

Portfolio of Interventions and Narratives

Set 1: Food waste feedback

Rationale for set

- By offering consumers insight into how much and what food they waste, they will have better visibility into their waste situation, equipping them better to adjust what they buy based on what they waste (individual behaviour).
- This feedback increases their confidence in food provisioning for enough and helps them feel more empowered to adapt their consumption practices (individual value).
- By introducing information flows about food waste on the household level, more targeted behaviour change can be introduced to reduce food waste (system behaviour).
- This information can be used to optimise food packaging, separation techniques, communication around food waste and support various system policies and initiatives (e.g., province, municipality, neighbourhood) (systemic value)
- An innovation that offers this can be supported and implemented by municipalities in collaboration with FETE partners: food waste foundation, national nutrition centre, and waste collector.

Intervention Narratives: How Sascha gains insight into her food waste

The following three stories describe the behaviour of Sascha, a Dutch woman who lives in a small home with her family. Sascha uses different innovations to understand more about her food waste.

Sascha's Story 1:

It's 18:00, and Sascha just arrived home from work and starts to prepare dinner for her family. She decides to make soup and gathers the different vegetables she will use: onion, garlic, broccoli, carrots, and leek (prei). On her countertop, she has a waste bin. The bin is divided for avoidable food waste, like parts of fruit and vegetables that are still edible, and unavoidable food waste, such as peels and coffee grounds.

As Sascha throws the unused broccoli stalk into the avoidable waste section, she frowns. She notices an indicator showing they've already wasted four portions of edible food this week. This makes her think about how her family can reduce food waste and make better use of the ingredients. Sascha decides to save the broccoli stalk and other vegetable scraps for a soup she can make next week.

As Sascha continues cooking, she places unavoidable waste, like onion skins and garlic peels, into the bin. The bin helps her to see what could have been eaten and what couldn't. When dinner is ready, Sascha calls her family to the table to enjoy her homemade soup.

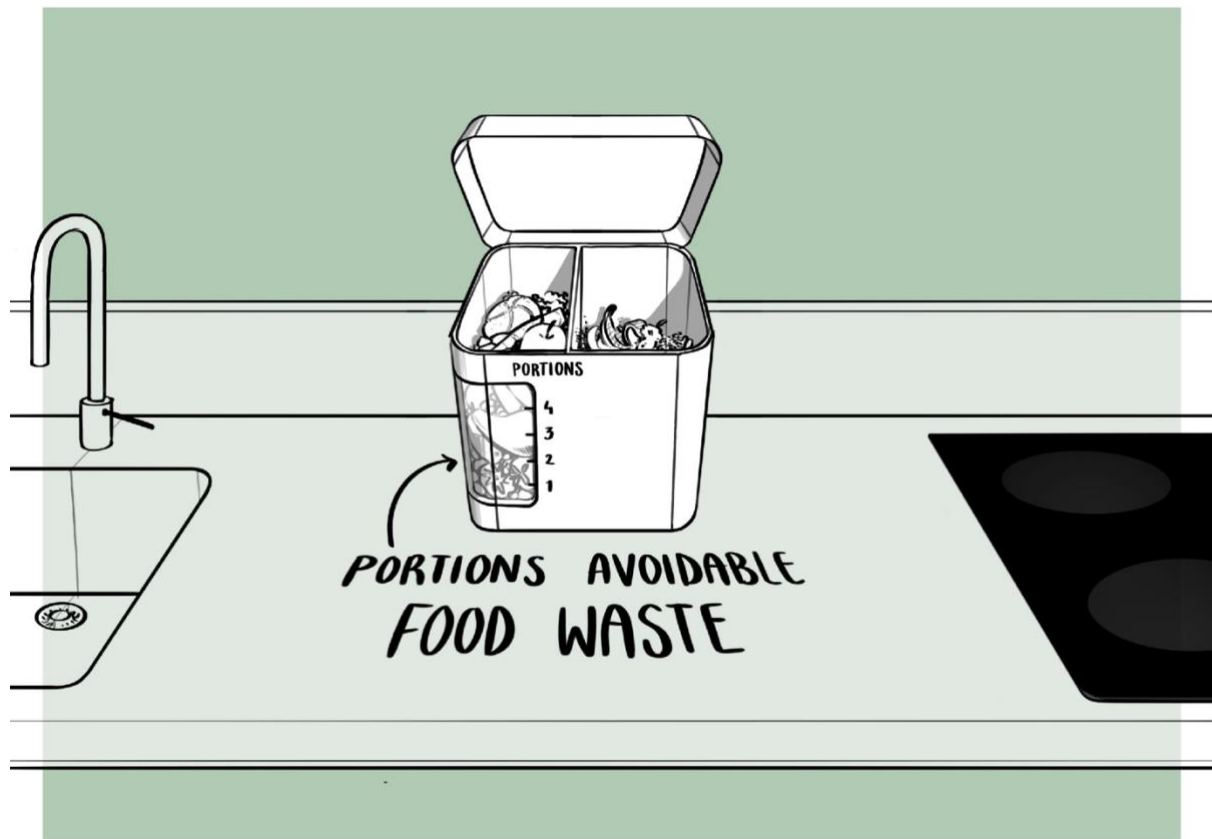


Figure 1 | Countertop waste bin. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Sascha's Story 2:

It's a May morning, and today in Sascha's neighbourhood the municipality collects the food waste bins. Before she goes to work, Sascha brings her food waste bin on wheels to the road for collection. Sascha has Smart Waste Bins. Her bins have sensors which capture data on the amount and type of waste discarded. This data is sent to a waste App on Sascha's phone.

As she sits in the train on her way to work, Sascha opens the waste App to check this week's waste data and neighbourhood comparisons. A few weeks ago, the app indicated that her household often discards apples. The app provided personalised tips like: "You threw away many apples; try ordering fewer next week" and "Frozen apples are tasty to use in pies." Since then, Sascha has been buying individual apples instead of large bags. Today the waste App shows that her family wasted less food and didn't discard any apples. Sascha can't help but smile.

Checking the neighbourhood comparisons, she sees that her family wasted a bit less than her neighbours. Sascha also reads about a new pilot program starting in a few weeks. The municipality will launch a new food waste initiative in her neighbourhood to address the increase in fruit and vegetable waste during the summer. As she looks out the train window, Sascha wonders what new tips she might learn from the upcoming initiative.

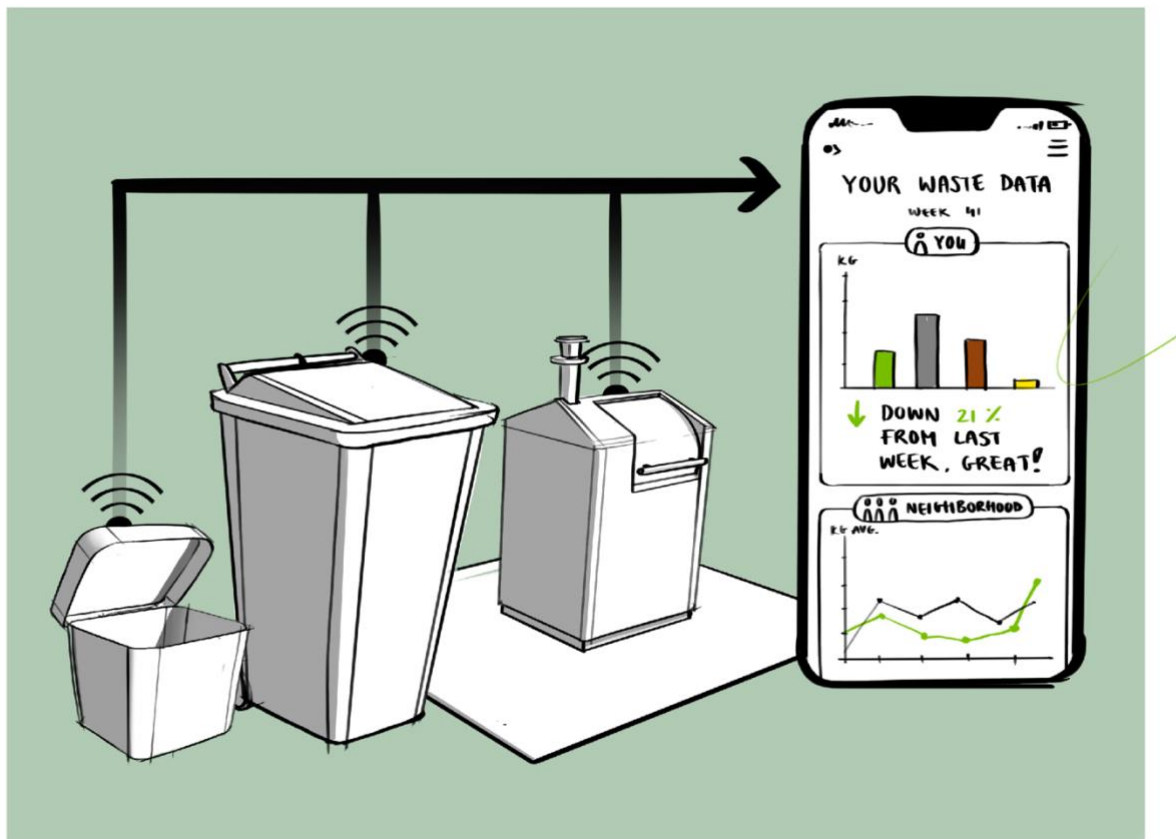


Figure 2 | Smart food waste bin. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Sascha's Story 3:

Sascha sits on her couch with a cup of tea. It's a weekday evening, and she's ready to order groceries for the upcoming week. She picks up her phone and opens her grocery app. The grocery app is connected to her Smart Kitchen System, which includes a smart food waste bin, smart fridge, and smart cupboards. As Sascha adds items to her shopping cart, like carrots, rice, and tofu, the grocery list automatically adjusts each quantity.

The adjustments are based on data about what food Sascha has at home and what food her family discards. For example, the grocery app shows they have a surplus of carrots in the fridge and suggests she skips buying more this week. It also knows that she often over-prepares rice, based on the data from the food waste bin. Therefore, the app recommends buying a smaller package and offers tips for preparing the right amount of rice for different recipes.

Sascha is happy that the app keeps track of the items in her storage and considers her habits, so that she always orders the right amount of food. With her groceries ordered, Sascha gets ready for bed.

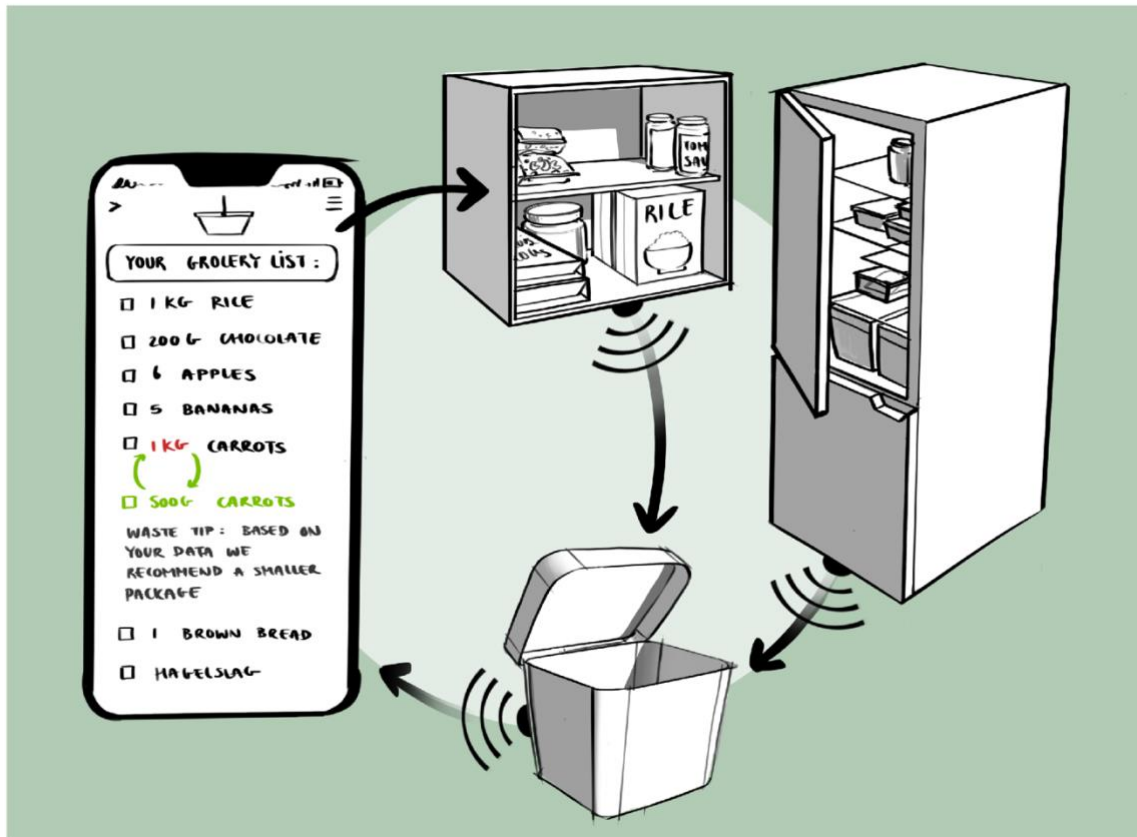


Figure 3 | Smart kitchen system. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Set 2: Use-me-later tools

Rationale for set

- By supporting consumers in storing and preserving unused food for later consumption effectively, consumers can be more skilled at assessing when food is still edible and be better equipped to repurpose food in different ways (individual behaviour).
- This flexibility increases their acceptance of inconsistencies in flavour and texture, and promotes more efficient use of partially consumed food (individual value).
- If preserving and repurposing partially used food becomes common practice, growers can focus more on sustainable farming practices rather than purely cosmetic standards, and growers can diversify their product offerings by selling not only fresh produce but also products made from surplus or imperfect items (system behaviour).
- If consumers appreciate the value of using the whole product, including parts that are usually discarded, it fosters a stronger connection between farmers and consumers, allowing farmers to sell more of what they grow regardless of cosmetic variations, and reduces the overall amount of food needing to be produced in the first place (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: foundation against food waste, national nutrition centre, and preservation and processing food manufacturer.

Intervention Narratives: How Jorn extends the life of his food

The following three stories describe the behaviour of Jorn, a recently graduated Dutch male who lives alone. Jorn uses different innovations to extend the life of his food items.

Jorn's Story 1:

Jorn is sitting on the balcony of his apartment, having a drink. A few months ago, he started living on his own. While he enjoys the freedom of cooking what he wants, he struggles with the package sizes at the grocery store. After finishing his drink, he goes inside to make a sweet potato curry for dinner.

Jorn takes out one of his Preservation Duo food storage containers from the fridge. The container has leftover chopped sweet potato. His parents gave him these containers as a housewarming gift to help him store leftovers and extend the life of partially used food keeping them fresher for longer. Jorn releases the air-lock of the container before taking off the lid. He notices the sweet potato is slightly softer and less orange than last week. He shrugs and adds them to the pan on the stove anyway.

As the sweet potato cooks, he reaches for a can of chickpeas (kikkererwten) in the cupboard. He opens the can, pours out the liquid into the sink, and adds half of the can to his curry. He likes chickpeas, but adding the full can would make too much food for just him. Instead of throwing the rest out, he puts the unused half into the other Preservation Duo jar. Jorn reads the instructional labels on this jar and finds tips for storing chickpeas. Following the tips, he adds 1 tablespoon of oil to keep the chickpeas from drying out while they are stored in the fridge. Once the curry is ready, Jorn sits down to enjoy his meal.

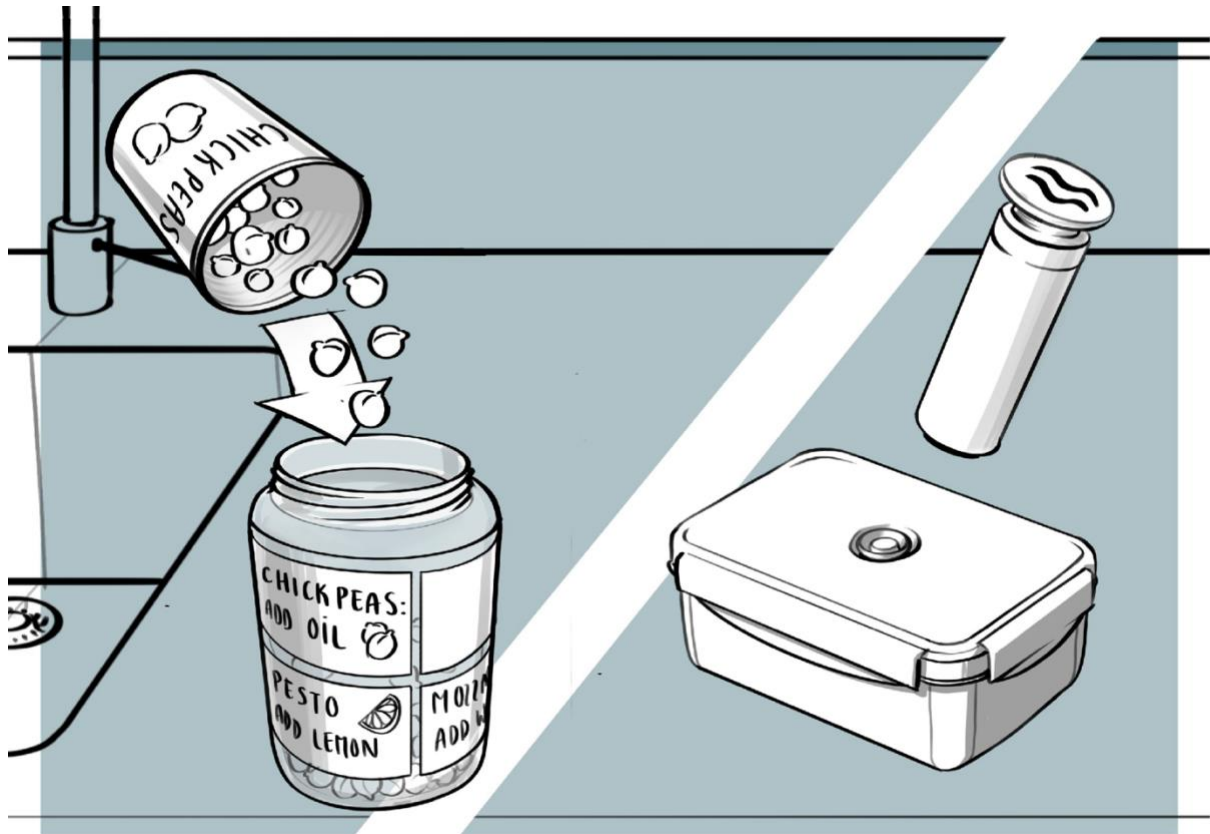


Figure 4 | Preservation duo. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Jorn's Story 2:

It's Saturday night and Jorn is having friends over for dinner. He wants to prepare his favourite pasta recipe. He gathers all the ingredients for the sauce: garlic, onion, unopened fresh mushrooms, and leftover cherry tomatoes. He puts a pan on the stove, adds some oil, and starts chopping garlic and onion adding them to the oil. He opens the mushroom container, takes out half, slices them, and adds them to the pan. Next, he releases the air-lock of the container of cherry tomatoes. The tomatoes are from two weeks ago and are a little bit soft, but he decides they will be fine when cooked in the sauce.

As the sauce cooks, Jorn starts cleaning up. He inspects the unused mushrooms, checks his meal calendar, and realises he won't be eating them this week. Jorn considers which of his Life-Extending Tools to use to preserve them: his dehydrator, quick freezer, or vacuum which removes the air. He chooses the dehydrator. He cuts the unused mushrooms into slices, places them in a container, and makes sure the mushrooms are dried well, so that they can be used later for soup or risotto.

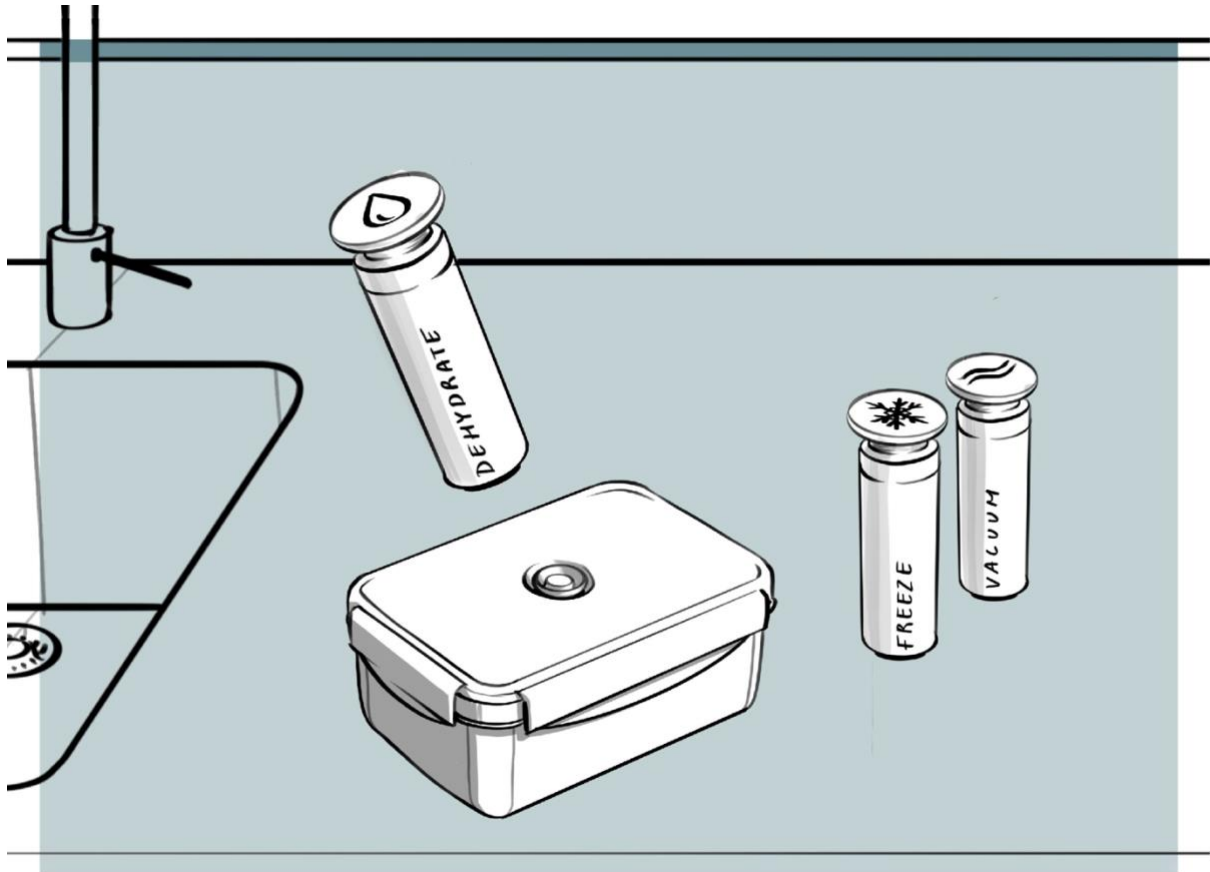


Figure 5 | Food life extending tools. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Jorn's Story 3:

Jorn is in his kitchen thinking about what to make for dinner. He looks in his fridge and cupboards and sees several Preservation Pods with food leftovers. The Preservation Pods have sensors that monitor the freshness of the food inside, automatically adjusting the internal conditions to slow down the decaying process and keep the food at its optimal quality. This is done by the Pods automatically removing the moisture, removing air, or cooling the contents to ensure prolonged freshness.

Some Pods have been in the fridge or cupboard for days, weeks, or even months, so he isn't sure what's inside anymore. Feeling low on energy, he decides to make a quick stir-fry. He opens a Pod with leftover roasted vegetables and another one with a piece of grilled chicken. He heats a pan on the stove, chops the vegetables and slices the chicken. As he cooks, Jorn notices how the Pods kept the vegetables crispy and the chicken juicy and tender. When the stir-fry is ready, he eats most of it and places the last few bites in a Preservation Pod, which cools the contents so he can enjoy it later.

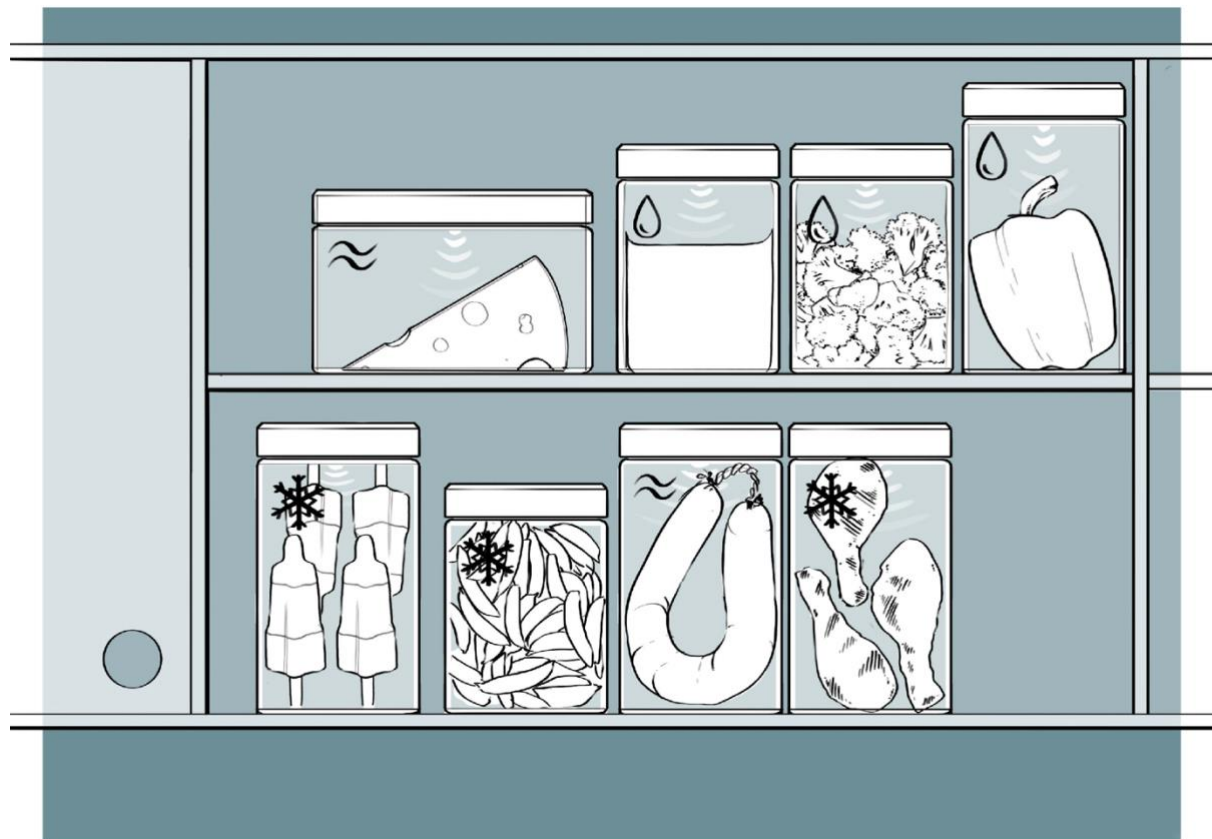


Figure 6 | Preservation Pods. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Set 3: Freezer integration

Rationale for set

- By making frozen products and leftovers more visible and accessible in consumers' homes, consumers will be better supported in integrating these items into their meal patterns, as well as mixing frozen products with fresh products when cooking (individual behaviour).
- This integration into the kitchen increases consumers' confidence that they have enough food in the house to adapt to unexpected events and supplement meals when necessary (individual value).
- By better integrating frozen products and leftovers into consumption patterns, more variety of frozen ingredients, meals, and package sizing can be developed and sold (system behaviour).
- This allows for more sourcing flexibility based on season and harvest, and increases the production and sale of frozen items, thereby using more of what is grown in different ways while retaining nutritional value (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: frozen food manufacturers in collaboration with a kitchen appliances company like Phillips or IKEA.

Intervention Narratives: How Anna transforms her freezer

The following three stories describe the behaviour of Anna, a Dutch woman living with her husband. Anna transforms her freezer using different innovations.

Anna's Story 1:

It's 17.30, and Anna arrives home from work. She has a workout class at 19.00, so she wants to start preparing dinner. Anna walks into her kitchen and slides open her Freezer Drawer. The wide opening gives her a good overview of what she has in stock. Anna sees some burger patties and buns neatly organised without any sign of freezer burn or deterioration. She decides she will make these for dinner. As she closes the Freezer Drawer, she spots a bag of frozen peas, which will go nicely with her meal.

Sliding open the other drawer, the Fridge Drawer, Anna looks to see what else she can add to her dinner. She sees some lettuce and tomatoes for the burgers and some potatoes she can make into fries. As she cooks, Anna thinks about how much simpler meal preparation has become with their Fridge-Freezer Drawers. She no longer forgets about items hidden away or finds freezer-burned food she has to discard. The Drawers help to keep all ingredients at their best. With all her ingredients on the counter, Anna begins to prepare her meal.

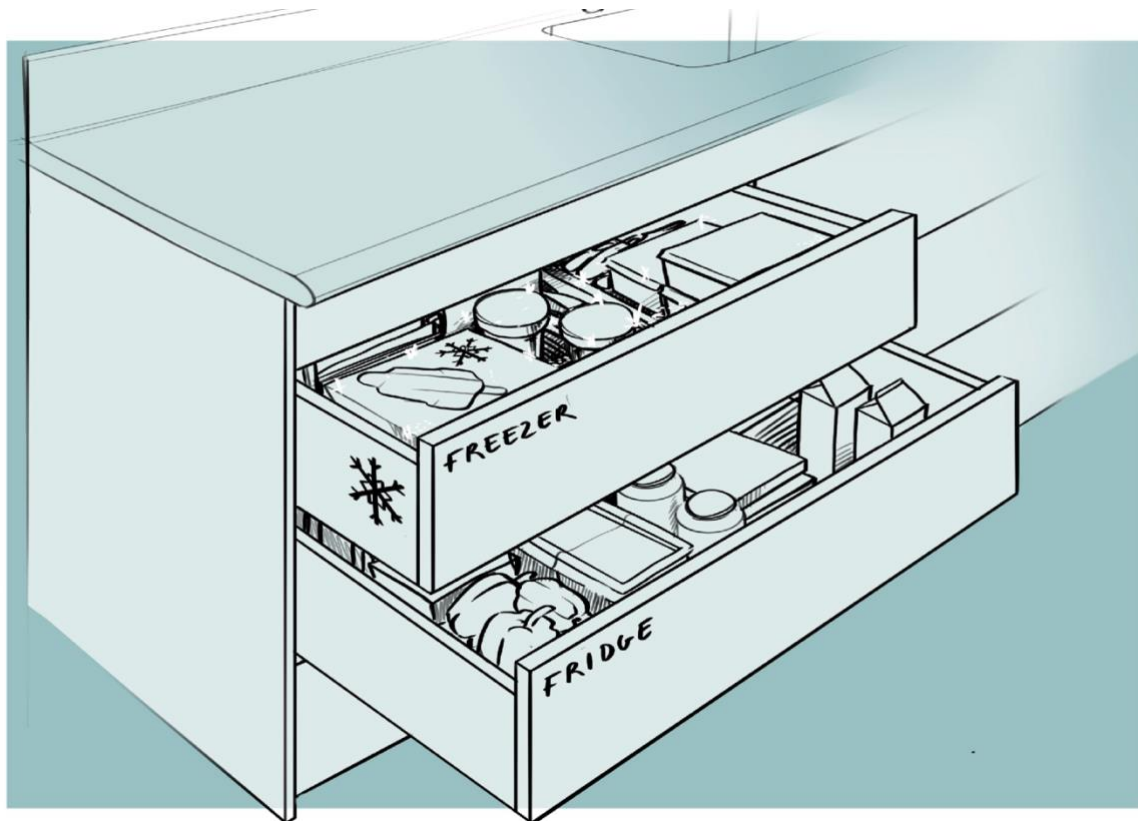


Figure 7 | Fridge-Freezer Drawers. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Anna's Story 2:

Tonight, Anna decides to make a quiche for dinner. She opens her freezer and takes out a bag of pre-chopped vegetables that she Quick-Froze last week. The red bell peppers (paprika's), broccoli, and asparagus are still brightly coloured. She uses her Quick-Defrost Device to get the vegetables ready to cook. While they defrost, Anna mixes some eggs and grates some cheese. She notices that the defrosted vegetables remain crunchy and colourful as she mixes them into the eggs. Anna pours the mixture onto the dough in a springform pie pan and puts it in the oven.

Once the quiche is ready, she calls her husband to the table to eat. After dinner, three slices of quiche remain. She puts the leftovers in a container, Quick-Freezes them and places them in the freezer for another time. When cleaning the table, Anna thinks about how her Quick-Freeze and Defrost Device has changed her preparation and cooking routine. It allows her to defrost items at the time of preparation, and also quickly freeze leftovers after dinner before storing them away. Plus, the Quick-Freeze and Defrost Device keeps food fresher and tastier, just like if things were professionally frozen.

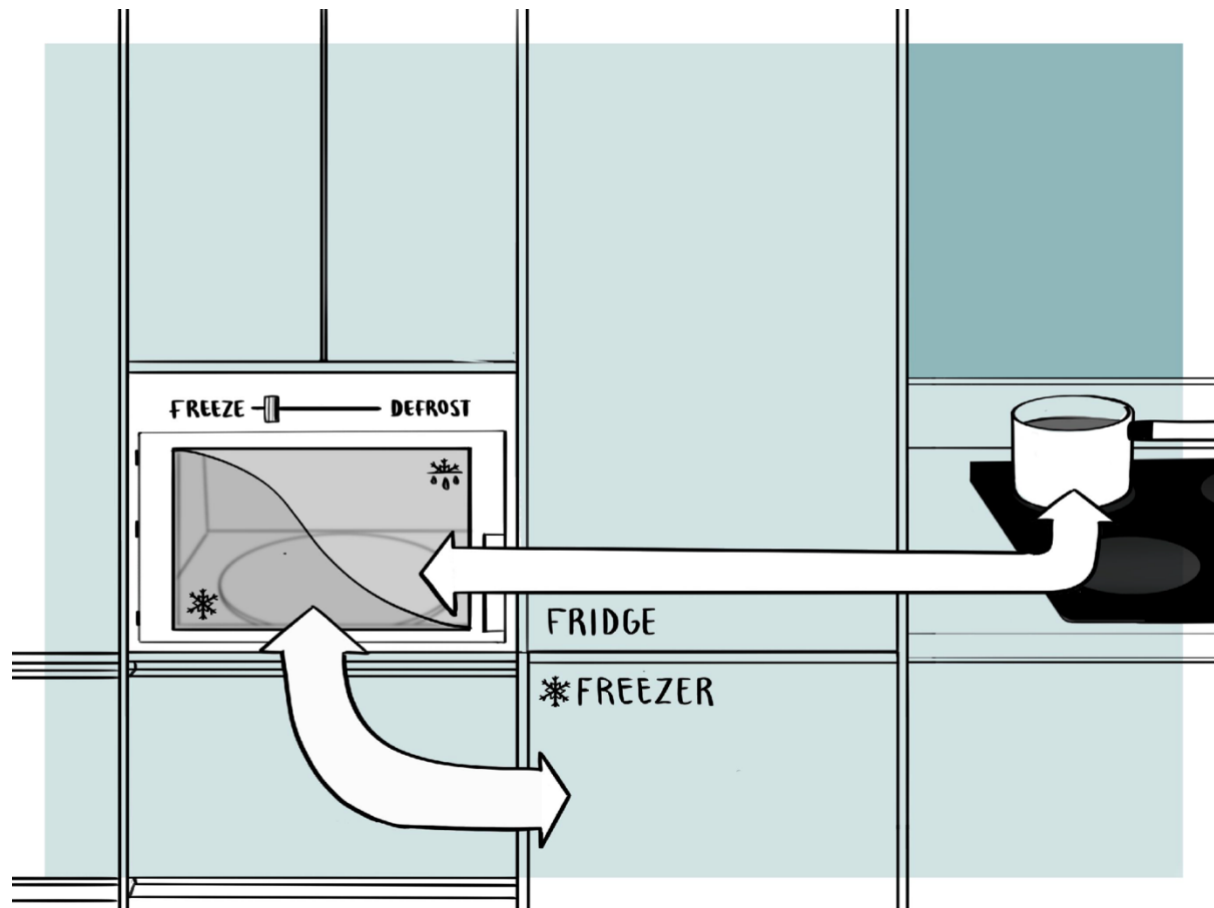


Figure 8 | Quick-Freeze and Defrost Device. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Anna's Story 3:

Tonight is curry night at Anna's house. Anna opens the cupboard and takes out a Speed Freeze Bag with vegetables that she prepared earlier this month. When she opens it, a quick defrosting process begins automatically. In minutes, her bell peppers (paprika's), zucchini (courgette), and spinach are ready to use, still crisp and nutritious. Anna heats a pan on the stove, adds oil, and tosses in the defrosted vegetables. Next, Anna grabs another bag from a shelf with a homemade curry sauce. The sauce defrosts quickly, and she pours the sauce into the pan with the vegetables, stirring until combined.

When the curry is ready, Anna calls her husband to the table. Even though they liked the curry, they couldn't finish all of it, so after dinner Anna scoops the remaining curry into a Speed Freeze Bag, sealing it properly. Within moments the bag automatically speed-freezes the curry, locking in its flavour, texture, and nutrients. She places the Speed Freeze Bag on the cupboard shelf alongside her other fresh and canned ingredients. By keeping the Speed Freeze Bags together with her other ingredients, she can see all her options clearly when planning and preparing meals.

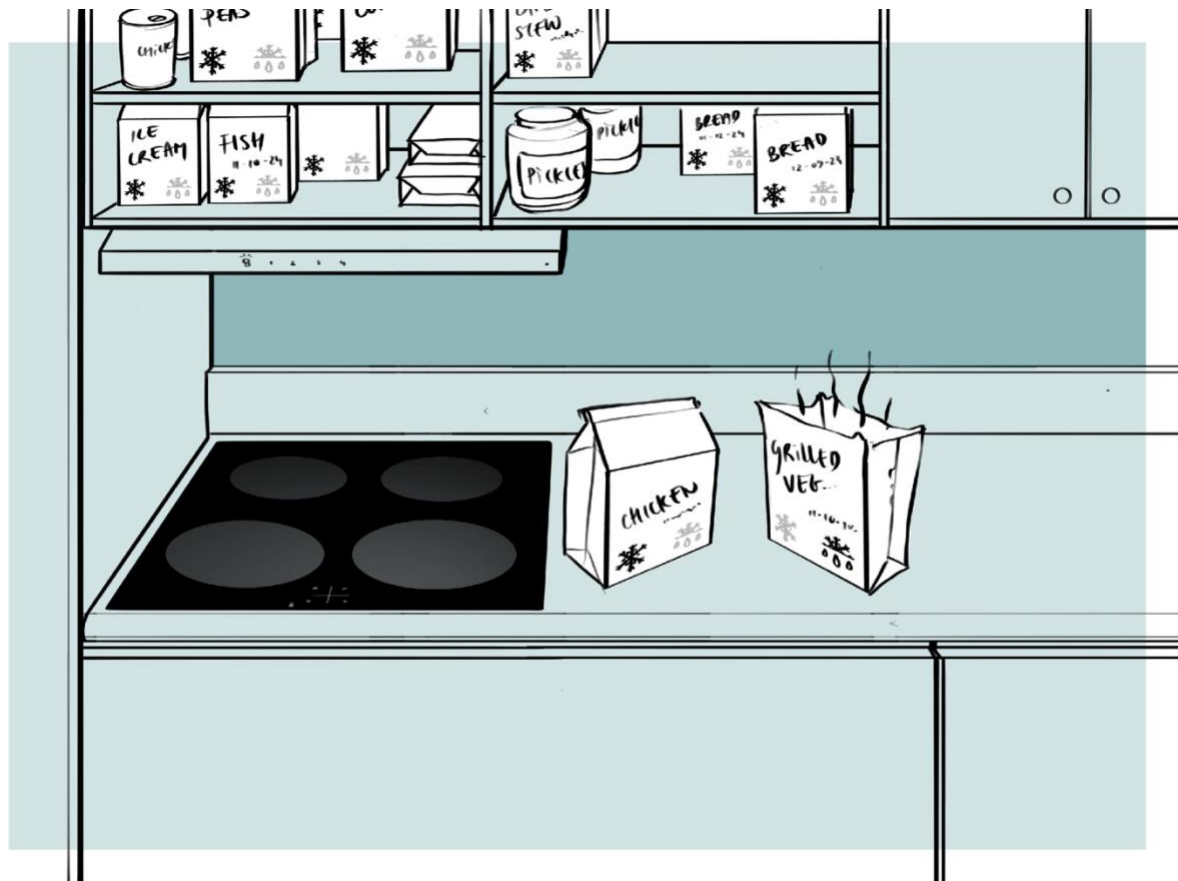


Figure 9 | Speed Freeze Bags. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.L.J.C., & Tromp, N.

Set 4: Frozen offering

Rationale for set

- By shifting consumer perception to view frozen food as a staple ingredient in meals, consumers can become more equipped to adjust portion sizing, feel confident in responding to unexpected events, and be skilled at mixing ingredients and flavours (individual behaviour).
- This flexibility promotes more efficient use of partially used ingredients, increases their confidence in food provisioning for enough, and allows for a degree of control and surprise for finding new flavour combinations (individual value).
- By shifting perceptions to see frozen as part of a normal meal pattern, more variety of frozen ingredients, meals, and package sizing can be developed and sold (system behaviour).
- This would allow for more sourcing flexibility in that food that is not ‘perfect’ can be used in other forms, such as frozen meals, or frozen ingredients, and increases food security by providing stocks that can be relied upon during times of supply chain disruption (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: frozen food manufacturer, foundation against food waste, and national nutrition centre.

Intervention Narratives: How Paul enjoys frozen ingredients

The following three stories describe the behaviour of Paul, a Dutch man with a wife and two kids. Paul uses different innovations to help him integrate and enjoy frozen ingredients into his meal routine.

Paul's Story 1:

Paul stands in his kitchen preparing dinner for his family. He opens the freezer and takes out a Frozen Meal designed for families with different dietary needs. He chose a curry meal package that offers both vegetarian and meat options. The Frozen Meal shows the nutritional details of the vegetarian and meat variations. Paul follows the instructions, starting with the vegetarian curry for his wife and son. He cooks the vegetables with creamy tomato sauce. For Paul and his daughter, he takes some of the vegetarian sauce and puts it in a separate pan and adds the chicken from the package.

The package suggests adding two handfuls of peas for a hungry eater. He grabs his box of individually portioned frozen peas from the freezer and easily adds one portion, making sure the meal is filling and nutritious, also for his daughter who trains as an athlete. When dinner is ready, Paul calls his family to the table. They gather around, each eating the pasta variation that fits their needs.

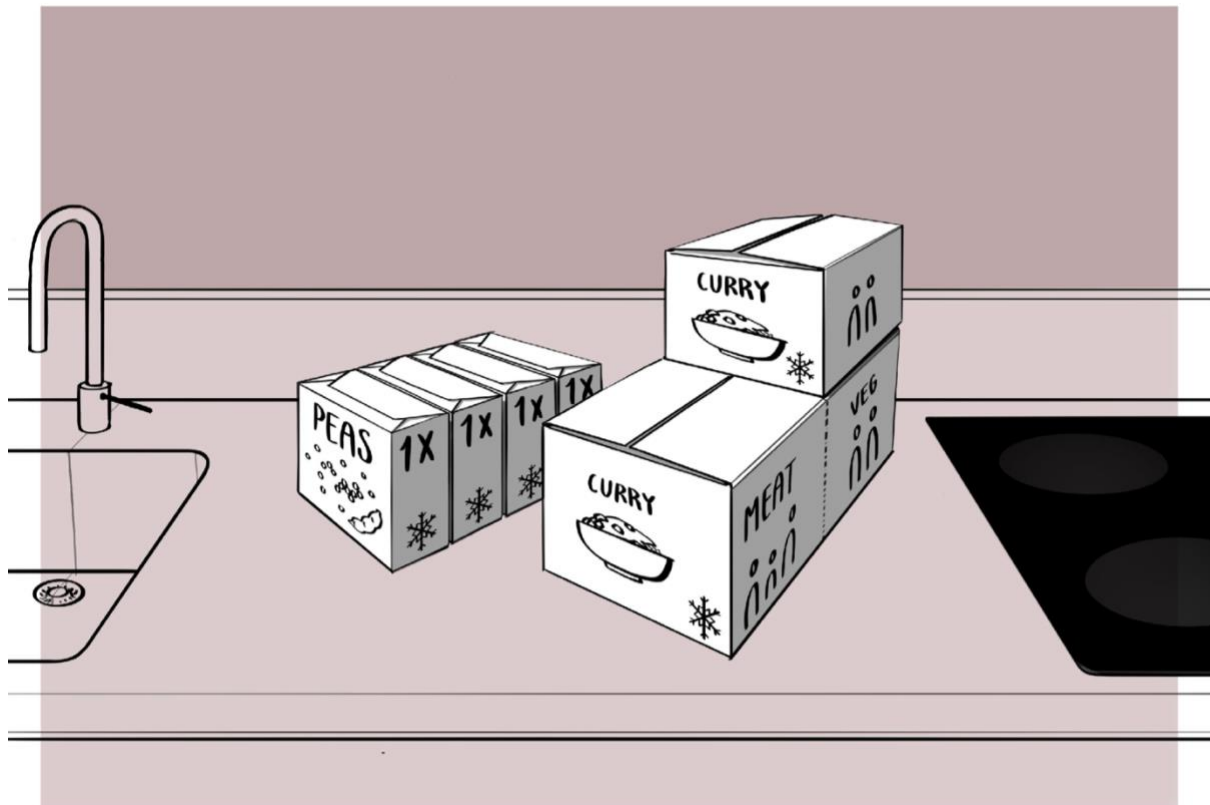


Figure 10 | Frozen meal. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Paul's Story 2:

On a winter evening, Paul sits at his kitchen table with a cup of tea. He is ready to order his family's groceries. He opens his grocery app and starts building his Personalised Frozen Meal. He decides to make a frozen vegetable lasagna. The Personalised Frozen Meal lets him adjust the ingredients and portions to suit his four-person household. He adds four portions of frozen pre-chopped carrots, zucchini (courgette), and spinach. Next, he adds the frozen cheese portions, including an extra portion to make it extra cheesy. Next, he adds frozen marinara sauce, adding only three portions because his daughter doesn't like lasagna too saucy.

As he finishes building his Personalised Frozen Meal, Paul decides to swap the zucchini for pumpkin, because it is currently in season. He also adds an extra portion of pumpkin so that there are leftovers he can eat for lunch at work.

After choosing the ingredients in the app, he could take his shopping list to the store and compose his meal. However, he decides to have everything delivered at his house. The ingredients in the meal will arrive with his other groceries frozen and perfectly portioned, keeping their texture and nutrients, making it easy to assemble. Having a few of these Personalised Frozen Meals in his freezer allows Paul to be ready for unexpected events during the month.



Figure 11 | Personalised frozen meals. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Paul's Story 3:

Tonight Paul decides to make a stir-fry. He opens the freezer and easily sees what ingredients he has in stock to cook with. He takes out peas, broccoli, and carrots. The vegetables are wrapped in a food-safe Dissolvable Packaging. This packaging eliminates the need for cardboard, and the clear film lets Paul see exactly what he has. The vegetables are colourful and don't appear to have any freezer burn or deterioration. He breaks off the amount of peas, broccoli, and carrots he needs, putting the rest back in the freezer. He grabs the remaining frozen tempeh and a few portions of frozen teriyaki sauce wrapped in the Dissolving Packaging.

Paul heats up a pan, cooks the tempeh, and adds the vegetables and teriyaki sauce. As they cook, the Dissolving Packaging disappears completely, leaving no trace. When dinner is ready, Paul calls his family to the table. They gather and enjoy the stir-fry.

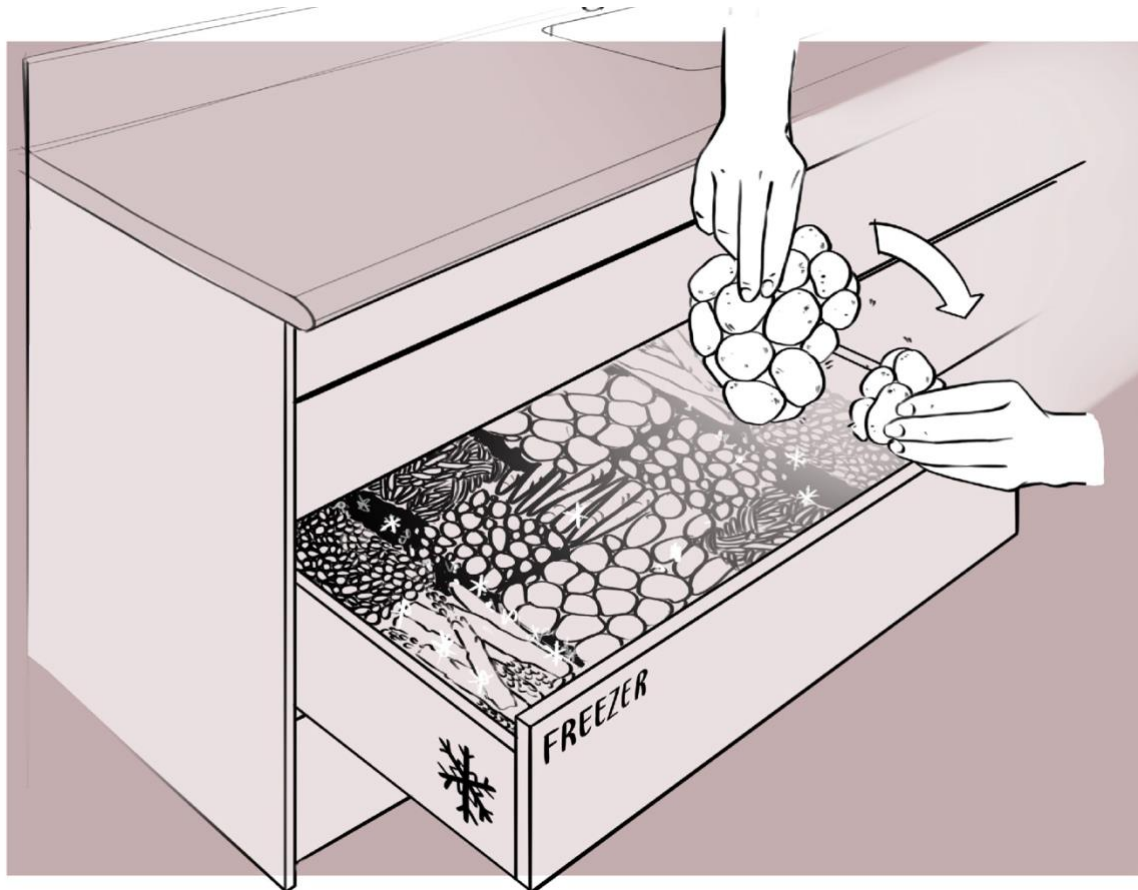


Figure 12 | Dissolvable packaging. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Set 5: Consumption boxes

Rationale for set

- By supporting consumers in completing and adapting meals on the fly, consumers can become more skilled at adjusting portion sizing and mixing various ingredients and flavours (individual behaviour).
- This flexibility enhances their resilience to supply changes, brings meals with customisation, offers confidence to respond to unexpected events, and promotes the use of items consumers have at home (individual value).
- By offering meals that need to be supplemented by consumers, retailers and food manufacturers can default to smaller portions, use less fresh and vulnerable food items, and adjust offering based on season and harvest (system behaviour).
- This flexibility would allow for more sourcing flexibility based on harvest and season, incorporate more unique ingredients to diversify crops, handle supply-demand mismatches, and increase the production and sale of long shelf-life items, thereby selling ‘all’ that is grown (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: frozen food manufacturer, preservation and processing food manufacturer, meal delivery service.

Intervention Narratives: How Puck uses a weekly consumption box

The following three stories describe the behaviour of Puck, a Dutch single mom with three kids. Puck uses different innovations to help her complete and adapt meals in her weekly routine.

Puck's Story 1:

It's late afternoon on a Monday in summer. Puck is sitting in her living room while her kids play with a puzzle on the floor. The doorbell rings, and she opens the door to a delivery man holding the Consumption Box she ordered. Opening the box, she finds items with a long shelf life, like rice, chickpeas (kikkererwtten), and lentils (linzen), along with fresh seasonal produce, like tomatoes and coriander. The Consumption Box provides almost enough food for two dinners for her family.

Puck wants to use the Consumption Box tonight, so she looks through the included recipes. The recipes offer various ways to prepare the ingredients into a complete meal, depending on Puck's mood, time, and skill level. She decides to make a lentil curry. She uses the fresh tomatoes and onions, along with the lentils and rice. She has frozen spinach from a previous Consumption Box, adding that to the recipe to make enough food. The Consumption Boxes come with both long-shelf-life and fresh ingredients so that she always has enough varied ingredients to make a good meal, without the stress of daily meal planning. Once dinner is ready, Puck calls her children to the table, and they enjoy their lentil curry.

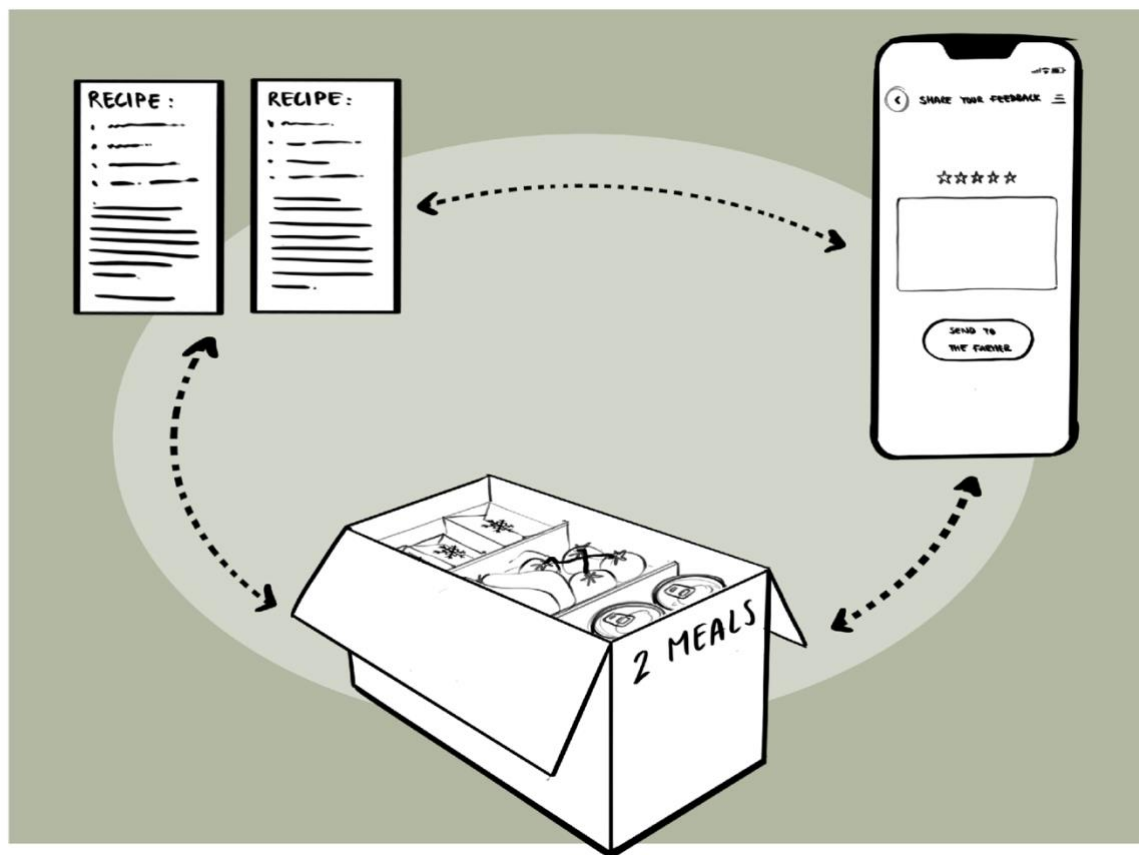


Figure 13 | Consumption boxes. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Puck's Story 2:

It's late in the evening, and Puck sits on her couch, ready to order her Integrated Box for the upcoming week. With a busy schedule, she often orders Integrated Boxes to simplify meal planning. The Boxes contain enough food for 3-4 lunch and dinner meals, with a mix of long-shelf-life innovations and fresh seasonal produce from local farmers.

She goes to the website of the Integrated Box and selects the plant-based variation without choosing specific recipes, meals, or ingredients. The service connects to her household calendar. On busy days and weeks, quick and easy recipes and ingredients are automatically provided. When Puck has more time, more complex ingredients and recipes are provided.

As Puck places the order, she sees a notification saying, “This is your first order of the month. You will get a few more long-life items to help you stock up and complete your meals this week in accordance with your momentary needs!”. Puck also goes to the feedback section of the website to share her thoughts on tonight’s dinner and ask for suggestions: “I made tacos tonight with the Box’s ingredients. I used a soya variation I’ve never cooked before. That was a great tip! I’m open to more exploration with this innovation”. This information will be used when composing future orders. Puck then closes the app and turns on her television to enjoy her favourite show.

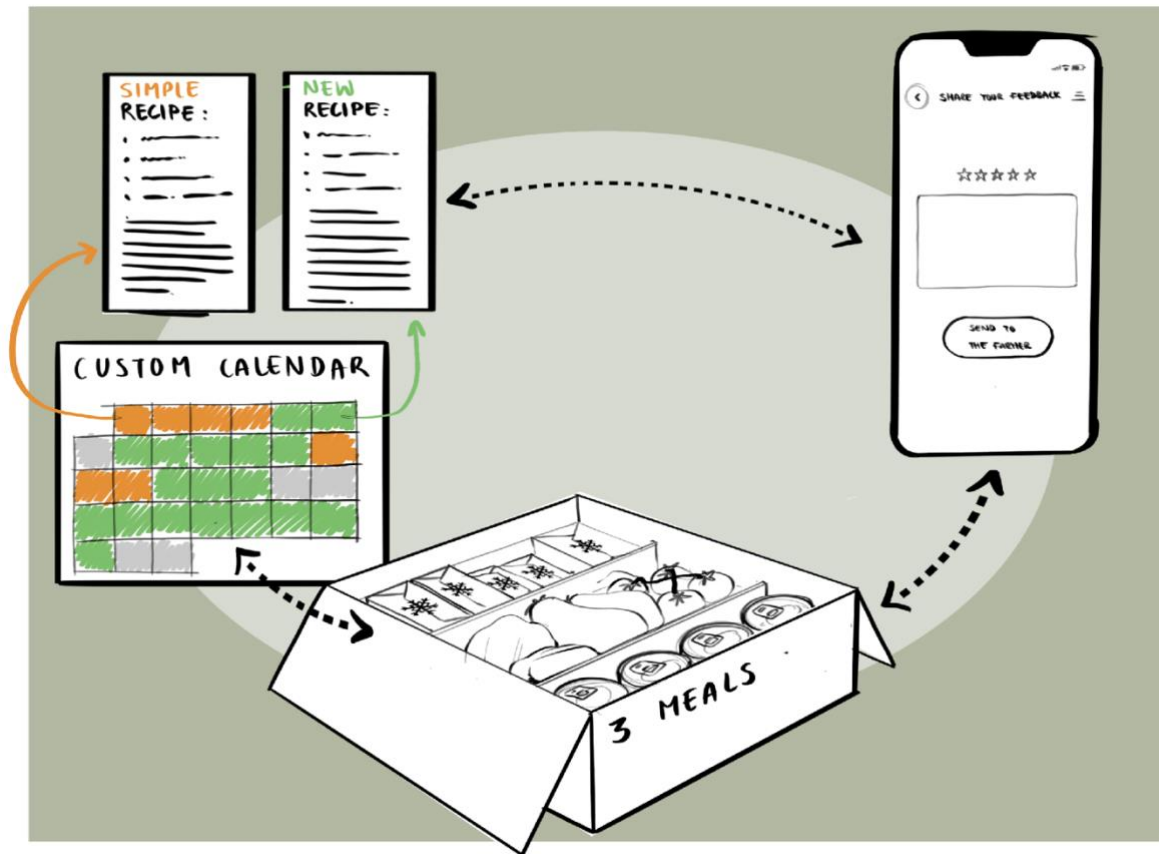


Figure 14 | Integrated boxes. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Puck's Story 3:

On a Sunday afternoon, Puck’s doorbell rings. She opens the door and sees her Growth Box on her outdoor bench. As she unpacks her Growth Box, she finds enough food for 5-6 days of lunch and dinner. She also sees a mix of long-shelf-life innovations and fresh seasonal items from local farmers. As she puts away the contents, she’s curious about how she will combine these ingredients into nice meals. She has a busy week ahead, but luckily the Growth Box service is connected to her household calendar, so the service did not provide any unfamiliar ingredients this week.

Puck picks up the eggplant (aubergine) from the Box, noticing it is quite small and somewhat odd in shape. This doesn’t bother her because she knows that the quality is good. When she started using the Box service, she added details about her family, like their dietary preferences, ages, and health information. She knows from experience that the Growth Boxes adjust to her family needs, meaning that it provides more and bigger ingredients as her children grow and eat more. So, any worried feeling she may have had is replaced with confidence, knowing that, along with the other ingredients at home, she has enough high-quality food to meet her family's needs with little waste and hassle. Once all the ingredients are unpacked, Puck goes outside in her garden to play with her children.

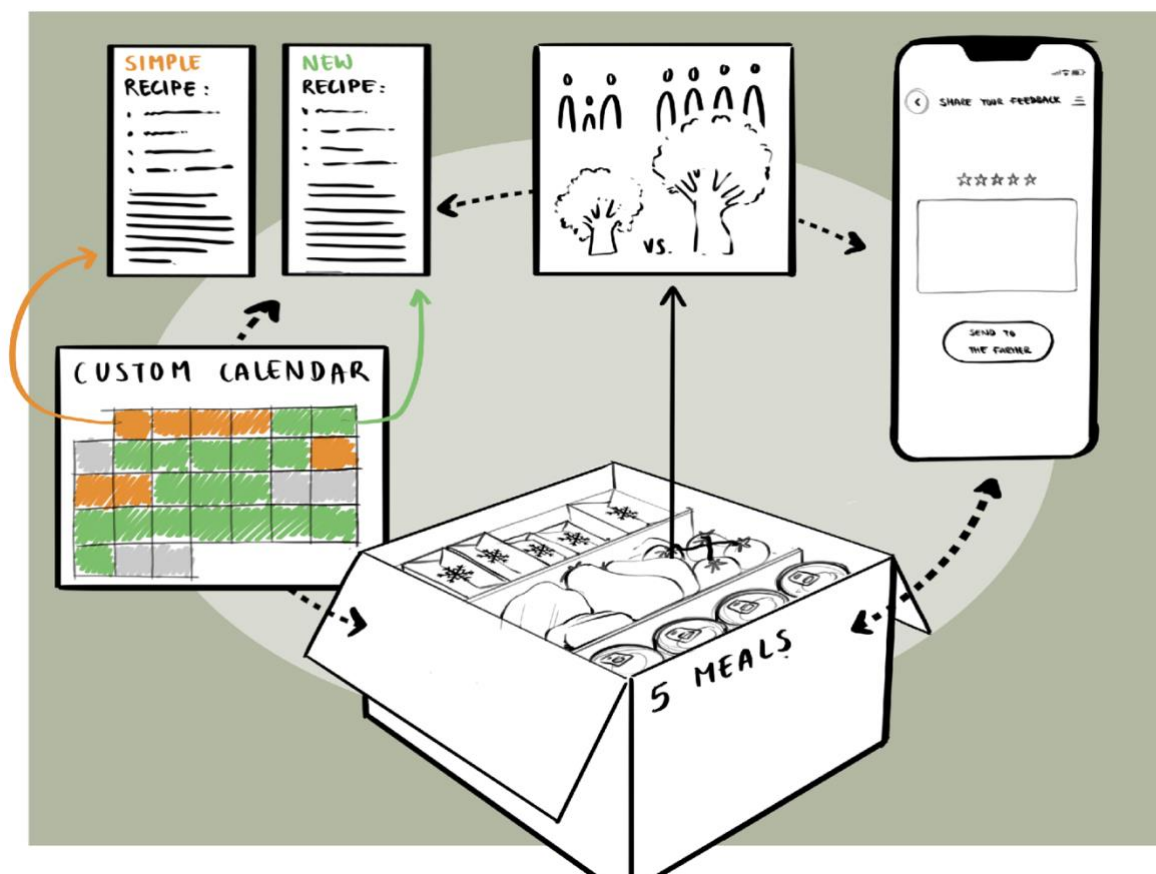


Figure 15 | Growth boxes. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Set 6: Food literacy labels

Rationale for set

- By supporting consumers in assessing food quality with their senses and taking appropriate actions based on their assessment they can increase their food literacy and be less reliant on/guided by date labels (individual behaviour).
- This flexibility increases their acceptance of inconsistencies in ingredients and meal flavours and textures, and allows them to use more of what they have and reduce overpurchasing (individual value).
- By changing how food safety is evaluated, less produce is needed as there can be less strict labelling for products that are safe for consumption past date labels, and producers can sell more of what they grow (system behaviour).
- This flexibility would allow for more produce in retailers being consumed, and less produce needing to be produced in the first place (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: national nutrition centre, foundation against food waste, and meal delivery service.

Intervention Narratives: How Jordi assesses his food

The following three stories describe the behaviour of Jordi, a Dutch man living alone. Jordi uses different innovations to help him assess the food safety and quality of the food he has at home.

Jordi's Story 1:

Jordi walks into his kitchen to prepare dinner. He plans to make his favourite pesto pasta with mushrooms and spinach. He pulls out a package of mushrooms from his fridge. The Fresh Label is yellow, meaning the mushrooms are still good but should be eaten soon.

Next, he grabs a bag of spinach and notices the Fresh label has turned brown. He looks in the bag, picks out the leaves that look okay and adds them to his pan. The leaves that look withered end up in the waste bin. Lastly, he reaches for a jar of pesto in his cupboard. As soon as he opens it, the Fresh Label turns from white to green, indicating it's freshly opened. As Jordi sits down to eat his pasta, he doesn't taste that the spinach was past its best.

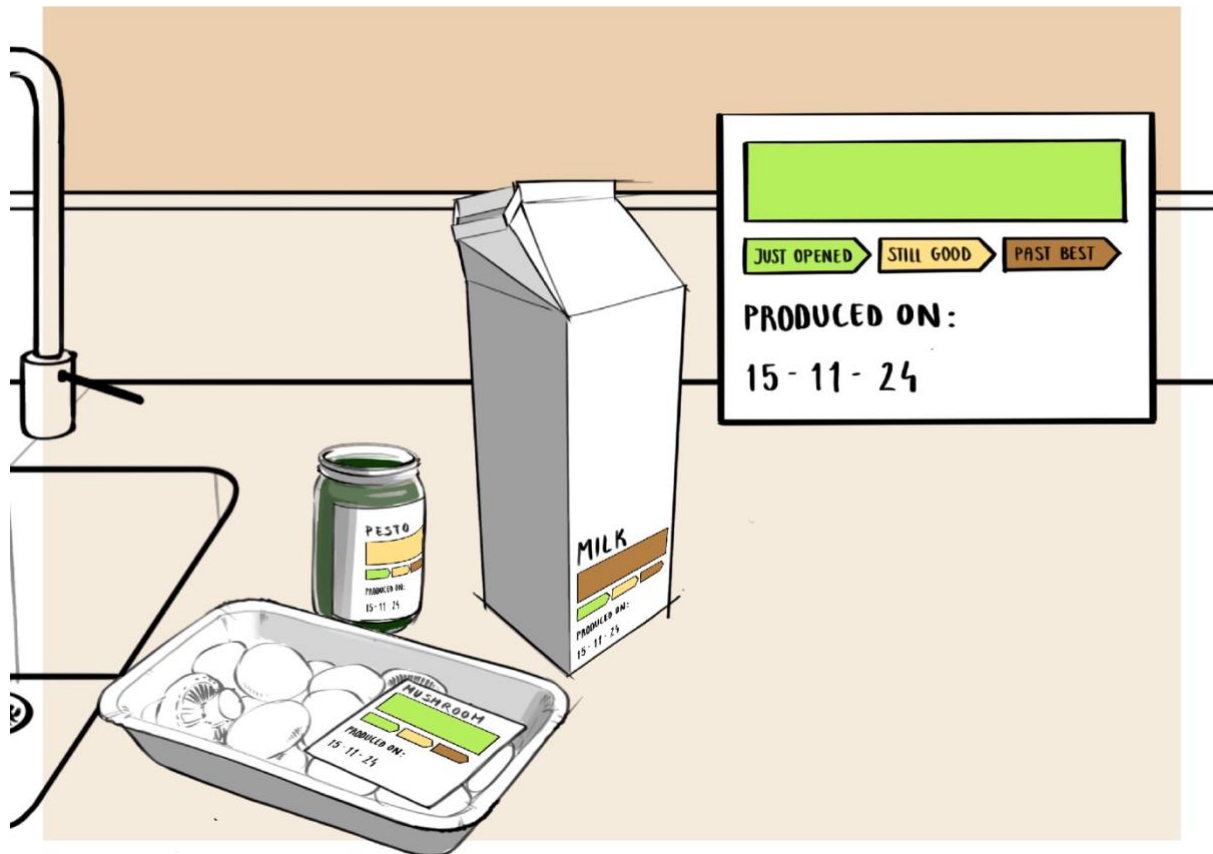


Figure 16 | Freshness labels. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Jordi's Story 2:

It's a Sunday afternoon, and Jordi is putting away his groceries. Before starting, he checks the items that are already in the fridge. Jordi relies on Sensory Labels to determine if the food is still good and safe to eat. The Labels offer tips on how he can use his senses to check if the food is still good to eat, and what actions he can take if he won't eat the food soon.

Jordi picks up a carton of milk in the fridge. The Sensory Label states it was produced two weeks ago and suggests throwing it away if the milk smells sour or is thick. It also mentions that milk can be frozen. He shakes the carton and notices it's half full, smells okay, and tastes okay. He takes the new carton from his grocery bag and puts it in the freezer for later. Next, he reaches for a container of mushrooms, pinches one mushroom, and notices they aren't as firm as they were earlier this week. The Sensory Label indicates that mushrooms are great for pickling or dehydrating, so he sets them aside to pickle them later. Once all his groceries are unpacked, Jordi goes to his couch to relax and opens a book.



Figure 17 | Sensory labels. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Jordi's Story 3:

On a quiet Saturday afternoon, Jordi decides to reorganise his fridge. He picks up a package of mushrooms and reads the Minimalist Label that shows it was produced last week. He presses the top of a few mushrooms, finds them firm, and decides it's still good to eat. He is happy that he was able to follow a special program that allowed him to obtain knowledge on how different foods deteriorate over time, how they can be kept best, and how to evaluate if they are still good to eat.

Then, he sees an open jar of fresh pesto at the back of his fridge. The label shows that it was produced 60 days ago, but he knows that he only opened it two weeks ago, so it might still be okay. He opens the jar and sees that the colour is still normal. He stirs and tastes a small amount and finds it still flavourful. The jar is half empty, so he scoops some of the pesto into a container to store in the freezer, keeping the remainder for dinner tonight. After reorganising the fridge, he sits down for a cup of tea.



Figure 18 | Minimalist labels. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.L.J.C., & Tromp, N.

Set 7: Ingredient-less recipes

Rationale for set

- By shifting consumer thinking from specific ingredients to overall meals, consumers can become more skilled at mixing various (seasonal) ingredients and flavours, which allows them to use what they have (individual behaviour).
- This skill enhances their resilience to changes in food supply, promotes more efficient use of partially consumed fresh, frozen, and preserved foods, and brings novelty yet familiarity in consumption (individual value).
- By changing how consumption is framed from ingredients to meals, growers can adapt to the seasons and be less reliant on harvest uniformity (system behaviour).
- This flexibility increases the resilience of the food system by supporting growers to use all they grow, diversify their crops to offer more variety, and reduces the pressure of retailers to keep high stock levels of specific ingredients all year round, allowing for better inventory rotation and reduced spoilage across all ingredients (systemic value).
- An innovation that offers this can be supported and implemented by FETE partners: foundation against food waste and national nutrition centre.

Intervention Narratives: How Laura learns to mix and match ingredients

The following three stories describe the behaviour of Laura, a Dutch woman living alone in a small apartment. Laura uses different innovations to help her mix and match seasonal and local ingredients in her meals.

Laura's Story 1:

On a chilly evening, Laura is ready to make dinner. She opens her Ingredient-Less Recipes app to find something to cook. As she scrolls the recipes she sees different options, like Green Soup, Ratatouille, or Red Thai Curry. The app suggests Laura to first check her kitchen to see what ingredients she already has that she can use. Laura finds carrots, pumpkin, leek (prei), onion, garlic, and tomatoes.

Looking in the Ingredient-Less Recipes she learns that these vegetables are in season in her region and can be used to make a ratatouille. As Laura begins cooking, the app provides general cooking advice, such as the order to follow when preparing different types of vegetables and how to balance the flavours using different herbs, spices, and sauces. After dinner, she opens the Ingredient-Less Recipes again and leaves a comment on the recipe to avoid any future mistakes: “the balance of herbs was good but I should use less salt next time—maybe 1 teaspoon during cooking.”. Closing the app, Laura is happy she can find this information next time she cooks a ratatouille.

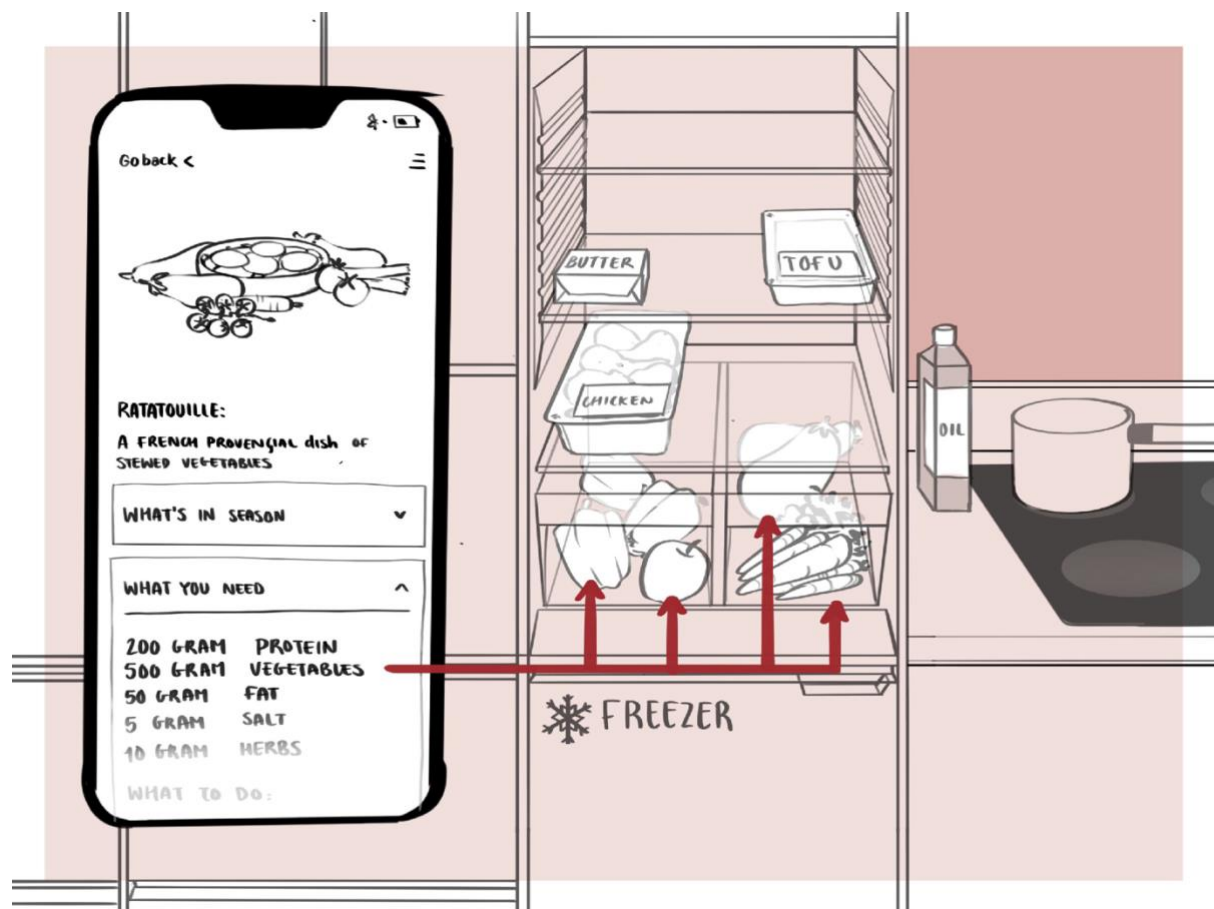


Figure 19 | Ingredientless recipes. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Laura's Story 2

One Friday evening, Laura begins planning what she will serve her parents for dinner tomorrow night. She opens the Ingredient-Less Menus app on her phone and scrolls through the different menus, ranging from the number of courses to specific holidays and moods. Laura selects a 'Feel the Sunshine 3-course Menu' which is meant to evoke a bright, fresh, and vibrant theme for dinner. The menu advises that she select ingredients that are in season in her region to get the best flavours, but it leaves the choices to her. It also stimulates her to try and use the ingredients she has at home.

Laura looks in her fridge and finds zucchini (courgette) and tomatoes; knowing that these items are seasonal and local, she decides to shape the menu around them. For the appetiser, she reads that she should prepare 100 grams per person, so she decides on zucchini carpaccio. The menu says she should add a touch of

sourness and natural fat after slicing the zucchini. “I can use the leftover lemon I saw in the fridge and some olive oil,” Laura thinks. For the main course, the app suggests a pasta-based dish that is about 200 grams per person. Laura decides on simple tomato pasta—she notes that she will go to the store tomorrow morning to buy pasta and cheese. For dessert, she reads that she can transform any remaining zucchini into a sweet dish by baking it with a natural sweetener. “I can use some of my honey for this” Laura thinks.

As she plans each dish, the Ingredient-Less Menu app supports her in creatively using whatever she has at home. This has helped Laura expand her cooking skills and focus on seasonal and local innovations. As she closes the app, Laura is excited to serve her parents this special dinner tomorrow night.

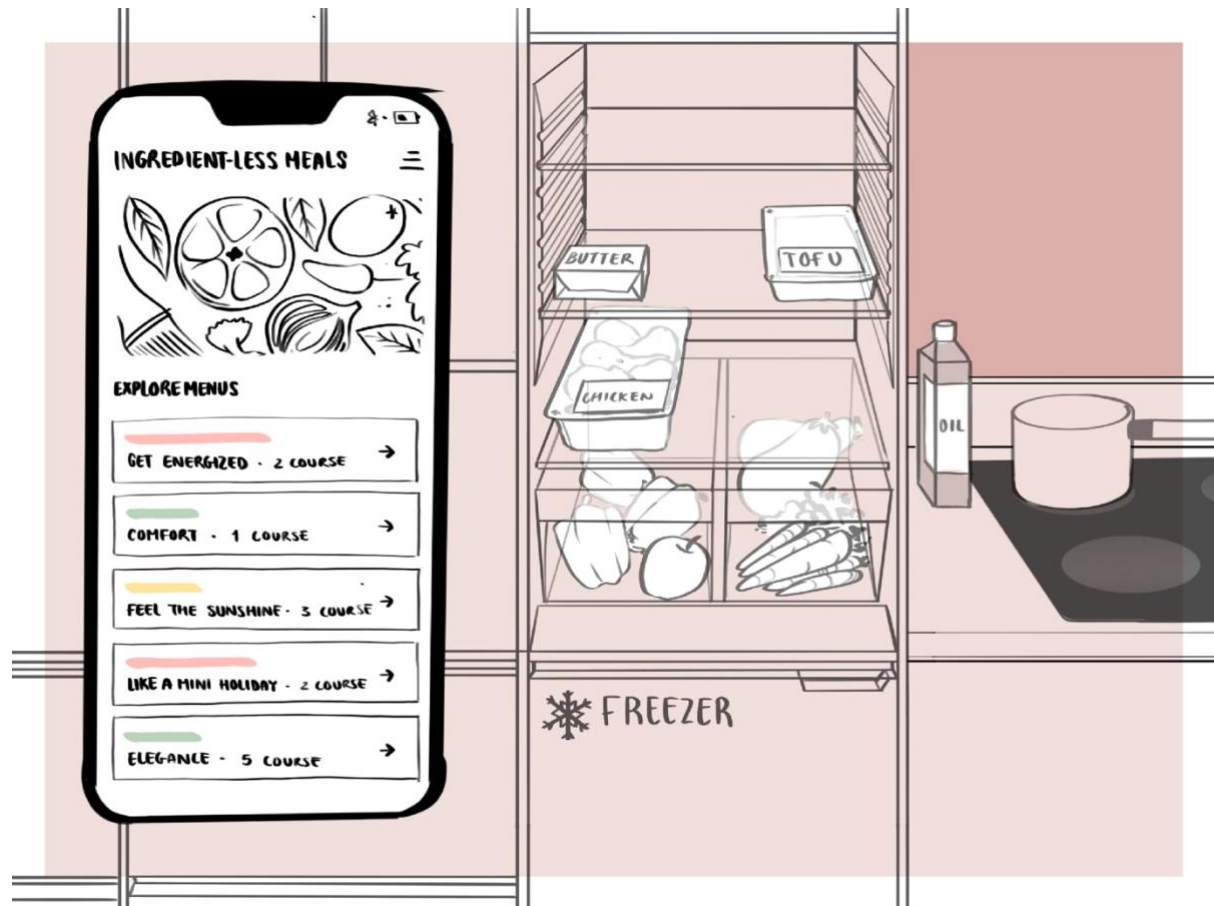


Figure 20 | Ingredientless menus. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.

Laura's Story 3:

One evening, Laura begins to prepare dinner for herself and opens her Ingredient-Less Eating app. She's in the mood for something spicy, so she scrolls through the taste theory section to brush up on what creates spiciness in food. She also reads about balancing spice with fat undertones to ensure her dish isn't too spicy. Inspired, she heads to her kitchen and finds sweet potato, eggplant (aubergine), onions, and radishes. Laura doesn't really like radishes but they are left over from dinner the other night.

Laura decides to roast the vegetables she found and takes a risk to also roast the radishes since they already look a bit soft and she does not want to waste them. She opens the Ingredient-Less Eating app again and selects 'Roasting' in the preparation style section. Setting her oven to a high temperature to caramelise the vegetables, she cuts everything to equal sizes as suggested by the app. She tosses the vegetables in olive oil and adds hot spices like chilli and cayenne, then she slides them into the oven. Following the flavour theory, she also prepares a full-fat yoghurt dip.

Once the vegetables are finished, she sees the radishes have caramelised nicely and she actually finds them tasty. The Ingredient-Less Eating app has given her more ideas for trying different ingredients in various

ways by providing guidance on the science behind cooking and matching flavours. Laura takes the vegetables out of the oven, serves herself a plate, and sits down at her table to enjoy the meal.



Figure 21 | Ingredientless eating. Drawing by Sterre Witlox. © 2025 Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N.