

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Cornhusker Economics

Agricultural Economics Department

12-19-2012

Food Access and Food Choice: Applications for Food Deserts

Gayaneh Kyureghian

University of Nebraska-Lincoln, gkyureghian2@unl.edu

Rodolfo M. Nayga Jr.

University of Arkansas - Main Campus, rnayga@uark.edu

Follow this and additional works at: http://digitalcommons.unl.edu/agecon_cornhusker

Kyureghian, Gayaneh and Nayga, Rodolfo M. Jr., "Food Access and Food Choice: Applications for Food Deserts" (2012). *Cornhusker Economics*. 593.

http://digitalcommons.unl.edu/agecon_cornhusker/593

This Article is brought to you for free and open access by the Agricultural Economics Department at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Cornhusker Economics by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

CORNHUSKER ECONOMICS

Food Access and Food Choice: Applications for Food Deserts

Market Report	Yr Ago	4 Wks Ago	12/14/12
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.....	\$119.20	\$125.39	\$123.56
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.....	166.00	161.63	170.19
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.....	145.35	145.49	152.79
Choice Boxed Beef, 600-750 lb. Carcass.....	189.14	193.17	195.04
Western Corn Belt Base Hog Price Carcass, Negotiated.....	78.98	74.51	79.21
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean.....	90.13	82.99	83.69
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct.....	153.50	91.75	95.50
National Carcass Lamb Cutout, FOB.....	405.48	300.87	300.12
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu.....	5.90	8.06	7.90
Corn, No. 2, Yellow Nebraska City, bu.....	5.99	7.32	7.34
Soybeans, No. 1, Yellow Nebraska City, bu.....	11.31	13.63	14.91
Grain Sorghum, No. 2, Yellow Dorchester, cwt.....	10.14	12.34	12.34
Oats, No. 2, Heavy Minneapolis, MN, bu.....	3.31	3.79	4.04
<u>Feed</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.....	155.00	220.00	*
Alfalfa, Large Rounds, Good Platte Valley, ton.....	132.50	215.00	215.00
Grass Hay, Large Rounds, Good Nebraska, ton.....	95.00	212.50	215.00
Dried Distillers Grains, 10% Moisture, Nebraska Average.....	220.00	284.50	281.00
Wet Distillers Grains, 65-70% Moisture, Nebraska Average.....	69.50	106.00	103.00
*No Market			

Poor food choices have been shown to contribute to the rise of major chronic diseases, including overweight and obesity (Centers of Disease Control and Prevention (CDC)). Consequently, the Dietary Guidelines for Americans, 2010, emphasizes the need to shift food intake patterns to a more plant-based diet that emphasizes nutritious food, such as fruits and vegetables. Despite these efforts only 42 percent, and less than 60 percent of Americans, meet the recommendations for fruit and vegetable consumption, respectively. In academic and policy circles as well as in the public eye, the local food environment has been associated with food choices and diet-related health consequences. Limited food access is considered especially worrisome for underserved, predominantly low-income areas, which are believed to be disproportionately subject to health and income disparities (Bitler and Haider, 2011). The Food, Conservation and Energy Act of 2008, refers to “an area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower-income neighborhoods and communities” as food deserts (Sec. 7527. Study and Report on Food Deserts, The Food, Conservation, and Energy Act of 2008, The United States Department of Agriculture (USDA), June 18, 2008). In February 2010, the Obama Administration proposed a \$400 million Healthy Food Financing Initiative (H.R. 3525: Healthy Food Financing Initiative), that would eradicate food deserts by improving food access. Several states have launched policy efforts to increase access to healthy food.

The concern of the literature on food deserts is that there may be insufficient availability and affordability of healthy food in these areas that may cause poor dietary choices. The previous research in various disciplines of social science, marketing and nutrition has addressed the issue of food access and choice from distinct, albeit overlapping, angles (Larson, Story and Nelson, 2009; Beaulac, Kristjansson and Cummins, 2009; Blanchard and Lyson, 2002; Sharkey, Horel and Dean, 2010; Michimi and Wimberly, 2010; Kyureghian, Nayga and Bhattacharya, 2012; Kyureghian and Nayga, 2012(a,b); Staus, 2009). Despite the many research efforts on food deserts, there is little evidence to support the implicit assumption that improved access will improve food choice (Kyureghian, Nayga and Bhattacharya, 2012; Kyureghian and Nayga, 2012(a,b); Larsen and Gilliland, 2009). The empiric

evidence from these disciplines lacks consensus in whether food deserts exist, and why.

The gaps in the literature on whether food deserts exist appear to be related to the inconclusive evidence on the linkage between accessibility and food choice, due to data limitations and methodological weaknesses. The data requirements to determine food access are many, some of them are the variety of forms and categories of available foods (produce, dry grocery, dairy, etc., in fresh, canned, frozen, juiced or dried form in different sizes of packages, etc.); the source foods are obtained from (supermarkets, convenience and grocery stores, restaurants and other away from home sources; farmers markets, own garden, pick-yourself farms, etc.); the geographic coverage (national-, state-, county- or community-level data); the choice of measure of food access (the distance to the nearest store(s) or the density of stores in the market area); and the choice of the appropriate geographic area as the relevant market (census tract, zip code, cluster of zip codes, county, state, etc.).

The concept of the food desert also hinges upon whether it is an absolute (no food retail outlet in the area of reference), or a relative (fewer food retail outlets than in other areas) concept. The latter in turn raises the question of 'adequateness' or 'sufficiency' of food availability. There are several different definitions of food deserts, such as a distance of ten miles or more to the nearest grocery store in rural areas, and one mile or more in urban areas, etc. Several other multi-dimensional definitions (e.g. by USDA, CDC, etc.) take into account not only the distance, but also the income level, commuting time, vehicle ownership, etc. in the reference area. The choice of the specific definition depends on the research question or purpose. For example, while the USDA definition is designed to capture the linkage between food availability and food choice, the CDC definition is more concerned by the linkage between food access and health consequences, such as overweight and obesity rates in the area. The different definitions mentioned above do not always overlap (Liese, Battersby and Bell, 2012), thereby creating variation in the evidence due to the specific research objectives, and therefore, the choice of food desert definition.

Overall, it appears that the focus of much of the previous research is on supply side factors, creating an implicit underlying assumption that food deserts are a supply-side market failure, and therefore motivating policy intervention to correct such market inefficiencies. But the contradictory empiric evidence in the previous literature about such complex phenomena as food deserts highlights the need for a more comprehensive approach. A grant research centered at the University of Nebraska-Lincoln, entitled "The Food Desert: Economic and Space Remedies," is looking to analyze and interpret factors affecting the associations between food access, affordability and food choices. The authors consider both supply- and demand-side factors that may give rise to, or at the least, compound the adverse dietary and health effects associated with food deserts. The results of this research will help to design appropriate policy interventions to address heterogeneous strata disproportionately affected by inadequate food access.

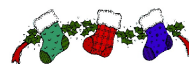
References:

Beaulac, J., E. Kristjansson and S. Cummins. 2009. "A Systematic Review of Food Deserts," 1966-2007. *Preventing Chronic Disease* 6(3): A105-A115.

- Bitler, M. and S.J. Haider. 2011. "An Economic View of Food Deserts in the United States." *Journal of Policy Analysis and Management* 30(1): 153-176.
- Blanchard, T.C. and T.A. Lyson. 2002. "Retail Concentration, Food Deserts and Food Disadvantaged Communities in Rural America." Article ed. Mississippi State University.
- Kyureghian, G. and R.M. Nayga, Jr. 2012(a). "The Role of Food Access in Meeting Some Dietary Guidelines: A Natural Experiment." Selected Paper for 2012 Agricultural & Applied Economics Association Annual Meeting.
- Kyureghian, G. and R.M. Nayga, Jr. 2012(b). "Food Store Access, Availability and Choice When Purchasing Fruits and Vegetables." *American Journal of Agricultural Economics*. Forthcoming.
- Kyureghian, G., R.M. Nayga, Jr. and S. Bhattacharya. 2012. "The Effect of Food Store Access and Income on Household Purchases of Fruits and Vegetables: A Mixed Effect Analysis." *Agricultural Economic Perspectives ad Policy*. Forthcoming.
- Larsen, K. and J. Gilliland. 2009. "A Farmers' Market in a Food Desert: Evaluating Impacts on the Price and Availability of Healthy Food." *Health & Place* 15: 1158-1162.
- Larson, N.I., M.T. Story and M.C. Nelson. 2009. "Neighborhood Environments: Disparities in Access to Healthy Foods in the U.S." *American Journal of Preventative Medicine* 36(1):74-81.e10.
- Liese A., Battersby S. and Bell B. 2012. "Identifying Food Deserts in the Rural South: A Comparison of Food Access Measures, Food Assistance Programs, Food Access and Choices, and Obesity and Other Health Outcomes." Research Innovation and Development Grants in Economics (RIDGE) Conference, Washington, DC, October 2012.
- Michimi A. and M.C. Wimberly. 2010. "Association of Supermarket Accessibility with Obesity and Fruit and Vegetable Consumption in the Conterminous United States." *International Journal of Health Geographics* 9:49.
- Sharkey, J.R., S. Horel and W.R. Dean. 2010. "Neighborhood Deprivation, Vehicle Ownership, and Potential Spatial Access to a Variety of Fruits and Vegetables in a Large Rural Area in Texas." *International Journal of Health Geographics* 9:26.
- Staus, A. 2009. "Determinants of Store Type Choice in the Food Market for Fruits and Vegetables." *International Journal of Arts and Sciences* 3(2): 138-174.

Gayaneh Kyureghian, (402) 472-2064
Research Assistant Professor
Department of Food Science and Technology
The Food Processing Center
University of Nebraska-Lincoln
gkyureghian2@unl.edu

Rodolfo M. Nayga, Jr.
Professor and Tyson Endowed Chair
Department of Agricultural Economics and Agribusiness
University of Arkansas
Adjunct Researcher
Norwegian Agricultural Economics Research Institute
rmayga@uark.edu



**Last Issue of the Year
Have a Safe and Happy Holiday!!!**