

1) Is it the right time to eat strawberries?

Problematic trend n°1: any food at any time, from anywhere.

Food is a reflection of local natural specificities. Because natural conditions are different in each region of the world, the food that grows in each region is different too. The temperatures but also the humidity or the sunshine vary from regions to regions and are changing season after season. Bananas grow best in tropical climate in regions close to the equator like the Ecuador for instance. They don't have a specific harvesting season, they can grow all year round. On the other hand, apple trees would not survive tropical temperatures but grow well in temperate climate like Europe and have a specific harvesting season: summer and autumn.

In every country, week after weeks, we walk into another season that will bring different local food. Eating seasonal food is a guarantee of eating fresh food, richer in nutrients. Eating local food is also a guarantee that it has not travelled long distance to reach us, and therefore did not cause unnecessary emissions of CO₂.

For people who live in cities and buy food in supermarkets, it may seem as if there were no more seasons nor distance. The supermarket shelves look pretty much the same, almost all year round. Tomatoes,

cucumbers, apples or grapes are available during the whole year. This means that these foods travelled long distance and/or were produced in heated greenhouses, involving a lot of energy in both cases. Or it may mean that these foods are several months-old, and have received some treatment to slow down their aging (for instance fungicide and waxing on apples). In that case they may have lost a big part of their precious nutrients and hold residues of pesticides.

As an example, for us, living in central Europe, apples should always be favoured over bananas but if it's June, let us choose more delicious seasonal food available, like strawberries for instance. However in January, it will be more sustainable to eat stored apples rather than strawberries.

Seasonal local food can often be cheaper than non seasonal food, more tasty, and supportive of the local economy.

Definition corner

Fungicides: chemical product used to kill or inhibit fungi.

Ozone layer: a layer in stratosphere, about 15 km above the earth surface, that acts like a giant umbrella protecting the earth from ultra-violet rays (that are bad for plant and human health)

The Story

A (low-carbon) surprise dinner

-It's almost 16.30! I hear someone ringing at the door! said Cynthia who was helping Agnieszka to find extra cushions to sit on the floor.

Josip, the arms charged with bottles of apple juice, entered with 5 other boys. Michaela who was hosting the meeting was frenetically running to the door again to open to a new bunch of people. All her 17 friends from the international study program were there, except Gregor.

Razvan opened the discussion : So guys, what do we prepare for Gregor? Today is 18th of November, so there is only two weeks left before the farewell party! I am sad he will be the first one to go back to his country, Slovenia, but I am very excited about our surprise party preparations!

Cynthia continued: We have found a great place! The grandmother of Michaela, our only real local friend, has accepted we use her house. It is spacious enough for 30 people, even to sleep-over and there is an open fire place. What we need to decide now is what we will prepare for dinner.

Agnieszka directly followed: Since Gregor will be studying environment studies next semester, it would be logical and nice to make a meal that would be environmentally-friendly, non? Something like a low-carbon surprise dinner!.

Cynthia added: Oh, yes good idea! It could be zero food miles!

Martin: Which language do you speak girls? Zero what?

Cynthia: Zero food miles! It means food has not travelled hundreds or thousands of kilometers to reach you. A low carbon footprint means that the production or travel of your food did not emit too much greenhouse gases that warm up the atmosphere and cause climate change.

Josip, who had been silent until now, added: If we want to lower our carbon footprint, we should make a seasonal meal. For instance, we should not use strawberries because the season here is over, so they would have to come from Spain, which is 2000 km far. The same with tomatoes, that by now, are produced in heated greenhouses, thus using energy! So we need to choose local food from this season.

Martin: But we won't have any fresh ingredients then! Nothing is growing here in November and December. You can only find food coming from abroad.

Josip said: That 's not true. We could make a very nice soup from fresh pumpkin for instance, because it was the season last two months and they conserve very well. And before the soup, we could make delicious chips from kale that are currently sold on farmers' markets. You just dry them in the oven with a bit of salt and few drops of oil and they get very crispy. It is delicious and much healthier than fried potato chips.

Michaela: Mmm, that's a great idea. We can also have fresh carrot- and celeri-sticks because they can be harvested even in the winter! I can make a nice sauce with yogurt and dill. In September I dried the dill I grew on my balcony!

Agnieszka: I would love to make something with spinach, potatoes and local goat cheese for the main meal. I will think about a recipe. I guess that if we want to reduce the carbon footprint, we should avoid meat, especially red one.

Martin: I don't like goat cheese too much! But I can cope with it if we have a good desert. What about grilled pineapple?

Agnieszka: Well, that's maybe seasonal but that 's not very local! Pineapple are grown in The Philippines or Costa Rica, they travel thousands of km. Let us rather prepare some cake with apples and nuts. I filled up boxes and boxes of apples from the old trees of my grandmother in September. Of course they are smaller and not as pretty as those you find in stores, but they are nicely sweet and a bit acid.

Michaela: And they don't come from the other side of the planet, like New Zealand which is 12.000km far! That's more than all what I travel in one year! And it is not only all the fuel needed for such a long distance that is problematic. Do you know that many fruits and vegetables coming from abroad are harvested before they are ripe and receive post-harvest chemical treatment such as fungicides to increase their shelf-life!

Josip: And methyl bromide, a toxic pesticide is also widely used as a fumigant on the apples before transport, to kill insects that could be amongst the apples. This gas is bad for the ozone layer!

Cynthia: And if you look for local apples, you also support the local economy and preserve local varieties. I suggest to add a confit of plums on the apple cake. I made some last month, with a bit of cinnamon, sugar and rum. Our neighbours gave us so many plums this year that we could make tens of preserves!

Martin: You know so much about seasonal food, guys. I am really impressed and am really looking forward to taste all this! I am sure Gregor will be amazed to discover how we are able to cook meals that are tasty and respectful of the planet!

Questions for discussion

- Which food is available in which season?
- How seasonal do we eat at school and at home?
- What is the average distance of one meal? What is the equivalent in GHG emission?
- What are multiple benefits of eating according to seasons?

Do you know that:

- Fruits and vegetables that are not seasonal grow under heated greenhouses or are coming from far away. When fruits and vegetables are transported by air, they consume between 10 to 20 time more fuel than the same fruit or vegetable produced locally during the season.¹
- 1kg of strawberry in the winter can require up to 5 liters of fuel to reach you.²

Resources to go further or get inspired:

- Try to eat low carbon (take the quiz)
<http://www.eatlowcarbon.org/>
- Food carbon footprinting calculator

<http://www.foodcarbon.co.uk/index.html>

- About food miles

http://www.sustainweb.org/foodandclimatechange/archive_food_miles/

- Activity for students on local and seasonal food

<http://www.nourishlife.org/teach/curriculum/activity-2-seasonal-local-foods/>

- About food miles and health:

<https://food-hub.org/files/resources/Food%20Miles.pdf>

Connecting the dots:

Eating seasonal local food helps to limit unnecessary transport using energy.

Eating seasonal local food helps to reduced GHG emissions causing climate change

Eating seasonal local food contributes to preserve biodiversity



Climate Change



Biodiversity



Transport

¹ <http://www.ademe.fr/sites/default/files/assets/documents/rac-assiette-bdef.pdf>

² <http://www.ademe.fr/sites/default/files/assets/documents/rac-assiette-bdef.pdf>