

Meek, David. 2016. A Spatial Analysis of the Percentage of School Garden Students Living within Food Deserts in Tuscaloosa, Alabama. (Research Summary)

Food deserts are areas where residents have limited access to fresh fruits and vegetables. The objective of this research was to determine the percentage of students participating in the Druid City Garden Project (DCGP)'s school programs that live in food deserts within Tuscaloosa, Alabama. A spatial analysis was conducted using ESRI's ArcMap 10.2 software program to answer this question. Two data sets were utilized. First, spatial data from the United States Department of Agriculture were gathered that illustrate the spatial distribution of food deserts in Tuscaloosa, AL. Second, the addresses of each student participating in the DCGP's program were provided by the Tuscaloosa City School and County School Districts. These data were stripped of all individual's names. The analysis process consisted of two main steps. First, the student addresses were geocoded and turned into a point spatial data set. Second, a "combine" analysis was run to attach the value from the USDA food desert data set (binary presence/absence of food desert) to the student address point file. Once these two analyses were conducted, the address data file was sorted so that the percentage of students living in a food desert could be calculated. The results of this research are highlighted in tabular form below.

At a general level, these results illustrate that a large portion of students in each of the DCGP schools live within food deserts. However, a closer examination of these results suggests that certain schools have much higher percentages of students living in food deserts than others. For example, whereas Flatwoods Elementary School has less than 1%, Oakdale has 57%, and the Tuscaloosa Magnet School - Elementary (TMSE) has 70% of students living in a food desert. These data underscore the pressing context for nutritional education and greater access to fresh fruits and vegetables in the Tuscaloosa city and county areas. These results also point to the need for further research to answer the following question: how is it possible that the lowest income schools, which are believed the highest levels of food insecurity, have the lowest percentage of students in food deserts?

School	Grade	% Students/Grade Living in Food Desert	Total % of Students Living in Food Desert
Oakdale	5	42	57
	4	50	
	3	66	
	2	50	
	1	62	
	K	65	
TMSE	5	67	70
	4	75	
	3	67	
	2	69	
	1	74	
Faucett Vestavia	K	28	32
	1	25	
	2	25	
	3	48	
	4	36	
	5	35	
Central	K	6	4
	1	0	
	2	8	
	3	5	
	4	6	
	5	0	
FES	K	1	0.08
	1	0	
	2	0	
	3	0	
	4	5	
	5	0	

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