academy seeks to nurture the next generation of game-changing culinary talent, with sustainability a key pillar of its manifesto.

We hope you enjoy cooking these recipes given to you by the best chefs of today and tomorrow, because together, we can help end food waste, one plate at a time.
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Almost a third of the bread produced globally every year gets wasted – 240 million slices. Instead of seeing waste, see opportunity with this Italian-inspired recipe from Dominique Crenn, the US’s first three-Michelin-starred female chef, from Atelier Crenn and Petit Crenn in San Francisco.

A glossy vegan mayonnaise, toasted bread, fresh tomatoes and breadcrumbs, are turned into an elegant and delicious mille-feuille. “Bread is gold. Don’t ever throw out stale bread, use it and make something delicious,” says Crenn.
Old Bread and Tomato Mille Feuille

**Ingredients**

**Serves 4**

**Crumble**
- Shallots, 1 each
- Garlic cloves, 2 each
- 50g breadcrumbs
- Fleur de sel to taste
- Espelette pepper to taste
- Salt to taste

**Infused soy milk**
- Stale bread slices, 1 each
- Tomato cores, 1 each
- 250g soy milk, unsweetened

**Vegan mayonnaise**
- 40g Dijon mustard
- 130g infused soy milk
- 5g basil, chopped
- Grapeseed oil
- Olive oil
Ingredients

**Sungold tomato**
Ripe cherry tomatoes, 1 each
10g shirodashi

10g olive oil
10g lemon juice
Salt to taste
Espelette pepper to taste

**Step 1**

For the crumble

Slice the garlic and shallot with a mandoline, then deep-fry them until golden.

Mix the bread crumbs with the deep-fried garlic and shallot (chopped).

Season with the fleur de sel and Espelette pepper.
Step 2

For the infused soy milk

Toast the sourdough over hot coals.

Cook and dry out the tomato, then add the toasted bread. Pour over the milk, bring to a boil then let it infuse for a few minutes.

Pass through a chinois and reserve.

Step 3

For the vegan mayonnaise

Emulsify the mustard and soy milk with the oil (half and half) until the mayonnaise is thick, add the chopped basil.
Step 4

For the Sungold tomato

Blanch the tomatoes for 30 seconds in boiling water, then shock them in iced water.

Put them to marinate in the remaining ingredients.

Step 5

To assemble

Place the tomatoes on the first slice of bread, pipe the mayonnaise on the top of the tomatoes. Add the crumble before covering with another slice of toasted bread.

Finish with some fresh basil leaves.
Leftover potato skins, cheese rinds and sea bream bones are given a new lease of life in a classic Apulian-style sea bream dish.
Apulian-Style Sea Bream

Ingredients

SERVES 8

1 sea bream
500g potatoes
1 garlic clove
Cheese rinds
35g fresh parsley
Extra virgin olive oil
Salt
Step 1

Start by scaling the fish, and removing the contents of its belly.

With a knife, remove the wings of the fish and the head, so it is easier to fillet.

Fillet the fish with a sharp knife, leaving the freshest and most compact flesh.

Use tweezers to remove the thorns in the central part of the fillets.

Step 2

For the Apulian-style sea bream sauce using trimmings

Start with the potato skins, they can be really tasty. Bake the skins in the oven at 170°C/338°F, until golden and set aside when ready.

To make the Apulian sauce, we need the cheese rinds and the sea bream.
Use all the cheese trimmings you have in the fridge, the crusts elevate the cheese flavour and give a lovely crispiness to the dish.

Bake them at the same temperature until the cheese crusts are golden and dry, this will ensure the stock will be clean and clear. Set aside when ready.

**Step 3**

**Seasoning and assembly**

Chop the parsley and garlic finely, and season the fillets.

Slice the potato and boil in water for a few minutes until soft. We do this because sea bream fillets cook faster without bones, so by pre-cooking the potato in water, the fish can be cooked quickly so the fillets stay juicier.

Lay down the first layer of boiled potato slices.

Put the sea bream fillets on top, one over the other, with garlic and parsley in between.
Cover with more boiled potato slices, grate over some caciocavallo cheese, add some cured olives, and some stock made with all the fish bones and trimmings (head and tail).

Bake at 180°C/356°F for 20 minutes.

**Step 4**

Leave outside the oven to rest for 10 minutes so the fish soaks up all the flavour from the sauce.

**Step 5**

**Final touch**

The final touch is to add freshness with a small aromatic salad. Use the leaves to wipe up the sauce left in the pot, and arrange them on the side of the dish.

To complete the plate, finish with a drizzle of good, fresh extra virgin olive oil.
This recipe is by Sat Bains, one of the UK’s leading chefs, known throughout the world for his endless creativity and no-nonsense approach to fine dining.

“Any ingredient has the potential to be at the top end,” says Bains. Here he uses up stale bread with an elegant spin befitting his two-Michelin-star restaurant, Sat Bains with Rooms, in Nottingham, England.

Turning stale bread into light and crunchy deep-fried crackers topped with a smoky umami scallop roe taramasalata, he makes the perfect snack, proving that bread really is gold.
Yesterday’s Bread with Scallop Roe Taramasalata

**Ingredients**

**SERVES 4**

**Sourdough tuile**
- 500g water
- 250g breadcrumbs
- 10g salt

**Taramasalata**
- 200g scallop roe
- 40g white bread
- 20g milk
- 1 Egg
- 2 garlic cloves, peeled
- 10g tabasco
- 30g lemon juice
- 400g sunflower oil
- 100g olive oil
Step 1

Sourdough tuile

Toast the bread and process into breadcrumbs.

Bring the water to a boil and add the toasted breadcrumbs and salt.

Cook on a medium heat until a thick porridge consistency is achieved (usually around 30 minutes).

Spread the mixture thinly on a silpat, and dry in an oven for 12 hours at 65°C/149°F (make sure the mix is dry and brittle).

Break into required shape.

Bring a pan of oil up to 220°C/428°F and fry the crisps for 10 seconds, they will puff up straight away, so be careful of splash-backs from the oil.

Remove from the oil and drain on kitchen paper.

Reserve until needed.
Step 2

For the taramasalata

Smoke the scallop roe for 1 hour.

Soak the bread in the milk and set aside for 10 minutes.

Combine the smoked scallop roe, soaked bread, egg and garlic in a food processor and blend until a smooth paste is achieved.

Gradually add the olive oil followed by the sunflower oil.

Finish by adding the tabasco and lemon juice.

Reserve until needed.

For the dried scallop roe

Clean the roe and dry in an oven at 80°C/176°F for 24 hours.

Reserve in an airtight container until needed.
Step 3

To assemble

Place the taramasalata in a piping bag.

Pipe it onto the fried crisps and gently stack up.

Grate over the dried scallop roe and serve.
Fishheads, cauliflower stems and lemon peel are re-imagined in this elegant and delicious zero-waste dish.
Toothfish Cheeks Confit
with Cauliflower Stems Cream

Ingredients

SERVES 4

**Fish cheeks**
300g fish cheeks, toothfish or other fish
2 garlic cloves
Olive oil
Salt
Madagascar pepper

**Cauliflower cream**
200g cauliflower stems and leftovers
50g heavy cream (optional)
1 red onion
10g butter
Salt
Madagascar pepper

**Emulsion sauce**
1 fish head
40g salt
Preserved lemon skins

**Plating**
Tagete oil
Fleur De Sel
Step 1

For the fish cheeks

Fillet the cheeks from the head of the fish and clean away the remaining blood or tissues. Place the cheeks in a pot with peppercorns and garlic, then cover with olive oil.

Bring the oil to simmering at 60°C/140°F for 10–12 minutes depending on the size of the cheeks.

Carefully take out the cheeks and preserve the oil.

Step 2

For the emulsion sauce

Gently cook the fish heads in the confit oil for 30 minutes. Pass through a fine sieve.

For the sauce, emulsify the confit oil and add some finely chopped preserved lemon skins.

Keep in a warm place.
Step 3

For the cauliflower cream

Slice the onion and the cauliflower stems and leftovers. Roast all in a pot with some butter until golden brown.

Add cream for texture if desired, and season with salt and pepper.

Cook for 10–15 minutes and mix with an electric blender to a smooth cream.

Step 4

To assemble

Add a spoonful of cauliflower cream to the middle of a bowl. Cover with the emulsion sauce. Grill the cheeks on an open fire or with a blowtorch, and place them gently on top.

Finish with some drops of tagete oil and fleur de sel.
Almost half of the vegetables produced globally are wasted. This recipe from César Troisgros, the fourth-generation chef of the legendary Troisgros family, is an ingenious way to use carrot trimmings to make a crunchy, interesting ‘pasta’ salad dish with saltiness, sweetness and umami.

Elegant and earthy with citrus, and the spiciness of harissa, this is a simple way to give a second life to your carrot trimmings and elevate them to Michelin-star level.
The Carrot That Wanted to Be a Pasta

Ingredients

SERVES 4

500g carrots, peelings and trimmings
2 fresh garlic cloves
20g harissa
2 sage sprigs
1 lemon
Olive oil
1l clarified butter
Step 1

Heat up the clarified butter to 130°C/266°F, and fry the carrot peelings until golden and crispy. Drain and dry immediately.

Step 2

Slice the garlic, fry in the same clarified butter and drain immediately.

Step 3

Take the sage leaves, and fry until crispy. Drain immediately.

Step 4

Plate the carrots, seasoned with harissa, lemon, olive oil, garlic chips and sage.

Serve immediately.
Stale bread and vegetable trimmings get a second life in these Italian-inspired croquettes.
Pappa al pomodoro
200g stale bread, cubed
300g tomatoes, hearts and seeds
50ml extra virgin olive oil
4 garlic cloves
Parsley stems
1 tsp dried oregano
Sundried tomato peels
Salt to taste
Caster sugar to taste

Lagane pasta in broth
Vegetable trimmings – peels and scraps of potatoes, pumpkin, carrots, onion, jerusalem artichoke, celeriac, parsley stems, black cabbage, celery
1 tsp double concentrate tomato paste
Parmigiano cheese rinds
Ingredients

3 eggs
120g breadcrumbs
150ml milk
Butter to taste
15g salt every 1300ml of broth

Fish croquettes
‘Livorno-style’
Fish trimmings – heads and carcasses
1l milk
285g 00 flour
190g butter
Salt to taste
Garlic
Parsley
White wine
Seed oil for frying
Breadcrumbs for breading

Step 1

For the pappa al pomodoro

Cook the tomato hearts and seeds, with a tablespoon of extra virgin olive oil, for 15 minutes.

Add the cubed stale bread and simmer for 10 minutes.

Turn off the heat and add a clove of garlic, parsley stems and extra virgin olive oil.
For the aromatic vegetable broth

Puree and then add the dried oregano: regulate flavour and acidity with a little bit of salt and sugar.

Keep warm.

**Step 2**

Chop the tomato skins and fry them.

**Step 3**

For the aromatic vegetable broth

Toast the vegetable trimmings in the oven at 180°C/356°F until they are golden brown, then dip them into ice.

Bring everything to a boil, adding a teaspoon of tomato concentrate and the cheese rinds, and cook for 30 minutes.

Filter, reserving the cheese rinds, and regulate the flavour: for every 1300ml of broth add 15g of salt or 10ml of soy sauce.

Cut the cheese rinds into cubes.
Step 4

For the lagane

Mix the breadcrumbs with the eggs and the milk, adding just a little bit of salt.

You want to obtain a kind of crêpe with the help of a lightly buttered pan, cover it with a wet cloth.

Cut them into lozenges and keep warm.

Step 5

For the fish croquettes

Gently boil the fish carcasses for 15 minutes, then separate the pulp from the bones, keeping both aside: you need about 300–350g of fish pulp.

Boil the milk.

In the meantime, toast the flour in the butter in another saucepan, then gradually add the boiling milk, stirring.
Add the fish pulp and simmer for 10 minutes, seasoning with salt: spread onto a steel pan and cover with clingfilm and leave in the fridge overnight to stabilise.

Use your hands to form ‘fishballs’, toss them in breadcrumbs, and keep them refrigerated until use.

**Step 6**

**For the ‘Livorno-style’ marinara sauce**

Immerse the previously stripped bones in water and ice, and bring to the boil with a glass of white wine, garlic, parsley stalks, and double-concentrate tomato paste.

Reduce to a third of the initial volume, pass through a colander and reduce further on the heat, until a thick and tasty sauce is obtained.

Season with salt and keep warm.
**Step 7**

To assemble

Fry the croquettes in seed oil at 175°C/347°F for about 3 minutes, until golden brown, then drain on kitchen paper.

Serve the pappa al pomodoro lukewarm, finishing with fried tomato skins, the lagane in the hot vegetable broth, cheese rind cubes and the fish croquettes in marinara sauce.
Watermelon scraps as you’ve never seen them before: fermented rice and watermelon rind crêpe stuffed with spiced watermelon rind, pickled rind and watermelon skin chutney. A creative recipe with different textures and flavours.
Fermented Rice and Watermelon Rind Crêpe

Ingredients

SERVES 2

Crêpe
100g watermelon rind
100g raw rice
80g cooked rice
1 green chilli
15g clarified butter
10g ginger

Crêpe stuffing
150g watermelon rind, without skin

2g turmeric powder
2g coriander powder
2g garam masala
2g mango powder
2g cumin seeds
15g clarified butter
2g chilli powder
2g cumin powder
1g dried lemon powder
Salt to taste
For the crêpe

Soak raw rice overnight. After 24 hours of soaking, blend it with all other ingredients until a smooth batter and season accordingly. Let it ferment at room temperature for 24 hours.

Heat a pan and add clarified butter. Pour the batter in and let it cook to reach an even golden colour. Flip, cook lightly on the other side and set aside.
Step 2

For the crêpe stuffing

Dice the rind into small, even-sized cubes. Heat up the pan, add the clarified butter, and then all the dry spices.

Add the rind, cover, and cook on medium heat until tender. Add lightly toasted cumin seeds and cover again. Once ready, keep it aside for later use.

Step 3

For the pickled rind

Cut the rind in any desired shape. Let it sit in pickling liquid for a minimum of 12 hours.
**Step 4**

For the watermelon skin chutney

Cook skin in boiling water for 30 minutes, chill and dice into small pieces. Add vinegar and sugar to the pot and let the sugar dissolve.

Add the date paste, raisins, fennel seeds, and dry lemon powder seasoning and let it cook for 1 hour.

**Step 5**

To assemble

Stuff the crêpe with watermelon rind stuffing. Top it up with a few drizzles of the watermelon skin chutney.

Fold it and serve hot. Arrange pickled rind and chutney accordingly.
The whole watermelon, including its skin, is given a new lease of life with lettuce in this refreshing recipe.
Watermelon and Lettuce

Ingredients

SERVES 8

**Dehydrated watermelon**
- ½ watermelon, peeled and sliced

**Watermelon broth**
- ½ watermelon, roughly chopped into small pieces
- 100g caster sugar
- 5cm ginger, peeled
- 20g mint

**Candied watermelon skin**
- 400g watermelon skin, peeled and diced
- 1.2l water
- 100ml white wine vinegar
- 200ml water
- 250g caster sugar
- 1 cinnamon stick
- 4 cloves
- 1 star anise
Ingredients

**Lettuce granita**
- 1 lettuce, fresh
- 500ml water
- 150g caster sugar
- 200ml water
- 5 gelatin sheets

**Garnish**
- Microgreens – acidic
- small leaves
- Sweet flowers

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**Step 1**

For the dehydrated watermelon

Place the sliced watermelon on a rack, then place the rack over a baking tray.

Place the tray in the oven for at least 3 hours at 100°C/212°F. When the watermelon looks like raw meat, it’s done. Set aside.

**Step 2**

For the watermelon broth

Mix all the ingredients in a container and place in the fridge overnight.
Next, blend the ingredients with a hand blender. Pass through a fine mesh and keep in the fridge.

**Step 3**

**For the candied watermelon skin**

Combine 1l of water and 100ml of white wine vinegar in a pan and add the diced watermelon skin. Cook over low heat for 1 hour and 15 minutes.

Then, drain the liquid and put the watermelon skin back in the pot with the remaining ingredients, and cook for another 45 minutes on low heat.

Once cooked, put the watermelon, with the liquid, in a container and keep it in the fridge.
Step 4

For the lettuce granita

Blend the lettuce with 500ml of water and pass through a fine mesh to obtain lettuce juice. Set aside.

Hydrate the gelatin sheets in cold water and set them aside.

Add 150g of sugar to 200ml of water in a pan and make a syrup, heating until it reaches 117°C/243°F.

Use a little syrup to dissolve the hydrated and squeezed gelatin sheets.

Mix the remaining syrup and the dissolved gelatin with the lettuce juice.

Put in a container and leave to freeze for at least 12 hours.
Step 5

To assemble

Dice the dehydrated watermelon and place in the centre of the plate.

Place some pieces of the candied watermelon skin over the dehydrated watermelon.

Scrape the granita with a fork and plate next to the dehydrated watermelon.

Finish with the watermelon broth.

Garnish with acidic microgreens and sweet flowers.
Almost half of the fruit produced globally is wasted. This recipe by Sat Bains uses up waste vegetable trimmings, which are candied and dehydrated and then added to soft serve ice-cream. It’s a riff on the ‘tutti frutti’ flavour, served in a cone.

The recipe takes some time and the method here has been simplified to make it easier to do at home. But the result is an unexpected and delicious way to use vegetable scraps that would grace the tables of the chef’s own restaurant as well as your dinner table.
Tutti Frutti Ice Cream

Ingredients

SERVES 4

Candied vegetable peelings
500g vegetable trimmings – depending on season, this can be pretty much anything, including beetroot, parsnip, peppers, carrots, celery, fennel, etc.
500g caster sugar
500g water

For the soft serve ice cream
1l milk
200g caster sugar
250g heavy cream
½ tsp salt
80g milk powder
1 tsp vanilla extract
1kg dry ice
Ingredients

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<thead>
<tr>
<th>Vegetable flour</th>
<th>200g vegetable trimmings</th>
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<tbody>
<tr>
<td>Waffle cone</td>
<td>85g egg whites</td>
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<td>25g caster sugar</td>
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<td>25g brown sugar</td>
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<td>25g honey</td>
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<td>Vegetable syrup</td>
<td>1kg beetroot shavings</td>
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<td>100g caster sugar</td>
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<td>Citric acid to taste</td>
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Step 1

For the candied vegetable peelings

Place all the ingredients into a pressure cooker.

Cook for 1 hour, then leave to rest and cool down without dispersing the heat.

Remove from the syrup carefully and place into an oven.

Dry for 12 hours at 60°C/140°F.

Cut into desired shape and reserve until needed.
Step 2

For the ice cream

Combine the cream, milk, sugar, salt, milk powder and vanilla extract in a blender.

Blend for 1 minute, until smooth.

Take the dry ice and crush until powdered, either in a freezer bag or large tea towel. Wear kitchen gloves to protect your hands. Slowly add the dry ice to the ice cream mixture while churning slowly in a stand mixer. Add the dry ice one tbsp at a time while mixing, over about five minutes. The mixture will slowly begin to look more like ice cream.

Fold in the ‘tutti frutti’ candied vegetable peelings.

This ice cream is best served straight away.
**Step 3**

For the vegetable flour

Dry vegetable scraps for 12 hours at 60°C/140°F.

Blend to a fine powder.

**Step 4**

For the waffle cone

(Feel free to purchase ice cream cones if you’re stuck for time.)

Combine egg whites, sugar, brown sugar, honey, oil, water, salt, and baking soda.

Mix vigorously until a smooth batter is achieved.

Sift in the dried vegetable ‘flour’ and whisk until very well combined.

Let the batter stand for 10 minutes.
Cook waffle batter in a waffle machine. Once cooked, roll the warm waffle into cones and allow to harden in a cool area.

**Step 5**

**For the vegetable syrup**

Juice the beetroot trimmings and strain through a chinois into a pan with the sugar.

Place over medium heat and reduce to a thick consistency.

Season with the citric acid, then cool and place in a squeezy bottle.

Reserve until needed.
Step 6

To serve

Place the ice cream in a piping bag.

Pipe into the ice cream cone.

Drizzle over the vegetable syrup and serve.
Fruit is one of the most wasted ingredients on the planet, and the average American throws out $520 worth of fruit every single year.

“No one should ever waste overripe fruit,” says Dominique Crenn. “Leftover fruit is the opportunity to do something else amazing with it.”

With that in mind, Crenn shares her recipe for a fun frozen smoothie – one with a difference, as this smoothie harnesses the flavour of overripe peaches harvested from her farm.
Frozen Ripe Peach Smoothie

Ingredients

SERVES 4

Lemon verbena almond milk
400g almond milk
5g lemon verbena

Smoothie
400g infused almond milk
10g blue agave syrup
200g ripe peach
200g coconut whipping cream
**Step 1**

For the lemon verbena almond milk

Bring the milk to a simmer, then add the lemon verbena. Let it infuse for 4 minutes.

Pass through a chinois and let it cool down.

**Step 2**

For the smoothie

Blend all the elements in a blender, then strain.

**Step 3**

To finish

Put the smoothie in an ISI siphon.

Pre-freeze the mould before putting the espuma in it.
As a child, Troisgros’ grandmother used to make this recipe using overripe raspberries, making ice cubes with the fruit, and adding yoghurt and cream. It’s a simple yet delicious recipe that reminds him of his childhood. Even at three-Michelin-star Maison Troisgros, they sometimes forget about fruit and have to use it up in some way.

This is a simple yet elegant way to use up raspberries (or any other forest fruit) that you can do at home.
Raspberry Cushion

**Ingredients**

SERVES 4

250g overripe raspberries
125ml yoghurt
10cl heavy cream
100g caster sugar
75g egg whites
Step 1

Take 200g of raspberries, add the yoghurt and 5cl of cream, mix with a fork, and balance with sugar to taste.

Fill ice cube moulds and place in the freezer.

Step 2

Take a bowl, add sugar and egg whites, place in a bain-marie and heat to 60°C/140°F.

Then mix with a mixer, at low speed, until completely whipped and cold.

Step 3

Spread the mixture on non-stick paper and dry for 4 hours.
**Step 4**

Place the rest of the raspberries to dry, then blend to make a powder.

**Step 5**

Whip some heavy cream to make a Chantilly.

**Step 6**

Take out the cubes from the freezer and remove them from the moulds. Add a little scoop of whipped cream to each one.

**Step 7**

When the meringue is dry, fold the ice cubes inside, under a heat lamp or open oven.

Try to shape them like a pillow.
Step 8

Put on a plate, finish with the raspberry powder and wait 5 minutes before serving, so the cubes are not too cold.
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