

Food Aid Packaging Challenges, Opportunities and Proposed Assessment Solutions: A Summary of Two Reports from The Food Aid Quality Review (FAQR) Project

BACKGROUND

Field observations and feedback from implementing partners suggest **food aid product losses** are typically around 1% of total food aid products—**translating to over US \$ 1 million lost every year**. Most losses are due to **packaging-related challenges**. Therefore, a food aid packaging review was included in the 2016 scope of work for the Food Aid Quality Review (FAQR) project. [The Food Aid Packaging Challenges and Opportunities report](#) summarizes priority challenges relating to the current packaging of three high-value foods: Fortified Vegetable Oil (VO), Corn Soy Blend Plus (CSB+) and Super Cereal Plus (SC+).

Different priorities emerged for each product:

- **For VO:** packaging harmonization, size optimization, and plug functionality were the issues most urgently needing attention.
- **For CSB+:** infestation control, improved strength, and better barrier properties to prevent oxidation should be the focus.
- **For SC+:** better space optimization is necessary for decreasing the cost of shipping.

INITIAL CONCLUSION

Packaging is crucial for ensuring that foods arrives to the food aid recipients and for maintaining food quality throughout the entire supply chain, **but the financial consequences of food losses, quality deterioration and delays or logistic complications are steep**. Recognizing this, the Food Aid Packaging Challenges and Opportunities report identified **a need for comprehensive data collection on systematic product losses and damages relating to packaging**. Such data would allow for accurate assessment of the product amounts affected and better identification of the root causes of packaging challenges.

A COMPREHENSIVE ASSESSMENT APPROACH

In 2018, FAQR acted on initial conclusions by testing a comprehensive method for comparing packaging options based on their cost-effectiveness. The approach includes an assessment of costs, performance and functionality, and proposes a grading system to identify **the most cost-effective option: the packaging technology that best optimizes these three criteria**. **The method was tested on [the case of Fortified Vegetable Oil](#):**



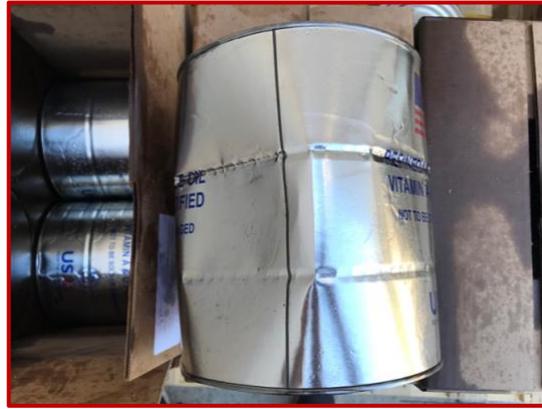
Cost: A cost comparison was conducted to assess the impact that packaging would have on operations, packaging, ocean freight, inland transport and storage costs. The total cost of the six VO packaging options was compared to the estimated average total cost of VO in its current packaging.



Performance and Functionality: The performance of the six different packaging options was evaluated via laboratory testing (environmental conditioning, vibration testing, drop testing and compression testing) and functionality was assessed based on handleability, distribution practicality, usage practicality, food safety, packaging reusability and packaging waste generation.



Cost-Effectiveness: The cost, performance and functionality of each packaging option were graded and a cost-effectiveness score was generated.



Pictures 1 and 2: Performance and functionality of packaging options after evaluation with drop (left) and vibration (right) testing.

This preliminary method **proved effective at distinguishing packaging options based on cost-effectiveness and provides a framework for decision makers to guarantee that a comprehensive approach is taken when evaluating packaging options.** Edits and additions to this novel method may be necessary based on the product type.

NEXT STEPS

Moving forward, additional packaging options should be tested following the same method. In addition, to continue the ongoing efforts for food aid packaging revision:

1. Food aid and packaging suppliers must be regularly informed of challenges faced in the field and provided with specific feedback regarding the causes of damage and losses.
2. Current and new food aid and packaging suppliers should be encouraged to propose packaging options which address current challenges.
3. The proposed packaging options should be assessed following the method presented in this report to ensure that a comprehensive assessment is conducted and that the most cost-effective options are identified.
4. The most cost-effective options should be trialed in the field to confirm their cost-effectiveness before being rolled out.

FULL REPORTS

Roubert, Agathe; Johnson, Quentin; Walton, Shelley; Webb, Patrick. 2018. *Food Aid Packaging Challenges and Opportunities: A Review of the Packaging for Fortified Vegetable Oil, Corn Soy Blend Plus, and Super Cereal Plus*. Report to USAID. Boston, MA: Tufts University. ([Access Here](#))

Roubert A, Johnson Q Walton S, Webb P. 2018. Proposed Method for Assessing the Suitability of Packaging Options for Food Aid Products: The Case of Fortified Vegetable Oil, Report to USAID. Boston, MA: Tufts University. ([Access Here](#))

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