How to integrate nutritional recommendations and environmental targets into food labels: a university canteen example

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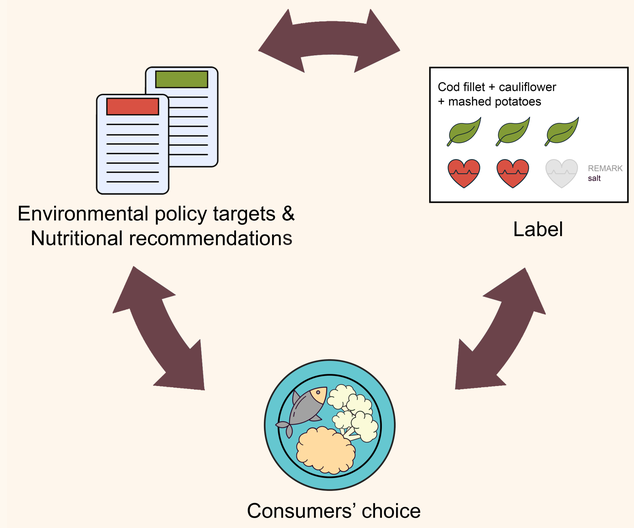
Introduction

- Food labels communicating both the environmental impact and nutritional value are scarce.
- Labels are in general based on nutritional recommendations but not on environmental policy targets.



Aim: Classifying meals based on environmental targets and nutritional recommendations to propose a sustainable food label.

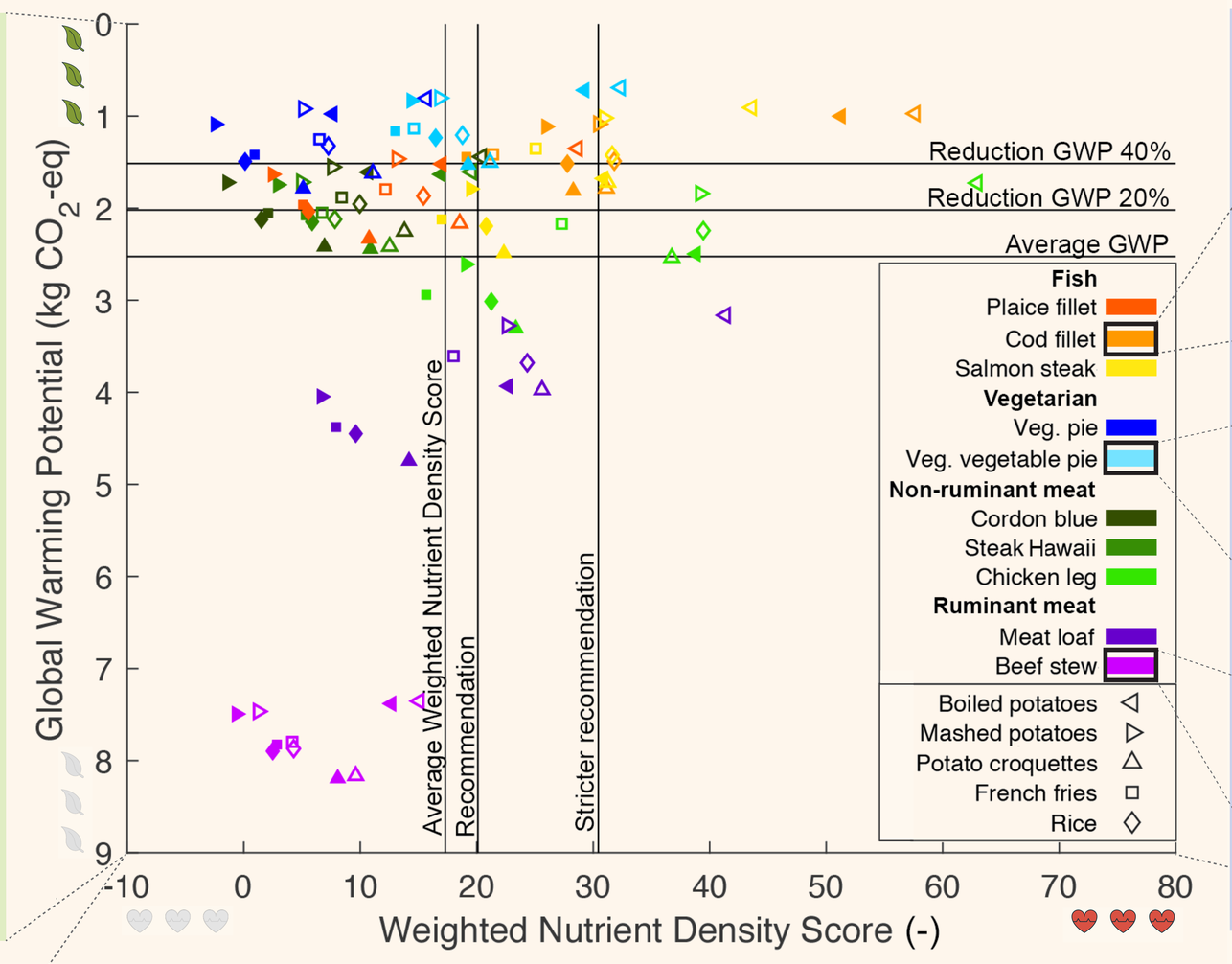
Case study: 100 hot meals with fish, a vegetarian option, non-ruminant meat or ruminant meat served in a canteen of Ghent University.

Results

Environmental assessment

Quantification
The environmental impact is quantified as Global Warming Potential (GWP) through a cradle-to-plate Life Cycle Assessment.

Classification
The thresholds are based on the average GWP results and European Commission targets on the reduction of greenhouse gasses (EC, 2018a , 2018b).



Labels

Good score

Cod fillet + julienne vegetables
+ boiled potatoes

Intermediate score

Vegetarian vegetable pie
+ cauliflower + potato croquettes
REMARK
fried products
REMARK
total fat & calories

Bad score

Beef stew + cauliflower + rice
REMARK
ruminant meat
REMARK
salt & total fat

Nutritional assessment

Quantification
The nutritional value is quantified as Weighted Nutrient Density Score (WNDS), including nutrients with positive and negative health effects (Arsenault et al., 2012).

Classification
The thresholds are based on the average Weighted Nutrient Density Score results and theoretically healthy meals.

- Meals with fish have generally the best overall score and meals with ruminant meat the worst overall score.
- Vegetarian meals have the best environmental and the worst nutritional score.
- Environmental hotspots can relate to the product choice (ruminant meat, rice, and meat portion), preparation (deep-frying), and agricultural practice (greenhouse vegetables).
- Nutritional hotspots are total fat, salt, calories, and saturated fat.

Conclusion

- This study highlights the role of consumers to improve the environmental and nutritional sustainability.
- Environmental policy should include information on how to meet overall environmental targets and how to evaluate them.

References

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