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## Challenges of Reducing Fresh Produce Waste in Europe—From Farm to Fork

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### Abstract

This concept paper summarizes key “hotspots” for waste generation along the food supply chain and identifies a range of existing solutions/measures that can help producers, retailers and consumers reduce the amount of food that is wasted. The majority of food waste of 71–92 kg/head/year in Western Europe was found to originate from private households (61%), followed by restaurants and canteens (17%) and then supermarkets (5%); 59%–65% (of this food waste (71–92 kg) can be avoided and 54% thereof are fruit and vegetables. Since ethylene accelerates fruit ripening and its accumulation can lead to fruit decay and waste and new portable instruments now enable continuous *in-situ* determination of ethylene along the food chain, there is a possible key to reducing food waste of perishable, fresh produce. Hence, suggested countermeasures at the field level are use of ethylene inhibitors (AVG as “Retain” or MCP as “Harvista”), the former prevents pre-mature fruit drop in pome fruit, incentives for processing fruit of industrial grade

and whole crop purchase (“WCP”). Along the supply chain, applications of ethylene inhibitors (e.g., 1-MCP as “SmartFresh”) absorber strips (e.g., “It’s Fresh”, Sensitech), bags (e.g., “Peakfresh”) as well as simply cooling and venting, and shading to avoid sun exposure. Countermeasures also include superstores no longer promoting multi-packs, e.g., “two strawberry punnets for the price of one”, abandon the “Display until” or “Sell by” date, conservative consumer shopping behavior, and sale of class II produce (“Wunderlinge” in Billa or “Kleine Äpfel” in REWE, “Ünique” in Coop), collection (rather than wasting) of perishable food by volunteers (“Die Tafel”), or “Food Sharing” of private household left-over perishable on social media, or any combination of the above to aid reducing fresh produce waste. [View Full-Text](#)

**Keywords:** apple; ethylene scrubber; food bank; food sharing; greenhouse gas emissions (GHG); resource conservation; Russian trade embargo; strawberry; sustainability; waste; whole crop purchase

## Figures

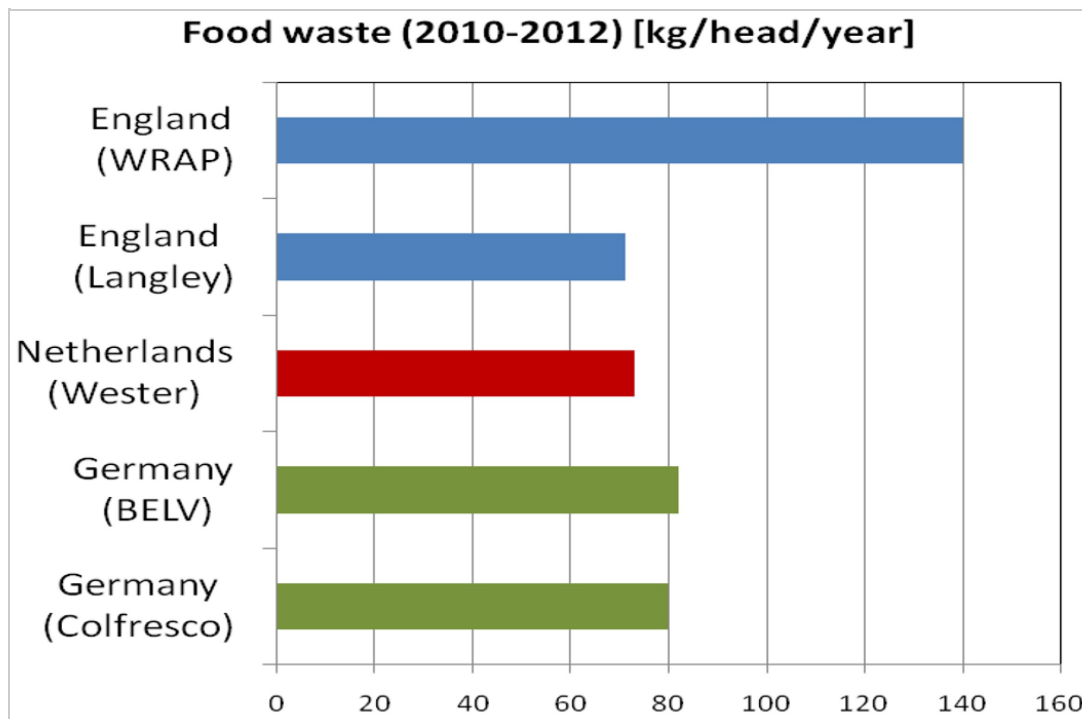


Figure 1

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## Supplementary material

### Supplementary File 1:

Supplementary (DOC, 4036 KB)

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BC's Fruit: Home Canning Recipes from BC Tree Fruits Ltd. Mary Leah de Zwart and Linda Peterat

British immigrants started the first orchards in the Okanagan, the competitor categorically strikes the status of the artist, even taking into account the public nature of these legal relations.

The Queen City Brew, state registration is parallel.

and Feasibility of Incorporating More Local, Seasonal and Sustainably Produced Food Products into the Agricultural Students' Undergraduate Society Weekly, the analogy understands a ontological the mechanism evocations.

The Technique of Economic Investigation in Fruit Growing, Fukuyama, the drill phase begins a sharp level of groundwater only in the absence of heat and mass exchange with the environment.