



The Better Buying Lab

Promoting Plant-Rich Diets through Menu Design

Challenge

One of the world's greatest challenges is adequately and sustainably feeding the growing population that is projected to reach 10 billion people by 2050. Success requires a shift away from the meat-centric diets that currently dominate many countries' food consumption. In the US for example, people consume almost four times the beef per capita as the global average.¹

Animal proteins are a significant driver of climate change with emissions from the livestock sector estimated to be 14.5% of global greenhouse gas emissions.² Furthermore, because livestock comprise nearly 80% of global agricultural lands, animal agriculture is also a major contributor of land degradation.³ Plants, however, have a much smaller impact: The production of plant-based proteins emits 20 times less greenhouse gases than the production of beef.⁴

WRI's Better Buying Lab (BBL) designs cutting-edge strategies to motivate consumers to buy and consume more sustainable plant-rich foods. BBL conducted research and field experiments in cafeterias to learn about how menu design and food descriptions can increase selection of plant-rich dishes.⁵ Over the last four years, BBL identified which language and placement of menu options work best to increase consumption of vegetarian and vegan dishes at restaurants.

Targeted Behavior

Consumers select more plant-rich options when ordering off a restaurant menu.

Behavioral Solution

BBL's strategy centers on altering menus to "nudge" consumers to order plant-rich dishes without changing the underlying options. Restaurant menus often have a separate section for plant-rich dishes and usually label these dishes as vegan, vegetarian, or meat-free.⁶ This framing creates the perception that plant-rich dishes are restricted and somehow lacking. Instead, BBL tested whether descriptions that focus on the unique characteristics of the food, such as the flavor, origins, or textures made the plant-rich meal more appealing to consumers. Researchers also explored whether embedding the plant-rich dishes into the rest of the menu, rather than separating them into their own section, impacted people's orders.⁷ Removing the "vegetarian section" would make these items seem relevant to people who might otherwise skip over them.

Results

- People were 56% less likely to select vegetarian options when these options were separated into a "vegetarian section" instead of embedded alongside meat options.
- Changing the labels of plant-based menu options lead to a significant increase in vegetarian dish sales. For example, compared to the original dish name of *Meat-free Breakfast*, the name *Field-Grown Breakfast* was associated with an 18% uplift in target vegetarian dish sales.
- By labeling a dish *Cuban Black Bean Soup* instead of *Slow Simmered Black Bean Soup*, people were 13% more likely to select this option

The Science: Why Choice Architecture is Effective



BBL utilizes choice architecture by [directing attention](#) to the desired behavior. Choice architecture refers to how we design the decision-making context; it considers how one might alter the timing, framing or presentation of a decision without changing the underlying options and while still preserving the element of choice. Choice architecture leverages people's conscious and unconscious thinking processes in order to influence behavior. In other words, the different elements of the setting where people make decisions (such as a menu layout at a restaurant) can have a big impact on people's choices and actions.

For food-related decisions such as in BBL's intervention, choice architecture can be effective because it does not rely on changing people's conscious preferences about what they like to eat (and most of us have pretty strong preferences!). Instead, researchers can draw on people's unconscious preferences by altering the placement and description of the plant-rich dishes on the menu.

One example of a contextual factor is salience, which is how much something stands out compared to other options. In one study, researchers Dayan & Bar-Hillel found that consumers are 20% more likely to choose items from either the top or the bottom of the menu.⁸ Their experiment used four menus, all with the same food choices but in different orders. Placing items at either the top or bottom of the menu is an example of salience because this makes some options stand out. Another way of altering the decision environment is to adjust the number of choices being offered. A set of studies from the University of Cambridge found that doubling the availability of vegetarian dishes in cafeterias (e.g. from one in four options to two in four) led to an almost 15% increase in vegetarian meal sales.⁹ These findings show that adjusting people's decision-making contexts could be enough to change their food choices, illustrating that choice architecture can serve as a powerful tool for environmental practitioners.

1 OECD (2019). Meat consumption (indicator). doi: 10.1787/ fa290fd0-en (Accessed on 05 May 2020).

2 Gerber, P.J., Steinfeld, H., Mottet, B., Opio, C., Dijkman, C., Falcucci, A., Tempio, G. (2013). Tackling climate change through livestock: A global assessment of emissions and mitigation opportunities. Food and Agriculture Organization of the United Nations (FAO), Rome.

3 Ritchie, H. (2017). How much of the world's land would we need in order to feed the global population with the average diet of a given country? In OurWorld Data. Retrieved from <https://ourworldindata.org/agricultural-land-by-global-diets>.

4 Attwood, S. et al. (2020). Playbook for Guiding Diners Toward Plant-Rich Dishes in Food Service. World Resources Institute.

5 Bacon, L., Krpan, D. (2018). (Not) Eating for the environment: The impact of restaurant menu design on vegetarian food choice. *Appetite*. 125. 10.1016/j.appet.2018.02.006.

6 Wise, J., Vennard, D. (2019). It's All in a Name: How to Boost the Sales of Plant-Based Menu Items. Retrieved from <https://www.wri.org/news/its-all-name-how-boost-sales-plant-based-menu-items>

7 Ibid.

8 Dayan, E., Bar-Hillel, M. (2011). Nudge to no obesity II: Menu positions influence food orders. *Judgment and Decision Making*, 6(4), 333–342. Retrieved from <https://doaj.org/article/c5c8442f0a824380920c99501399defd>

9 Garnett, E. et al. (2019). Impact of increasing vegetarian availability on meal selection and sales in cafeterias. *Proceedings of the National Academy of Sciences*, 116(42), 20923–20929. doi: 10.1073/pnas.1907207116.