



Food Research
Collaboration

Logistics Best Practice for Food Hubs: **7 tips from US research**

By Hattie Hammans

Food Research Collaboration Guidance Note
August 2022

The people who work getting local food to customers (farmers, food hub operators, retailers) face a shrinking UK market, increasing fuel prices and lack of access to capital. Dealing with these challenges means local food businesses have to work hard. Logistics, of course, play a crucial role.

Dr Anuj Mittal, Caroline C. Krejci and Teri J. Craven published a paper in the academic journal Sustainability called “Logistics Best Practices for Regional Food Systems: A Review”. It is a summary of previous research, mostly from North America, on logistics for local food systems.¹ Despite the differences in scale and funding for US hubs, some of the tips are likely to be transferrable to the UK context.

This Guidance Note collects and breaks down the most useful insights for UK food hub practitioners. For a fuller summary of the paper, see the accompanying FRC Summary Paper *Best practice in local food systems logistics: Summary of US research*.

Collaboration

Collaboration between food hubs has the potential to reduce operational and overhead costs across transportation, warehousing and inventory management logistics. For example, food hubs can reduce their inventory management costs by:

- a. sharing deliveries,
- b. group purchasing,
- c. purchasing pooled insurance policies.

Food hubs benefit from keeping their inventory levels low and ensuring rapid inventory turnover because they have limited cash flow. However, the high level of coordination that is needed to support

Just-in-time deliveries requires significant information sharing between producer and food hub, which can be challenging if they are competitors.

Drawing up a contract specifying the responsibility of each involved party is recommended. Sharing information between organisations is vital for transparency, but organisations should avoid sharing too frequently or sharing irrelevant information.

In Practice: “In a survey of 143 food hubs in the U.S., more than half (52%) reported that they were engaged in either a formal or an informal collaboration, and several had increased their revenues by renting space to other businesses in their region.”

In Practice: “Stonyfield Farm, a dairy company in New Hampshire, has benefited from collaborating with Organic Valley to aggregate and process organic fluid milk. Both companies jointly market the milk, and Wisconsin-based Organic Valley benefits from Stonyfield’s strong brand presence in the Northeast region.”

In Practice: “Grass Run Farms manages its inventory using Excel spreadsheets and has been able to reduce its week-to-week inventory to just a few boxes of product.”

In Practice: “Walsma and Lyons and Sysco Grand Rapids, two food distributors in Michigan, regularly visit producers to learn about their operations and to build trust. Over a three-year period of building relationships, they have doubled the amount of regional produce that they distribute, and they have helped producers expand their delivery reach.”

Traceability

Ensuring food traceability can help local food supply chains differentiate themselves. Providing information about the origin of products can add to their perceived value.

Inexpensive tools like Microsoft Office can be used to develop applications for tracing products.

One method of inventory tracking is the use of barcodes or tags such as Radio-Frequency Identification (RFID). RFID tags are more expensive than printed barcode labels, but RFID can be more efficient, because the tags do not need to be visible to be scanned, and multiple items can be scanned at once.

However, producers can provide this information to their customers without scanning technology by adding information about their products on signage, cases and Price Look-Up (PLU) codes.

In Practice: “Grass Run Farms and Edina Couriers have both implemented electronic scanning and software systems to track the movement of their products and to provide other supply chain members with accurate inventory data. However, Grass Run Farms found that consumers did not value QR codes enough to justify the cost of implementation.”

In Practice: “Red Tomato maintains product traceability by allowing apples from only one producer in each tote, along with the name and description of the farm. By contrast, Bix Produce knows from which two or three farms each product originated and provides customers with information on all of these farms to consumers, thereby maintaining farm identity but avoiding overburdening their operations. Appalachian Harvest addressed this issue by building a single brand that represents all of their farmers and farming methods, rather than maintaining individual farmer identities.”

Infrastructure

Infrastructure development: While allowing for future growth or expansion, the size of a food hub’s warehouse should be based on:

- a. projected peak season weekly kilos. To determine this value, a hub should frequently monitor its space and equipment usage (e.g. the proportion of space occupied in cold storage each week)
- b. the acreage of the supplying farm (e.g. 0.5m² storage space per acre of farm)

Small investments can have substantial benefits, e.g. new or improved loading docks, pallet lifters, forklifts, banding and wrapping equipment can reduce labour costs and speed up operations.

In Practice: “A local food distributor in Vermont had its producers dip their eggplants in ice water before loading them on the truck to reduce spoilage. This eliminated the need for investing in a refrigerated truck.”

Access

Paying to access existing supply chain infrastructure can reduce up-front investment costs. For example:

- a. Third Party Logistics could be cheaper than investing in infrastructure development.
- b. food hubs could pay to use the existing distribution infrastructure and cross-docking services of food banks.

In Practice: “Good Earth Farms, a producer in Wisconsin, uses a combination of a national parcel service and a regional delivery service for its products.”

Drop-shipping

Food hubs can use its vehicles to offer producers an additional ‘drop-shipping’ service. This is a further collaboration between food hubs and certain producers where the food hub delivers producers’ products directly to customers for a fee. The produce does not pass through a physical hub space. The producer is able to sell directly to wider markets and the food hub receives

extra revenue.

Inventory

An overview of software solutions for food hub warehouse inventory management systems has been provided in The Michigan Food Hub Network: A Case Study in Building Effective Networks for Food System Change.

The Leopold Center for Sustainable Agriculture published a how-to guide with step-by-step instructions for tracking inventory using QuickBooks.²

In Practice: “Grass Run Farms manages its inventory using Excel spreadsheets and has been able to reduce its week-to-week inventory to just a few boxes of product.”

In Practice: UK-based food hubs in the Better Food Traders network use Quickfile (which is free to use), Xero, Kashflow, and Quickbooks.

In Practice: “Ecker’s Apple Farm in Wisconsin currently records its inventory transactions on paper and transfers this data to QuickBooks, with an eventual goal of adopting inventory management software and eliminating manual record keeping.”

In Practice: “Oklahoma Food Cooperative uses Local Food Cooperative Software, an open source platform. Though the software make some assumptions on the operational structure of a food hub like weekly delivery cycle, it acts as a cost-effective option for the food hub, especially in their starting phase.”

In Practice: “Greenmarket Farmers Markets in New York used QuickBooks to manage orders and inventory in the initial phase of the business’s development but then switched to software designed by Food Connex.”³

Processing

Processing and preserving by freezing, canning and drying can ensure producers and food hubs have a consistent supply. Processed food is also convenient and appealing to many buyers—it is easy to store, ready to use, and less perishable than fresh products.

Processed food products can raise a better price for farmers and increase the utilisation of cosmetically imperfect food products.

Conclusion

The paper finds that there are three main areas that research has not covered yet, but which would be useful:

Research has not been able to tailor logistics best practice to different situations and places yet. Furthermore, there is no framework for successful food hub collaborations yet.

Many solutions are economically out of reach and there is a lack of research on cost-effective strategies for implementing technology-based best practices.

It is difficult to make logistics management decisions; but there are not enough decision support tools to help with this.

References

1. Mittal, A., Krejci, C.C. and Craven, T.J. 2018. "Logistics Best Practices for Regional Food Systems: A Review" *Sustainability* 10, no. 1:168. Available at: <https://www.mdpi.com/2071-1050/10/1/168>
2. Lyons, S.M. 2015. Using Accounting Software for Food Hubs: Processing Traceable Orders; Iowa State University Extension and Outreach: Ames, IA, USA. Available at: <https://dr.lib.iastate.edu/entities/publication/48do2fdf-1499-4c1e-96ea-ee-fe8e6d52d>
3. Data taken from Better Food Traders slack platform.



Follow us on
twitter.com/foodresearchuk



Find out more, visit
www.foodresearch.org.uk

www.foodresearch.org.uk
www.city.ac.uk/foodpolicy

With thanks to our funders



About Us

The Food Research Collaboration is an initiative of the Centre for Food Policy. It facilitates joint working between academics, civil society organisations and others to improve the sustainability of the UK food system, and to make academic knowledge available wherever it may be useful.

We are grateful to the Esmée Fairbairn Foundation for funding our work.

Please cite this Guidance Note as:

Hamman, H. (2022) *Logistics Best Practice for Food Hubs: 7 tips from US research* Food Research Collaboration Policy Guidance Note.