



# **Development of 5 climate plates for the cafeteria in collaboration with Sodexo**

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## Definition and specifications of the climate plate

The climate plates in the project are based on the Planetary Health Diet, which was developed by the EAT-Lancet Commission in 2019 and prioritizes both human health and the environmental impact of food. A plant-based diet is generally preferred as it generally has a lower environmental impact. Therefore, our climate plates consist primarily of vegetables, whole grains, legumes, fruits and nuts and contain only a small to moderate amount of animal products such as eggs, milk and dairy products and butter, as well as no to a small amount of added sugar and refined grain products. Since the Planetary Health Diet primarily advocates regionality and this project is carried out in Austria, dairy products, especially cheese, were taken into account because they are a very regional product and are very valuable due to their protein and calcium content.

In order to keep CO<sub>2</sub> emissions as low as possible when producing meals, we also focus on using regional and seasonal foods. This helps minimize food transportation and reduce the environmental impact of food production. For a climate-friendly meal, the CO<sub>2</sub> emissions per meal should be between 500 and 900 grams. Due to price restrictions in the cafeteria, we had to compromise on regional and organically grown food in order to still be able to offer nutritious food. That's why we define regional foods as products that are planted, harvested, processed and manufactured in Austria and Germany. Purchasing organic food is not possible in the cafeteria and is therefore not a feasible criterion for our climate plate. A side salad and a dessert in the form of yoghurt or a piece of fruit are recommended for the main meals, which is why the nutritional values for the individual main courses are not covered.

Energy and nutritional value supply for a meal in communal catering (PAL 1.4):

(BMSGPK, 2021) Quality standard for catering in companies

	TARGET/meal (lunch)	ACTUAL/meal	TARGET/ACTUAL comparison %
energy	720 kcal	605 kcal	-16%
protein	35g (20E%)	23g (16E%)	-34%
Fat	24g (30E%)	20g (30E%)	-17%
carbohydrates	88g (50E%)	75g (51E%)	-15%
fiber	10g	4g	-60%



## Planetary Health Diet:

(Willett et al., 2019) Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems)

Our climate plates are based on the reference amounts of the Planetary Health Diet - the recipes are designed so that they correspond to the recommendations on a weekly average.

Groceries	Recommended consumption amount per day
Whole grain products (raw)	232g
Potato	50g
Vegetables	300g (100g dark green, 100g red/orange, 100g other)
Fruit	200 g
Dairy products	250 g
Beef & lamb	7g (can be substituted with pork)
Pig	7g (can be substituted with beef, lamb)
poultry	29g (can be replaced with fish, eggs, legumes)
Fish & Seafood	28g
Eggs	13g
Beans, lentils, peas (dried)	50g



## Overview plan

Monday	Tuesday	Wednesday	Thursday	Friday
Roast lentils with dumplings and red cabbage	Potato patties on root vegetables with yoghurt dip	Spinach cheese Spätzle	Beetroot Hirsotto	Vegetarian Szegediner goulash



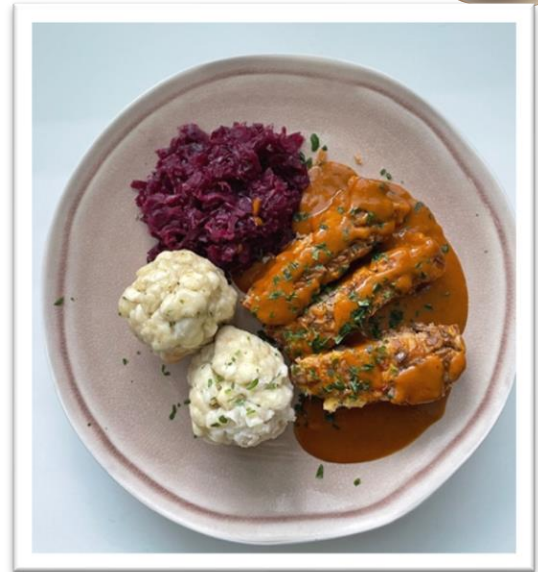
## Recipes

### Lentil roast with bread dumplings and red cabbage

#### Roast lentils

##### Ingredients (approx. 10 servings):

- 360g dried brown lentils
- 200ml vegetable broth
- 250g raw carrots
- 350g onions
- 3 cloves of garlic
- 360g mountain cheese (grated)
- 360g eggs
- 3 tsp majoran
- 3 pinches of salt and pepper



Preheat the oven to 180°C and line the loaf pan with baking paper. Wash the lentils and cook in a pot with three times the amount of water and 2 teaspoons of salt until soft, about 20-30 minutes. Then rope off the lenses and set them aside. Wash, peel and cut carrots into pieces. Cook the prepared carrots in a pot of water for about 20 minutes until soft. Strain off the water and puree the carrots into a puree using a hand blender. Now mix all the ingredients (including spices, carrot puree and lentils). Pour the mixture into the mold, smooth it out and bake for about 1 hour. Remove the lentil roast from the mold and let it cool for about 10 minutes.

Per serving: Kcal 871, protein 41g, fat 26g, carbohydrates 106g, fiber 13g  
627g CO2 emissions

Source: own creation



## Dumplings

### Ingredients (10 people):

- 800g bread cubes
- 100g flour
- 500 ml milk
- 140g eggs
- 8 tbsp parsley (fresh or frozen)
- 2-3 pinches of salt
- 2-3 pinches of nutmeg
- 2-3 pinches of soup seasoning

Mix all ingredients into a mixture and let it rest for 10-15 minutes. Shape the mixture into dumplings of any size (keep your hands wet). Steam the dumplings in a combination steamer with 99% steam at 100°C for approx. 20-25 minutes. Or bring a large pot of water and 2 teaspoons of salt to the boil and simmer the dumplings over a low heat for about 15 minutes.

<https://www.gutekueche.at/einhafte-semmelknoedel-rezept-4833> (adapted)



## Red cabbage

### Ingredients (10 people):

- 1kg red cabbage approx. 1 head
- Cut 125g sour apple (e.g. the Boskop variety) into fine cubes
- Cut 125g onion into fine cubes
- 1 onion studded with cloves
- 25g sugar
- 30ml apple cider vinegar
- 2 bay leaves
- 5 pieces of whole cloves
- 300ml water
- 50g rapeseed oil
- 2-3 pinches of salt

First remove the outer leaves from the red cabbage, then quarter and remove the stalk. Then slice the quarters.

Peel and finely dice the onions, also peel the other onion and sprinkle with cloves. Wash (or peel) the apples, quarter them, core them and cut them into fine cubes. Now heat the rapeseed oil in a large pot and sauté the onion cubes and apple cubes with sugar for 1-2 minutes. Add the shredded red cabbage and apple cider vinegar to the pot. Then add water, add the onion studded with cloves, 2 bay leaves, 2-3 pinches of salt and stir. Cover and simmer gently over medium heat for about 45 minutes. Stir occasionally. After the cooking time, remove the onion studded with cloves. If necessary, season with sugar and salt.

Source: [https://emmikochteinfach.de/wprm\\_print/19775](https://emmikochteinfach.de/wprm_print/19775) (adapted)





## **Bratensauce**

### Ingredients (10 people):

- 400g onions (diced)
- 60g rapeseed oil
- 150g carrots (diced)
- 70g flour
- 15 g (approx. 5 cloves) garlic
- 1 ¼ l vegetable broth or water
- 60 g apple cider vinegar

Heat rapeseed oil in a pan and fry the prepared carrot and onion cubes for about 5 minutes. Add flour and paprika powder and fry briefly, deglaze with apple cider vinegar. Now fry over medium heat for 10 minutes, stirring constantly (onions should be nicely browned). Add pressed garlic and fry for 1 minute. Add vegetable broth and simmer over low heat for 10 minutes. Put everything in a pot to puree. Puree the sauce until smooth using a hand blender

Source: [https://veggie-einhorn.de/schnelle-vegane-bratensosse/#google\\_vignette](https://veggie-einhorn.de/schnelle-vegane-bratensosse/#google_vignette) (adapted)

Finally, cut the roast lentils into slices and serve with dumplings, red cabbage and gravy. Garnish with chives.



## Potato patties on root vegetables with yoghurt dip

### Potato Patties

#### Ingredients (10 people):

- 375 g red or yellow lentils  
(soak in cold water for at least 1 hour beforehand)
- 1 kg large potatoes
- 200g large onion
- 5 cloves of garlic
- 200g wholemeal spelled flour
- 2 ½ tsp salt
- 2 ½ tsp paprika powder, sweet
- 2 ½ tsp oregano
- pepper
- 10 tbs rapeseed oil



Place the lentils in a sieve and rinse with cold water. Bring 400 ml of water to the boil in a pot, add the lentils to the pot and cook at medium temperature for about 10 minutes. Pour the lentils into a sieve and allow to drain.

In the meantime, peel and finely chop the onion and garlic. Wash the potatoes, peel them and grate them with a coarse grater.

Place the cooked lentils, onion, garlic and grated potatoes in a large bowl and add the remaining ingredients. Mix the ingredients thoroughly or knead with your hands.

Heat some rapeseed oil in a large pan and shape it into patties with your hands. Fry the loaves on both sides over medium heat until crispy and keep warm in the oven at around 50 degrees Celsius.

Per serving: Kcal 504, protein 20g, fat 9g, carbohydrates 75g, fiber 17g  
255g CO2 emissions



## **root vegetable**

### Ingredients (10 servings)

- 1kg carrots
- 2 celery bulbs (approx. 1-1 ½ kg)
- 1.2 kg parsnips
- Salt pepper

Wash, peel and cut vegetables into thin slices. Blanch the vegetables and season with salt and pepper.

## **Yoghurt dip**

### Ingredients (10 servings)

- 500g yogurt
- 1 clove of garlic
- Herb salt, pepper

Press the garlic clove and mix it with the yogurt and salt and pepper.

Source: <https://veganandlife.blog/2020/02/19/linsen-kartoffel-puffer/> (adapted)



## Beetroot Hirsotto

### Ingredients for 10 people:

- 1.25 kg beets (cooked, peeled)
- 500 g millet
- 400g onions
- 15g garlic cloves
- 2 l vegetable soup
- 50 g rapeseed oil
- 250 g mountain cheese
- 30g apple cider vinegar
- pepper
- Salt



For the beetroot hirsotto, first cut the beets into small cubes. Peel and finely chop the onions and garlic. Sauté both in a pot with rapeseed oil. Add the beets and fry for a few minutes, stir in the millet. Then deglaze with soup and gradually add the soup while stirring until the millet is cooked. Finally stir in the mountain cheese. Season with salt, pepper and apple cider vinegar.

Per serving: Kcal 448, protein 15g, fat 18g, carbohydrates 46g, fiber 7g  
228g CO2 emissions

Source: <https://www.gutekueche.at/rote-rueben-risotto-rezept-23271> (adapted)



## Vegetarian Szegediner goulash

### Ingredients (10 people)

- 80g rapeseed oil
- 500g onions
- 50g paprika powder
- 100g vinegar
- 1700ml vegetable broth
- 2kg potatoes
- 1kg sauerkraut
- 15g garlic
- 15g cumin
- 10g marjoram
- 10g salt
- 2g pepper
- 150g sour cream
- 10g parsley

Peel the potatoes and cut them into small pieces. Also peel and finely chop the onion. Peel the garlic and press it through a garlic press.

Heat rapeseed oil in a pan and fry the onion vigorously. Sprinkle with paprika powder, fry briefly, deglaze with vinegar and pour in the broth.

Add the potatoes and season with garlic, caraway and marjoram. Season with salt and pepper.

Let the goulash simmer over a low heat until the potatoes become soft and the juice becomes creamy. Then add the sauerkraut and heat through.

Before serving, stir in the sour cream and sprinkle with finely chopped parsley.

Per serving Kcal 638, protein 12g, fat 18g, carbohydrates 95g, fiber 14g  
326g CO2 emissions

Source: Viennese style potato goulash recipe - [ichkoche.at](http://ichkoche.at) (adapted)



## Spinach and cheese Spätzle

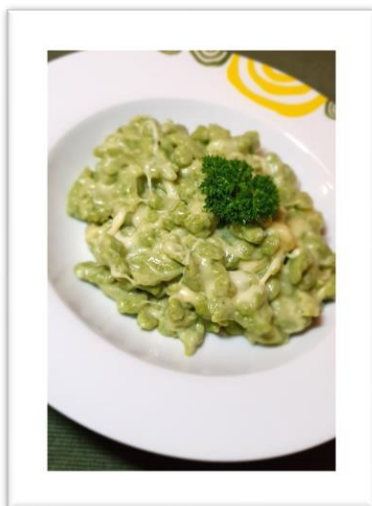
### Ingredients for 10 people

- 450 g frozen spinach, strained
- 500 g mountain cheese
- 800 g wheat flour
- 5 (250 g) eggs
- 500 ml water
- 50 g rapeseed oil
- Salt
- pepper

To make the spaetzle dough, mix eggs, oil, water, spinach and salt and then stir in the flour until a viscous, sticky dough forms. Bring plenty of salted water to the boil in a large pot and let the spaetzle drip in portions using a spaetzle sieve. As soon as the spaetzle rise to the surface of the water, they are ready. Skim the spaetzle and put it in a pan. Add the cheese until all the cheese is melted. Season the cheese spaetzle with salt and pepper.

Per serving: Kcal 564, protein 27g, fat 25g, carbohydrates 53g, fiber 3g  
898g CO2 emissions

Source: <https://www.lidl-kochen.de/rezeptwelt/spinat-kaese-spaetzle-262030> (adapted)



All CO2 data was calculated by the “Eaternity” program.