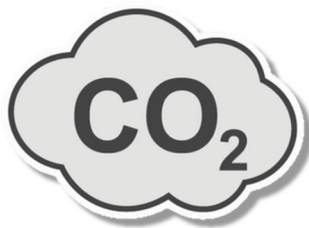
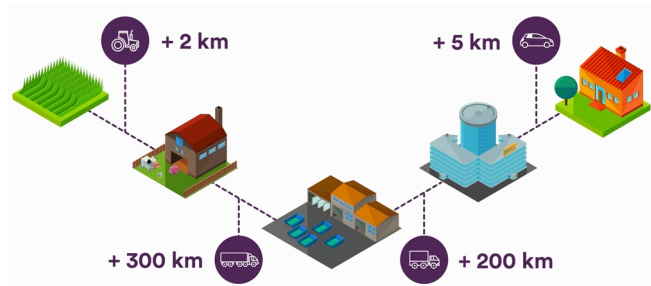


Food miles

FOOD MILES

Food has always travelled for sale in regions or countries of varying distance from its place of production. In the past few decades, trade agreements and the improved performance of means of transport have led to significant expansion of international food trade.

The term 'food miles' refers to the distance a product has travelled between its place of production and the consumer, including the detours via processing industries and supermarkets or any other point of sale.



This concept was initiated to highlight the fact that transporting food has environmental and economic consequences. Current means of transport emit large amounts of carbon dioxide, CO₂, into the atmosphere. These emissions have a significant impact on air quality and contribute to global warming.

The greater the distance food travels, the more energy the transportation consumes and the more CO₂ it will release, thus the greater the pollution.

Proponents of the concept of food mileage emphasise the significance of the distance between the place of production and the place of consumption. They therefore recommend purchasing food produced as near as possible to the place of consumption.

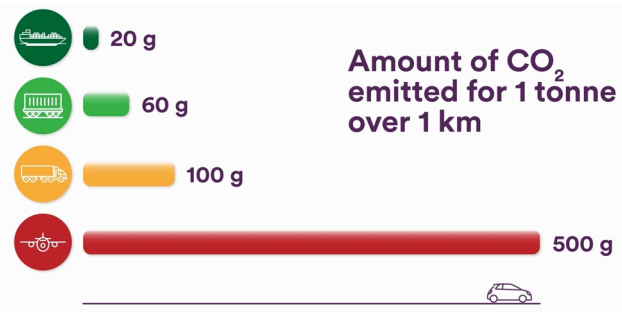
However, will this solution suffice to reduce the ecological impact of food production?

THE LIMITATIONS OF THE CONCEPT OF FOOD MILES

This purely distance-based approach is relatively reductive, since the exact environmental impact depends on the means of transport used, which in turn depends on a number of factors, such as cost, route and distance, and the nature of the product.

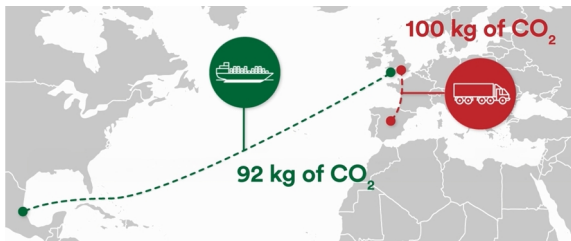
alimentarium academy

In terms of the amount of CO₂ emitted per mile per tonne of food, shipping is the least polluting means of transport. It is also the least expensive. However, it is obviously not suitable for all itineraries.



Rail and road haulage follow next in the ranking. These means of transport are privileged on a national or continental scale, with rail being used mainly to cover long distances.

Finally, air freight has the greatest environmental impact per tonne of cargo. At the end of the chain, consumers often use their cars to do their shopping, which significantly increases the environmental impact of transportation.

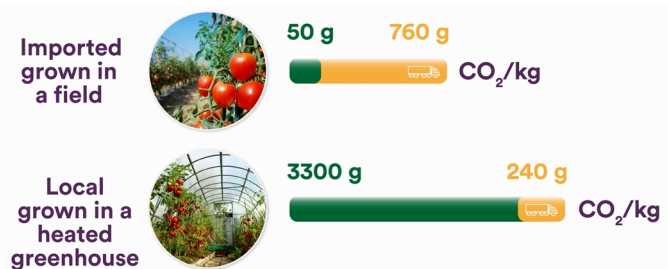


To give an example, transporting one tonne of tomatoes by lorry from Spain to England generates the same amount of CO₂ as shipping it from Mexico.

OTHER ENVIRONMENTAL FACTORS

The concept of food miles is also limited in the sense that it only addresses the question of distance and transportation. Transit generates only part of the energy expenditure and greenhouse gas emissions. The methods of cultivation and stockbreeding, product processing and preservation must also be taken into account.

If we take the example of tomatoes again, growing them in heated greenhouses, as is the case in the Netherlands or off-season in Switzerland, can greatly increase energy consumption and CO₂ emissions. Thus, tomatoes produced locally, but under heated greenhouses, have a much higher environmental impact than imported tomatoes produced at natural ambient temperatures.



We can already see that food miles are only an initial approximation of a product's environmental impact.

When we eat, we usually consume products that combine several raw materials and ingredients. Before an end product arrives on our plates, the various stages of its production generate both financial costs and an environmental impact.

5.3.1 Food miles

The last 50 years have seen a significant increase in the distance food travels.

- True
- False

We use the term 'food miles' to refer to...

- the distance we need to run to burn enough calories
- the distance a product travels between where it is produced and where it is consumed
- the distance between two places that grow the same food product

Most current means of transport emit greenhouse gases, such as carbon dioxide (CO₂).

- True
- False

If the following means of transport all deliver the same amount of goods, which one would generate the most pollution?

- A lorry
- A ship
- An aeroplane

If I am in Switzerland in summer and I want to buy some tomatoes, it is better for the environment if I choose tomatoes from...

- Switzerland
- Spain
- Sweden

It is better to buy food produced locally when it is in season.

- True
- False

Why does the concept of food miles have limitations?

- Because it is too complicated
- Because it does not take the means of transport into account
- Because it does not consider the quality of the products transported

Answers

The last 50 years have seen a significant increase in the distance food travels.

True

Well done! This is mainly a result of international trade agreements, more efficient transport systems, and the quest for profitability.

False

Wrong! Nowadays, the food on our plates comes from countries around the world, which goes to show that food is now transported over greater distances.

We use the term 'food miles' to refer to...

the distance we need to run to burn enough calories

Wrong! It has nothing to do with calories.

the distance a product travels between where it is produced and where it is consumed

Well done! This concept was created to highlight the fact that transporting food has an impact on the environment.

the distance between two places that grow the same food product

Wrong! Try again.

Most current means of transport emit greenhouse gases, such as carbon dioxide (CO₂).

True

Well done! Food is transported in cars, lorries, aeroplanes and ships that still all run mainly on petrol engines, which emit large quantities of CO₂.

False

Wrong! While some means of transport use electricity and others, such as sailing boats, use wind power, most vehicles still use combustion engines.

If the following means of transport all deliver the same amount of goods, which one would generate the most pollution?

A lorry

Wrong! Although road haulage emits greenhouse gases, other means of transport create more pollution.

A ship

Wrong! Maritime transport, on seas and rivers, is actually one of the modes of transport with the lowest greenhouse gas emissions.

An aeroplane

Well done! That's right! Airfreight emits the most pollution into the atmosphere. An aeroplane pollutes almost 10 times more than lorries do, and 20 times more than trains.

If I am in Switzerland in summer and I want to buy some tomatoes, it is better for the environment if I choose tomatoes from...

Switzerland

Well done! These tomatoes will not have travelled far and, as summer is the season for tomatoes, no additional energy will have been used to grow or store them.

Spain

Wrong! Transporting tomatoes by lorry or train, over quite a long distance, will have generated more greenhouse gases than local produce.

Sweden

Wrong! Apart from the environmental cost of transportation, by lorry or train, the tomatoes will probably have been grown in heated, ventilated greenhouses.

It is better to buy food produced locally when it is in season.

True

Well done! Locally produced food does not generally travel very far. However, producing food locally when it is out of season, and then storing it, can in fact generate much more pollution than transporting food from further away.

False

Wrong! Local, seasonal produce has not generally travelled very far, so it produces less pollution. However, producing food locally when it is out of season, in a greenhouse for example, and then storing it in a controlled atmosphere, could generate consi

Why does the concept of food miles have limitations?

Because it is too complicated

Wrong! In fact, the concept is quite simple. It shows that the further a product travels from its place of production, the more pollution the transportation generates. This not what limits the concept.

Because it does not take the means of transport into account

Well done! The environmental impact of transportation over the same distance will vary depending on whether the food is transported by aeroplane, lorry, train or ship.

Because it does not consider the quality of the products transported

Wrong! The quality of the products has little impact on their transportation, and therefore on what we are trying to measure.

Food miles, fact or fiction?

[11-13 years old and 14-16 years old]

Indicate whether the following statements are true or false.

	True	False	Explanation
1. The concept of food miles was created in view of protecting the environment.	<input type="radio"/>	<input type="radio"/>	
2. Food miles indicate the distance a product has travelled, from the farm to the supermarkets.	<input type="radio"/>	<input type="radio"/>	
3. The further the food has to travel, the greater the amount of energy consumed and pollution generated.	<input type="radio"/>	<input type="radio"/>	
4. Road haulage is the most polluting mode of transport.	<input type="radio"/>	<input type="radio"/>	
5. Shipping emits the least amount of pollution.	<input type="radio"/>	<input type="radio"/>	
6. Locally grown tomatoes can have a greater environmental impact than imported tomatoes.	<input type="radio"/>	<input type="radio"/>	
7. To reduce the environmental impact of food production, all we need to do is buy local produce.	<input type="radio"/>	<input type="radio"/>	
8. Transporting 1 tonne of tomatoes by lorry from Spain to Britain emits less CO ₂ than shipping them from Mexico.	<input type="radio"/>	<input type="radio"/>	

Food miles, fact or fiction?

[11-13 years old and 14-16 years old]

Indicate whether the following statements are true or false.

	True	False	Explanation
1. The concept of food miles was created in view of protecting the environment.	X	<input type="radio"/>	
2. Food miles indicate the distance a product has travelled, from the farm to the supermarkets.	<input type="radio"/>	X	Food miles indicate the distance a product has travelled, from the farm to the consumer's home.
3. The further the food has to travel, the greater the amount of energy consumed and pollution generated.	<input type="radio"/>	X	The mode of transport used has a major effect on energy consumption. Distance alone is therefore not always sufficient for estimating the impact.
4. Road haulage is the most polluting mode of transport.		X	Aeroplanes are the most polluting mode of transport.
5. Shipping emits the least amount of pollution.	X	<input type="radio"/>	
6. Locally grown tomatoes can have a greater environmental impact than imported tomatoes.	X	<input type="radio"/>	If local tomatoes are grown in heated greenhouses, the environmental impact can be much greater than that of the transportation of imported produce.
7. To reduce the environmental impact of food production, all we need to do is buy local produce.	<input type="radio"/>	X	Simply buying local produce is not enough to reduce the environmental impact of food production. We must also consider the energy required to produce the food.
8. Transporting 1 tonne of tomatoes by lorry from Spain to Britain emits less CO ₂ than shipping them from Mexico.	<input type="radio"/>	X	Transporting 1 tonne of tomatoes by lorry from Spain to Britain emits as much CO ₂ as shipping them from Mexico.

Scrambled words

[8-10 years old and 11-13 years old]

Here is a list of words related to food miles, but the letters have been muddled up. Put the letters in the correct order and write the word in the blocks. Then, copy the numbered letters into their corresponding blocks below to reveal the hidden sentence.

DOFO LIMES

6	6			7	4	10	1		

SANTTROP

8	5	9	2	11	6	5	8		

PISH

4	11		

TROTPEX

1	11	6	5	8	

ENLAPOREA

9	1	5	6	11	10	9	2	1	

GYUNIB OYLCLAL

		4	2			10	6	12	9	10	10

VEMIPRO

4	7	11	5	6	3	1

NOLUTLIPO

11	6	10	10	8	4	6	2		

TOMRIP

4	7	11	6	5	8

TIRNA

8	5	9	4	2

1	2	3	4	5	6	2	7	1	2	8	9	10

4	7	11	9	12	8

Answers

Scrambled words

[8-10 years old and 11-13 years old]

Here is a list of words related to food miles, but the letters have been muddled up. Put the letters in the correct order and write the word in the blocks. Then, copy the numbered letters into their corresponding blocks below to reveal the hidden sentence.

Answers: **FOOD MILES / TRANSPORT / SHIP / EXPORT / AEROPLANE / BUYING LOCALLY / IMPROVE / POLLUTION / IMPORT / TRAIN ENVIRONMENTAL IMPACT**

DOFO LIMES

F O O D M I L E S
6 6 7 4 10 1

SANTTROP

T R A N S P O R T
8 5 9 2 11 6 5 8

PISH

S H I P
4 11

TROTPEX

E X P O R T
1 11 6 5 8

ENLAPOREA

A E R O P L A N E
9 1 5 6 11 10 9 2 1

GYUNIB OYLCLAL

B U Y I N G L O C A L L Y
4 2 10 6 12 9 10 10

VEMIPO

I M P R O V E
4 7 11 5 6 3 1

NOLUTLIPO

P O L L U T I O N
11 6 10 10 8 4 6 2

TOMRIP

I M P O R T
4 7 11 6 5 8

TIRNA

T R A I N
8 5 9 4 2

E N V I R O N M E N T A L
1 2 3 4 5 6 2 7 1 2 8 9 10

I M P A C T
4 7 11 9 12 8

Mind the gap!

[8-10 years old and 11-13 years old]

Fill in the gaps with the appropriate word.

production, rail, environmental, road, transported, distance, least, greater

- (1) Food has always been _____ to be sold in regions or countries of varying distance from where it was produced.
- (2) The term 'food miles', refers to the _____ a product has travelled between its place of _____ and the consumer.
- (3) The concept of food miles was created to highlight the fact that transporting food has _____ and economic consequences.
- (4) The further food travels with the same means of transport, the more energy the transportation consumes and the _____ the CO₂ emissions released, creating more pollution.
- (5) Shipping produces the _____ amount of pollution. Next comes _____ and _____ haulage and, finally, airfreight.

Mind the gap!

[8-10 years old and 11-13 years old]

Fill in the gaps with the appropriate word.

production, rail, environmental, road, transported, distance, least, greater

- (1) Food has always been **transported** to be sold in regions or countries of varying distance from where it was produced.
- (2) The term 'food miles', refers to the **distance** a product has travelled between its place of **production** and the consumer.
- (3) The concept of food miles was created to highlight the fact that transporting food has **environmental** and economic consequences.
- (4) The further food travels with the same means of transport, the more energy the transportation consumes and the **greater** the CO₂ emissions released, creating more pollution.
- (5) Shipping produces the **least** amount of pollution. Next comes **rail** and **road** haulage and, finally, airfreight.