



## Introduction

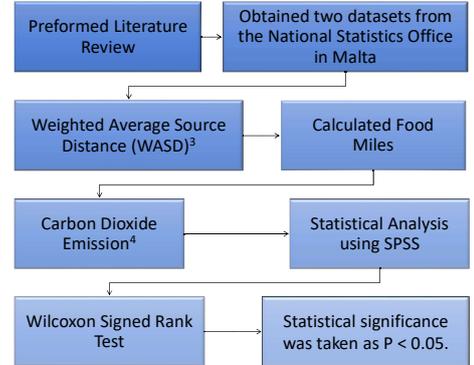
- Climate change is a growing problem worldwide<sup>1</sup>. Greenhouse gas emissions contribute to climate change<sup>1</sup>.
- Food miles emissions account for approximately 19% of total food system emissions, of which 36% comes from transportation of fruits and vegetables<sup>2</sup>.
- Food miles are used to measure the distance travelled between two points, the point of production and the point of consumption of food products.
- The purpose of "food-miles" is to quantify the environmental impact of food and commonly uses the unit tonnes-kilometre (t-km)<sup>2</sup>.

## Aims

The aim of this study was to estimate the food miles of imported fruits and vegetables in Malta and suggest alternatives in order to reduce food miles and therefore the respective gas emissions.



## Method



## Results

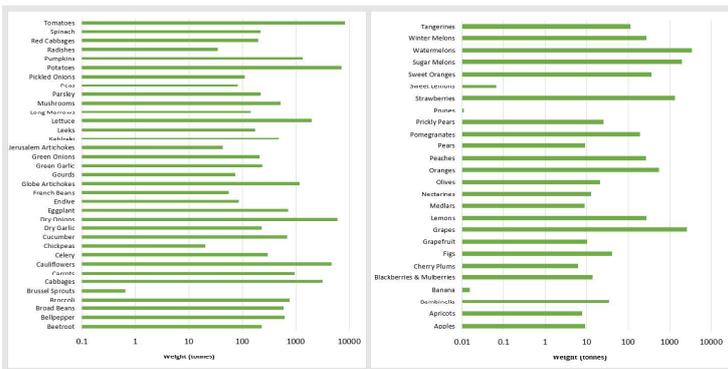


Figure 1. Locally Grown Fruit and Vegetables, National Statistics Office Malta, 2021



Figure 3. Map of Distance Travelled by Imported Bananas

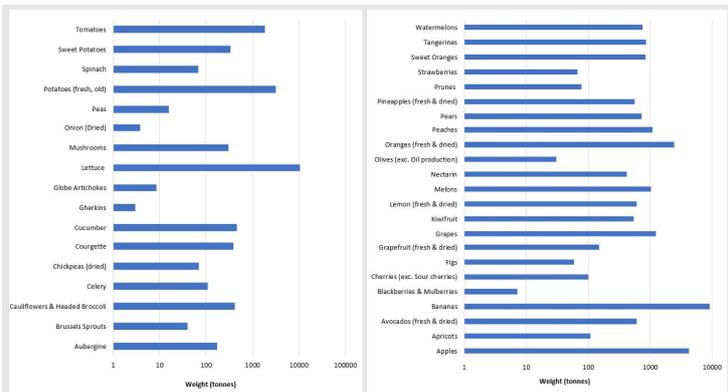


Figure 2. Imported Fruit and Vegetables, National Statistics Office Malta, 2021

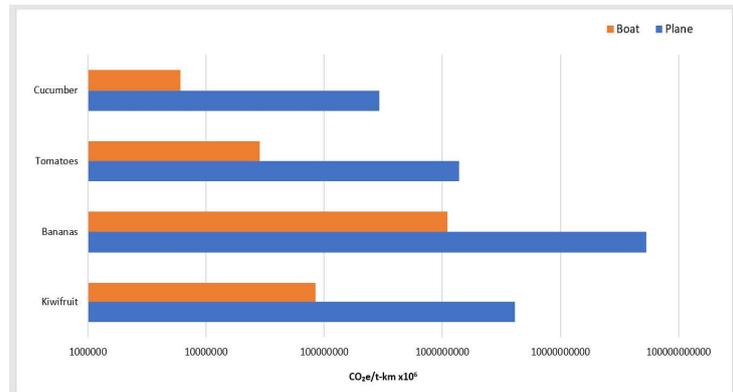


Figure 4. Boat and Airplane Carbon Dioxide (CO<sub>2</sub>) Emissions from Imported Fruit and Vegetables

## Discussion

- Malta's volume of vegetables produced in 2021 was higher than the volume of fruit produced, while imported volumes of fruit were higher than the imported vegetables.
- Importing from countries further away from Malta results in higher carbon dioxide emissions, which has a greater effect on the environment. Choosing fruit and vegetables from countries closer to Malta will decrease food miles, as well as greenhouse gas emissions.
- Single types of fruit and vegetables imported in Malta, were found to have multiple countries of origin. Importing higher volumes of produce from countries closer to Malta and eliminating imports from countries farthest away from Malta would lower the total impact on the environment.
- Importing by boat was found to be more sustainable for the environment than aircraft when it comes to importing produce, since it produces lower gas emissions.
- Existing studies on the impact of food miles on fruit and vegetables suggest that while nutrient losses may occur during transportation and storage, the specific effects varied depending on the type of produce and other factors, making it difficult to determine the overall impact of food miles on nutritional value.

## Conclusion

The impact of food miles on the nutritional value on produce is complex and understudied which highlights the need for further research. Furthermore, this present study provides a baseline for future research focused on promoting sustainable food systems in Malta.

## References

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