

APPENDIX A

# ANALYSIS OF RESPONSES BY INSTITUTION TYPE

## SCALING UP VERMONT'S LOCAL FOOD PRODUCTION, DISTRIBUTION, AND MARKETING

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This appendix shows the results of cross-tabulation analyses where responses to various questions are compared across different types of institutions. The p values denote the statistical significance of responses across categories as measured by a Chi-squared test. A Chi-squared test is “a test of statistical significance used to assess the likelihood that an observed bivariate relationship differs significantly from that which would have occurred by chance.”<sup>1</sup> Generally, speaking, a p value of less than .05 is seen as significant.

Tables A1 and A2 look at the number of meals served by each type of institution. Hospitals and “other” institutions (including universities and prisons) tend to serve the highest number of meals per day; they each serve more than 500 breakfasts or lunches. No food shelf or senior meals site serves more than 100 breakfasts or lunches. The majority of schools serve between 25 to 100 breakfasts and lunches.

Most institutions, except schools, operate year round. Most schools (85.3%) operated only during the school year (Table A3).

**TABLE A3. SEASONALITY OF OPERATION BY TYPE OF INSTITUTION IN PERCENT (N = 179)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Year round	11.8	96.8	100.0	100.0	90.5	48.0
School year	85.3	3.2	0.0	0.0	4.8	49.7
Summer only	2.9	0.0	0.0	0.0	4.8	2.2

Note: Chi-squared = 127.667, p = 0.000

As seen in Tables A4 and A5, the majority of institutions of all types are currently buying local produce, with schools comprising the highest percentage. In contrast, fewer than half of all schools and hospitals buy local eggs.

**TABLE A4. LOCAL FRUIT AND VEGETABLES PURCHASING HABITS BY TYPE OF INSTITUTION IN PERCENT (N = 182)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Currently buying local fruit and vegetables	75.0	56.3	61.5	58.3	57.1	67.6
Not currently buying local fruit and vegetables	25.0	43.8	38.5	41.7	42.9	32.4

Note: Chi-squared = 6.218, p = 0.183

**TABLE A5. LOCAL EGG PURCHASING HABITS BY TYPE OF INSTITUTION IN PERCENT (N = 182)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Currently buying local eggs	37.5	59.4	69.2	16.7	52.4	44.0
Not currently buying local eggs	62.5	40.6	30.8	83.3	47.6	56.0

Note: Chi-squared = 12.452, p = 0.014

**TABLE A1. PERCENTAGE OF AVERAGE DAILY BREAKFAST SERVED BY TYPE OF INSTITUTION (N = 140)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Between 25 and 100 breakfasts	69.3	100.0	100.0	50.0	38.1	64.3
Between 150 and 300 breakfasts	24.8	0.0	0.0	25.0	47.6	27.1
Between 500 and 2,500 breakfasts	5.9	0.0	0.0	25.0	14.3	8.6

Note: Chi-squared = 15.222, p = 0.055

**TABLE A2. PERCENTAGE OF AVERAGE DAILY LUNCH SERVED BY TYPE OF INSTITUTION (N = 150)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Between 25 and 100 lunches	57.4	100.0	100.0	50.0	55.0	61.3
Between 150 and 300 lunches	29.7	0.0	0.0	25.0	30.0	26.0
Between 500 and 2,500 lunches	12.9	0.0	0.0	25.0	15.0	12.7

Note: Chi-squared = 13.542, p = 0.095

1 Singleton, R., & Straits, B. (2005). *Approaches to Social Research* (Fourth ed.). New York, NY: Oxford University Press.

In Table A6, the vast majority of all institutions expressed interest in buying local.

**TABLE A6. INTEREST IN PURCHASING FRUITS AND VEGETABLES BY TYPE OF INSTITUTIONS IN PERCENT (N = 182)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Interest in buying local fruit and vegetables	85.6	65.6	61.5	91.7	81.0	80.2
No interest in buying local fruit and vegetables	14.4	34.4	38.5	8.3	19.0	19.8

Note: Chi-squared = 10.034, p = 0.040

As seen in Table A7, the majority of institutions stated that awareness of local products carried by distributors would be very or moderately helpful to increase purchases. Schools and hospitals were particularly likely to express this as being very helpful.

**TABLE A7. HOW DOES AWARENESS OF LOCAL PRODUCTS CARRIED BY DISTRIBUTORS INFLUENCE PURCHASES OF LOCAL PRODUCTS BY TYPE OF INSTITUTIONS IN PERCENT (N = 144)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Very helpful	80.5	35.3	55.6	80.0	66.7	71.5
Moderately helpful	17.2	47.1	44.4	20.0	23.8	23.6
Not very helpful	1.1	11.8	0.0	0.0	4.8	2.8
Not helpful at all	1.1	5.9	0.0	0.0	4.8	2.1

Note: Chi-squared = 21.005, p = 0.050

Tables A8 through A10 demonstrate different institutions' current and planned fruit purchases. Hospitals and other institutions buy the largest annual quantities of fruits (50% of hospitals and 43.8% of the other institutions spend between \$25,000 and \$500,000 annually on local fruits), while food shelves tend to buy the smallest amount (88.9% of food shelf spend less than \$5,000 annually on local fruits). Schools, however, tend to procure the largest percentages of fruits locally. All institutions except for "other" expected to increase local fruit procurement.

**TABLE A8. ESTIMATE OF TOTAL AMOUNT OF FRUITS PURCHASED DURING THE MOST RECENTLY COMPLETED FISCAL YEAR IN PERCENT (N = 143)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Between \$0 and \$5,000	36.7	88.9	55.6	40.0	18.8	42.7
Between \$5,000 and \$25,000	45.6	5.6	11.1	10.0	37.5	35.0
Between \$25,000 and \$500,000	17.8	5.6	33.3	50.0	43.8	22.4
Not helpful at all	1.1	5.9	0.0	0.0	4.8	2.1

Note: Chi-squared = 33.189, p = 0.000

**TABLE A9. FOOD EXPENDITURE ESTIMATE ON FRUITS THAT ORIGINATED IN VERMONT OR WITHIN A 30 MILE RADIUS OF VERMONT IN PERCENT (N = 125)**

	School	Food shelf	Senior meals	Hospital	Other	Total
0% to 2%	13.0	53.3	55.6	22.2	13.3	21.6
3% to 20%	28.6	13.3	22.2	44.4	40.0	28.8
25% to 50%	35.1	20.0	22.2	33.3	33.3	32.0
More than 50%	23.4	13.3	0.0	0.0	13.3	17.6

Note: Chi-squared = 23.840, p = 0.021

**TABLE A10. EXPECTED CHANGE IN FRUIT PURCHASING WITHIN THE NEXT THREE YEARS IN PERCENT (N = 148)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Decreasing or staying the same	28.4	45.0	30.0	27.3	78.9	37.2
Increasing	71.6	55.0	70.0	72.7	21.1	62.8

Note: Chi-squared = 18.300, p = 0.001

As seen in Tables A11 through A13, hospitals and “other” institutions (i.e., colleges and prisons) were again the largest purchasers of vegetables, while hospitals also purchase the largest percentage of local vegetables. A majority of institutions except “other” expected to increase local vegetable purchases in the next three years.

As seen in Tables A14 through A16, hospitals and “other” institutions were the highest volume egg buyers; other, food shelf and senior meal sites all bought more than 40% of their eggs locally. The majority of all institutions expected to increase local egg purchases.

**TABLE A11. ESTIMATE OF TOTAL AMOUNT OF VEGETABLES PURCHASED DURING THE MOST RECENTLY COMPLETED FISCAL YEAR IN PERCENT (N = 137)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Between \$0 and \$5,000	23.3	75.0	22.2	11.1	17.6	27.7
Between \$5,000 and \$10,000	32.6	25.0	33.3	11.1	5.9	27.0
Between \$10,000 and \$50,000	27.9	.0	33.3	11.1	41.2	25.5
Between \$50,000 and \$500,000	16.3	.0	11.1	66.7	35.3	19.7

Note: Chi-squared = 42.935, p = 0.000

**TABLE A12. FOOD EXPENDITURE ESTIMATE ON VEGETABLES THAT ORIGINATED IN VERMONT OR WITHIN A 30 MILE RADIUS OF VERMONT IN PERCENT (N = 115)**

	School	Food shelf	Senior meals	Hospital	Other	Total
0% to 5%	21.1	50.0	12.5	40.0	42.9	27.8
6% to 20%	42.3	25.0	50.0	10.0	14.3	34.8
25%	25.4	8.3	25.0	20.0	28.6	23.5
50% and over	11.3	16.7	12.5	30.0	14.3	13.9

Note: Chi-squared = 23.840, p = 0.021

**TABLE A13. EXPECTED CHANGE IN VEGETABLE PURCHASING WITHIN THE NEXT THREE YEARS IN PERCENT (N = 148)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Decreasing or staying the same	27.1	47.1	22.2	18.2	61.1	32.9
Increasing	72.9	52.9	77.8	81.8	38.9	67.1

Note: Chi-squared = 18.300, p = 0.001

**TABLE A14. ESTIMATE OF TOTAL AMOUNT OF EGGS PURCHASED DURING THE MOST RECENTLY COMPLETED FISCAL YEAR IN PERCENT (N = 125)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Between \$0 and \$1,000	77.3	88.9	55.6	11.1	7.1	64.8
Between \$1,000 and \$2,500	10.7	5.6	22.2	33.3	14.3	12.8
Between \$2,500 and \$20,000	12.0	5.6	22.2	55.6	78.6	22.4
Between \$50,000 and \$500,000	16.3	.0	11.1	66.7	35.3	19.7

Note: Chi-squared = 42.935, p = 0.000

**TABLE A15. FOOD EXPENDITURE ESTIMATE ON EGGS THAT ORIGINATED IN VERMONT OR WITHIN A 30 MILE RADIUS OF VERMONT IN PERCENT (N = 121)**

	School	Food shelf	Senior meals	Hospital	Other	Total
0%	44.0	15.4	11.1	60.0	21.4	37.2
1% to 5%	17.3	23.1	11.1	20.0	7.1	16.5
6% to 50%	10.7	15.4	33.3	.0	21.4	13.2
More than 50%	28.0	46.2	44.4	20.0	50.0	33.1

Note: Chi-squared = 16.466, p = 0.171

**TABLE A16. EXPECTED CHANGE IN EGGS PURCHASING WITHIN THE NEXT THREE YEARS IN PERCENT (N = 142)**

	School	Food shelf	Senior meals	Hospital	Other	Total
Decreasing or staying the same	2.4	10.0	22.2	10.0	5.6	5.6
Increasing	97.6	90.0	77.8	90.0	94.4	94.4

Note: Chi-squared = 7.455, p = 0.114