

What have we learned so far at FSRF?

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The [Food System Research Fund](#) conducted its first round of funding in the summer of 2020. Some of the projects have now come to fruition. Here we summarize what we learned so far.

Our RFP 1: Addressing knowledge gaps around the economics of the animal protein and plant-based alternatives markets attracted some great research projects. Most of them are still in progress, and can be seen [here](#), but some are completed revealing some important practical information.

Looking at what U.S. consumers eat, both at home and when they eat out, a [study](#) conducted by *Faunalytics* showed that products that cause most animal suffering are eggs and chicken, while most lives taken are due to fish consumption. The top products in these categories are scrambled eggs and omelets, fish filets, chicken shreds, grounds, breasts, and fillets. Thus, to have the most impact on animal welfare, **these products**

should be prioritized by companies producing high-quality plant-based alternatives or other animal-free versions of these common foods. In other words, if you are an entrepreneur or investor interested in reducing as much animal suffering as possible, the products listed above are the most important for you to create that match the flavor, texture, cookability, price and availability of the animal product.

A study identified products that should be prioritized by the industry producing high-quality animal-free alternatives

By far the largest plant-based alternative already in place is plant-based milk. The volume of plant-based milk consumed has increased over time, but not enough to fully explain the observed decline in cow's milk consumption according to a study conducted by *Jacob Peacock* and *Samara Mendez*.

The market still needs animal-free milk that tastes like cow's milk

Further analysis is needed to fully understand trends in cow's milk consumption and the complexity of the interplay between cow's milk and plant-based milk markets need to be incorporated in market forecasts, but what the research showed is that cow's milk sales are relatively insensitive to changes in prices of plant-based milks. This suggests that there is limited substitution between the two milk types and that most consumers

do not view them as serving the same functions. While some people may prefer a plant-based milk in their coffee or breakfast cereal, it may be that when it comes to drinking a glass of milk or serving

one to children, consumers in general do not see plant-based milk as a substitute for cow's milk. ***The market still needs animal-free milk that tastes like cow's milk.*** On the other hand, plant-based milk sales respond to changes in prices of lower-fat cow's milks more than higher-fat cow's milks, indicating that health concerns may be one of the reasons leading people to try plant-based milks, but these consumers are price-sensitive. You can see more detail on this study [here](#).

Our RFP 2: Identifying paths to reducing growth in animal product consumption in populous low and middle-income countries attracted great research projects, mostly focusing on China. Three completed studies focus on understanding consumer sentiments and demand for alternatives to animal-based food products.

Vincent Yau Shun Chow, Huang Chuying, Vivek Pisharody, and Chloe Dempsey analyzed Media coverage of plant-based alternatives that were offered at Starbucks and KFC. The media discussed benefits of PBAs in terms of their health, safety, and environmental impact, but did not mention animal welfare. This finding is at odds with some of the results of a survey conducted by *Vincent Yau Shun Chow, Yassin Alaya, and Jo Anderson* that showed that Chinese consumers generally support animal welfare and half of them are open to reducing meat consumption and donating to animal welfare organizations. On the other hand, the survey found that most Chinese consumers understand that animal farming contributed to disease outbreaks in the past, which is consistent with health and safety advantages of PBAs, discussed in the media. These two studies can be found [here](#) and [here](#).

The market potential for alternative proteins in China is very large

Further analysis of consumers' motivations is needed, especially analysis not relying on self-reported data, i.e. what a consumer says they would do in the future, but rather research that tests what people actually do (or have done in the past where data is available). An example would be experiments with product labeling that emphasizes different PBA advantages and whether this affects actual purchases. In fact, *David Ortega* found that the use of food identity labels is an effective tool in reducing demand for products made from animal-based proteins in this market. In addition, his quantitative study shows that ***the market potential for alternative proteins in China is very large***. It is concentrated among urban consumers, especially those who are slightly older, have higher incomes, and currently buy meat products in specialty stores rather than wet markets or supermarkets. For these consumers, tofu-based alternatives can capture 25% of the market, new-generation plant-based alternatives 21%, and cultivated pork 11%.

In response to our RFP3: Addressing knowledge gaps related to existing advocacy techniques one project was completed so far. *Maya Mathur, Jacob Peacock, Thomas Robinson, and Christopher D. Gardner* first combed through the literature on the impact that screening of animal welfare documentaries has on animal product consumption. They selected the "Good For

Novel intervention strategies are needed to shift consumption away from meat and other animal products

Us" documentary for their studies. Consistent with the literature, they found that documentary viewing increased self-reported intentions and pledges to reduce meat consumption, relative to the control group. However, it did not affect self-reported or researcher-measured actual consumption of animal-based foods over time. [These findings](#) suggest that past studies of similar interventions may have

overestimated effects due to methodological biases. ***Novel intervention strategies may be needed to meaningfully shift dietary consumption away from meat and other animal products.***

What “novel interventions strategies” was the theme of our **RFP 4: Identifying new promising techniques to shift the food system towards being more plant-based.** One [study](#) was completed on this topic, assessing how open local governments might be to actively promoting alternatives to animal-based foods. *Courtney Dillard* surveyed municipal governments and found out that to date municipal programs and policies specifically focused on promoting plant-based eating are uncommon. It appears that there is a hesitancy towards such programs that is partly due to perceived socio-cultural and institutional/structural barriers, such as likelihood of push-back from powerful interest groups, concerns over equity and threatening others’ autonomy, and lack of political will. Incentives and education about plant-based choices were perceived as more feasible than other interventions such as taxes on animal products. This is unfortunate, because educational interventions do not appear to be the most effective given what we have seen in other studies.

Local governments are hesitant to introduce programs that promote healthy eating

Finally, our own *Galina Hale* conducted a [study](#) with her coauthors to identify barriers to healthy eating among college students. The study found that there is no lack of awareness or understanding of the importance of healthy food choices among college students. The barriers arise not from “why” but from “how” - students face limited access to healthy foods and find them to be generally more expensive. Students from lower-income families in particular face economic barriers to increased consumption of fruits and vegetables. While the study was not targeting specifically the question of animal- vs. plant-based diets, these results are likely to generalize from healthy diet adoption to plant-based diet adoption.

Main barriers to healthy eating choices by students are cost and availability

Stay tuned for more results from our [Food System Research Fund](#) projects as they come in.