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## The carbon footprint of vegetable imports into Aruba: A closer look at sea and air transport

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## Summary of 'The carbon footprint of vegetable imports into Aruba: A closer look at sea and air transport' - Amber van Veghel, Salys Sultan & Annemie Geeraerd Ameryckx



Over the past two decades, the academic field of sustainable food consumption has expanded rapidly. This article focuses on the carbon footprint, or CO<sub>2</sub> emissions, of food imports to Aruba. Two island-specific factors that may influence the carbon footprint are looked at in detail: sea transport of small island supply chains, and air transport using passenger aircrafts (calculated using characteristics of aircrafts flying from Amsterdam to Aruba). This study examines the carbon footprint (from farm until arrival at the supermarket in Aruba) of five commonly imported vegetables—potatoes (counted as a vegetable in import statistics), lettuce, onions, tomatoes, and green beans—covering 25 product-country combinations.

As expected, results show that products imported by air have higher CO<sub>2</sub> emissions (4.2–8.3 kg CO<sub>2</sub>eq per kg) than those imported by sea (0.4–2.3 kg CO<sub>2</sub>eq per kg), as air transport itself uses a lot of fuel which causes CO<sub>2</sub> emissions. For products imported by sea, the most contributing supply chain stages are often either road transport or production at the farm, which can be linked to deforestation (for example, potatoes from South America) or the use of heated greenhouses (for example, tomatoes and lettuce). This study confirms that a relatively long road transport step largely contributes to total CO<sub>2</sub> emissions of products with relatively low CO<sub>2</sub> emissions, such as vegetables. However, for high-impact CO<sub>2</sub> emissions products, such as beef, emissions from road transport are negligible.

To lower CO<sub>2</sub> emissions consumers can avoid products with higher CO<sub>2</sub> emissions, such as animal products (in particular beef), flown-in products, and vegetables that were suspected to have had a relatively long road transport. For Aruba, those are products from North America that were grown relatively far from Miami (the export sea port to Aruba), and products from Central America that were first trucked to Miami (for example, from Guatemala or Mexico). Purchasers can request additional information about the use of heated greenhouses, occurrence of deforestation, packaging, and losses in the supply chain. Currently, information from food packaging or the supermarket rarely provides enough detail to estimate actual CO<sub>2</sub> emissions. Furthermore, to make more sustainable vegetable choices, other aspects of sustainability —such as pesticide use, water consumption, and food security— should also be considered.

