

DISTRIBUTION GROUP Presentation

ENHANCING FOOD SECURITY IN THE NORTHEAST WITH REGIONAL FOOD SYSTEMS

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Marriott Greenbelt, Greenbelt, MD

Enhancing Food Security in the Northeast through Regional Food Systems

USDA Grant # 2011-68004-30057



Distribution Objectives

Objective 2

Identify and assess food supply chains for underserved areas of the Northeast at different levels of aggregation, and identify policy interventions

- Case studies of regional supply chains
- Supply chain models
- Food hub studies
- Policy and scenario analysis



Objective 2.1 Case Studies

- Conduct in-depth interviews with supply chain members: project site, other local and regional supply chains
- Primary data from supply chain members (producers, processors, distributors, retailers)
 - Product flows and volumes
 - Supply chain structure
 - Prices, marketing margins and share of retail value among supply chain members, etc.



Estimates of Regional Supply Chains

Product-Store	% Regionally produced	% Regional value-added
Potatoes-Onondaga Store 1	48	74
Cabbage-Onondaga Store 1	70	88
Canned peaches-Syracuse Store 1	0	50
Frozen broccoli-Syracuse Store 1	0	65
Apples-Syracuse Store 2	78	76
Ground beef-Sussex County Store 1	0	na
Milk-Sussex County Store 2	100	100

Observations, Case Studies

- Several stores in project sites are struggling to survive
- The contribution of regional/local products is highly dependent on season and product
- Stores do not know where specifically all its products come from
- Many/most products are not labeled as to where they were produced
- Each member makes logical sourcing and marketing decisions to maximize their business needs and opportunities.



Objective 2.2 Optimization Models

MODEL	PROGRESS
Dairy (fluid milk)	Completed – impacts of increased localization initiatives
Apples	Completed - impacts of emission-reduction initiatives
Cabbage	Completed - impacts of closing the gap between recommended and current per capita consumption
Potatoes	Completed – impacts of supply-side shocks
Frozen broccoli	No Model – cost comparison domestic versus imported
Ground beef	In progress... Collaborative effort across groups
Whole wheat bread	No data to build model.



Environmental and Economic Impacts of Localizing Food Systems: The Case of Dairy Supply Chains in the Northeastern United States

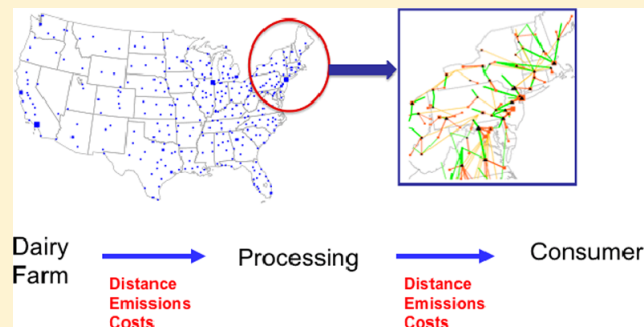
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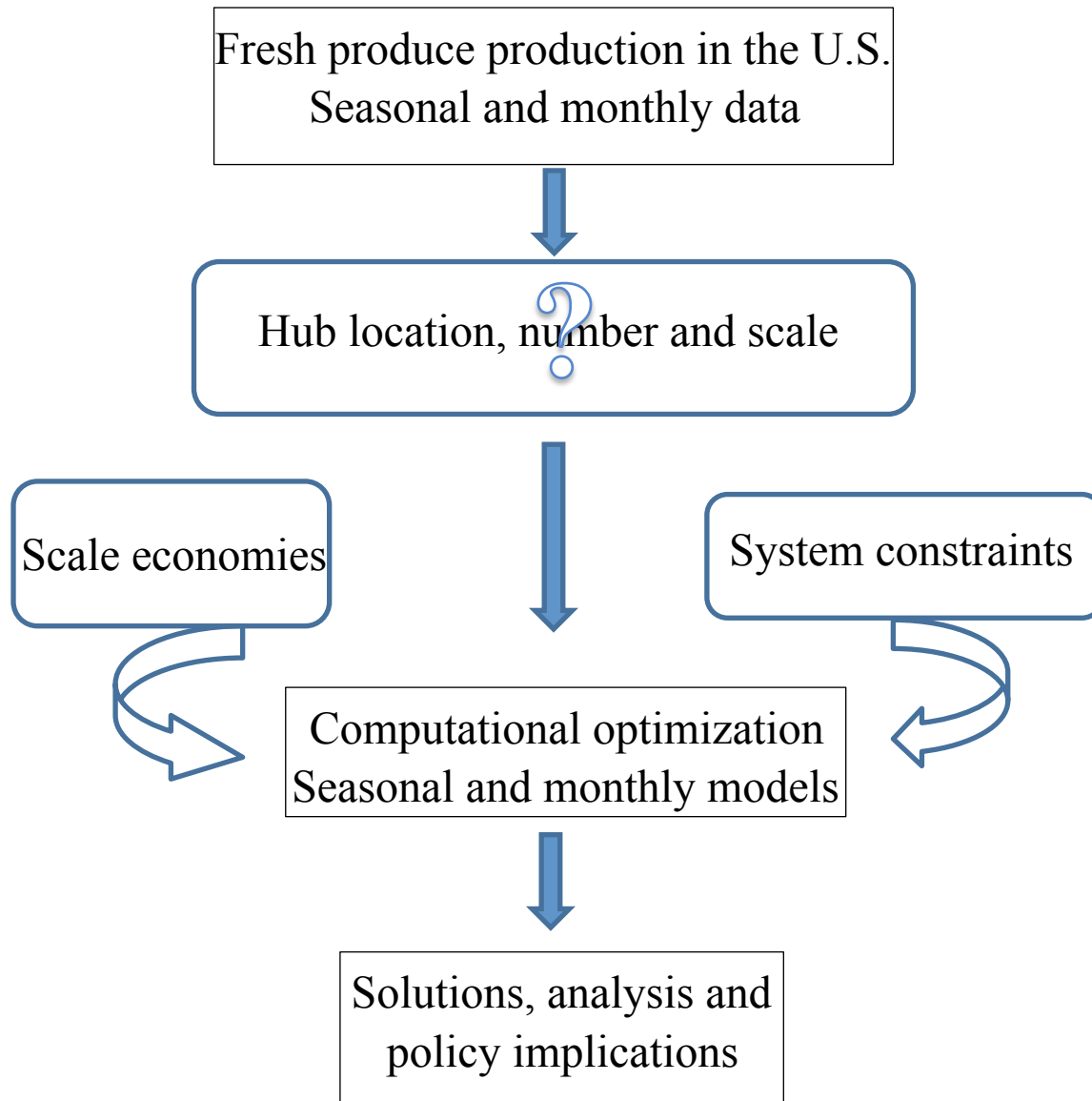
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S Supporting Information

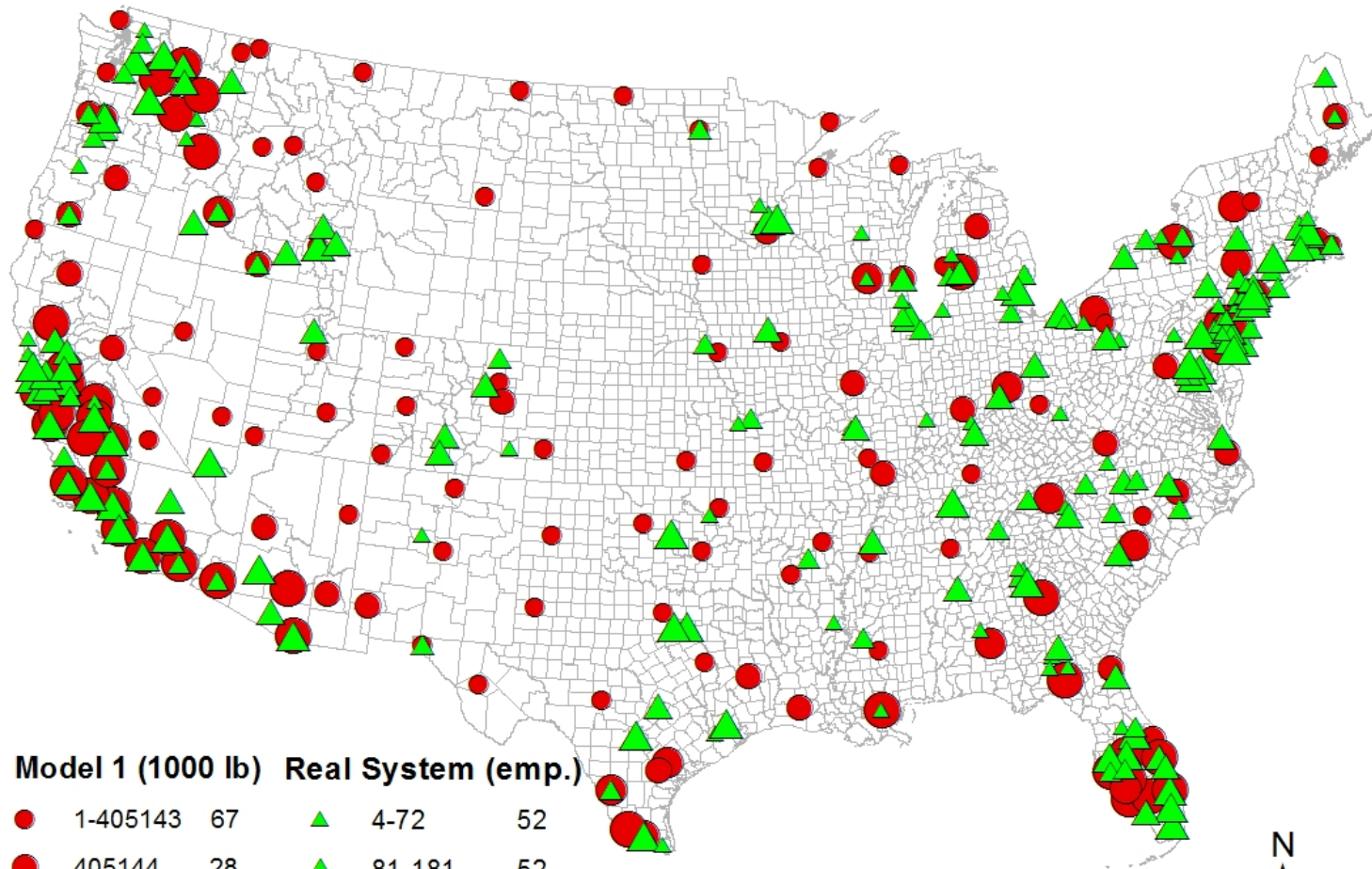
ABSTRACT: We developed and evaluated an empirical model of the U.S. dairy supply chain with a high degree of spatial and product disaggregation to assess the impacts of increasing localization of the northeast region's fluid milk supply on food miles, supply chain costs, greenhouse gas and criteria pollutant emissions, economic activity, and employment. Evaluation included comparison to regional production values and sensitivity analysis of demand and unit cost assumptions. Our analysis compares a baseline to two localization scenarios based on state boundaries and multiple-state subregions. Localization scenarios increased total distances fluid milk traveled by 7–15%, overall supply chain costs by 1–2%, and emissions of greenhouse gases (CO₂ equivalent) criteria pollutants such as oxides of nitrogen and particulate matter smaller than 2.5 μm associated with fluid milk transportation by 7–15% per month. The impacts of localization on employment and economic activity are positive, but changes are small on a percentage basis. Our analyses indicate that the definition used for localization has an impact on outcomes and that efforts to localize food systems may benefit from a more systems-oriented approach.



Objective 2.3 – Food Hub Studies



Results-Model and “Real System”



Model 1 (1000 lb) **Real System (emp.)**

● 1-405143	67	▲ 4-72	52
● 405144	28	▲ 81-181	52
● 972669	14	▲ 186-511	52
● 2855501	43	▲ 522-7670	51

0 80 160 320 480 640
Miles



Insights, Food Hub Studies

- Strong evidence of scale effects inherent in produce production hub operations
- Very large scale economies in the dominant growing regions (CA & FL) - potential barrier to achieving greater self reliance in the Northeast
- Strategic behaviors of suppliers with seasonal excess capacity in large growing regions may limit ability of establishing new production hub infrastructure investment within Northeast region

