



# Learn, Grow, Eat & GO! Annual Report FY 2018 State Program Impact Report

## Relevance

Texas A&M AgriLife Extension Service's, Learn, Grow, Eat & GO! (LGEG) – Junior Master Gardener curricula, is a 10 week academically rich, elementary-focused, curricula that incorporates the best practices identified by research and combines interdisciplinary elements of garden science, nutrition, food preparation, vegetable tastings, and physical activity to improve the health and wellness of children, families and the school community.

## Response

Pre-test surveys were administered to children prior to starting the LGEG curricula and post-test surveys were administered at the conclusion of the curricula. 103 counties completed the pre and post LGEG surveys with 9,558 pre-tests and 6,582 post-tests completed overall. For this program year, there were still some counties using scanned paper copies, but many completed the new Qualtrics survey created and implemented during this year. Pre and post response rates and participant demographics are detailed below:

		Pre	Post	Total
Source of Data	2018 Qualtrics	5880	3343	9223
	2017 Scan Form	1108	1346	2454
	2018 Scan Form	2570	1893	4463
Total		9558	6582	16140

### **Gender**

Boy	54.3%
Female	45.7%

### **Age**

7 years	11.3%
8 years	27.9%
9 years	29.4%
10 years	18.4%
11 years	9.5%
12 years	3.4%

### **Ethnicity**

Hispanic	33.8%
White	32.6%
African American	10.2%
Native American or Alaskan Native	8.1%
Multi-racial or Other	15.3%

## **Region**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Central	1328	13.9	<b>13.9</b>	13.9
	East	3429	35.9	<b>35.9</b>	49.8
	North	1406	14.7	<b>14.7</b>	64.5
	South	1328	13.9	<b>13.9</b>	78.4
	Southeast	1286	13.5	<b>13.5</b>	91.8
	West	781	8.2	<b>8.2</b>	100.0
Total		9558	100.0	<b>100.0</b>	

## Specific county participation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Anderson	231	2.4	2.4	2.4
	Andrews	84	.9	.9	3.3
	Angelina	314	3.3	3.3	6.6
	Aransas	1	.0	.0	6.6
	Austin	6	.1	.1	6.7
	Bailey	1	.0	.0	6.7
	Bandera	17	.2	.2	6.8
	Baylor	1	.0	.0	6.9
	Bee	18	.2	.2	7.0
	Bell	16	.2	.2	7.2
	Bexar	340	3.6	3.6	10.8
	Bosque	1	.0	.0	10.8
	Brazoria	457	4.8	4.8	15.6
	Brazos	20	.2	.2	15.8
	Briscoe	46	.5	.5	16.2
	Brooks	100	1.0	1.0	17.3
	Burnet	82	.9	.9	18.2
	Calhoun	35	.4	.4	18.5
	Cameron	19	.2	.2	18.7
	Carson	29	.3	.3	19.0
	Cherokee	8	.1	.1	19.1
	Childress	5	.1	.1	19.2
	Clay	1	.0	.0	19.2
	Coleman	62	.6	.6	19.8
	Comal	86	.9	.9	20.7
	Crosby	21	.2	.2	20.9

### County

		Frequency	Percent	Valid Percent	Cumulative Percent
	Dallas	805	8.4	8.4	29.4
	DeWitt	20	.2	.2	29.6
	Duval	28	.3	.3	29.9
	Edwards	75	.8	.8	30.6
	El Paso	65	.7	.7	31.3
	Fannin	2	.0	.0	31.3
	Floyd	1	.0	.0	31.4
	Franklin	1	.0	.0	31.4
	Freestone	48	.5	.5	31.9
	Frio	3	.0	.0	31.9
	Gray	1	.0	.0	31.9
	Grayson	130	1.4	1.4	33.3
	Gregg	379	4.0	4.0	37.2
	Grimes	1	.0	.0	37.2
	Guadalupe	321	3.4	3.4	40.6
	Hale	317	3.3	3.3	43.9
	Hall	31	.3	.3	44.2
	Hamilton	2	.0	.0	44.3
	Harris	154	1.6	1.6	45.9
	Hamison	103	1.1	1.1	47.0
	Hartley	32	.3	.3	47.3
	Haskell	9	.1	.1	47.4
	Hemphill	69	.7	.7	48.1
	Henderson	68	.7	.7	48.8
	Hill	58	.6	.6	49.4
	Houston	21	.2	.2	49.6
	Hudspeth	212	2.2	2.2	51.9
	Irion	16	.2	.2	52.0
	Jack	74	.8	.8	52.8
	Jackson	163	1.7	1.7	54.5
	Jasper	1	.0	.0	54.5
	Jim Hogg	65	.7	.7	55.2
	Jim Wells	60	.6	.6	55.8
	Johnson	21	.2	.2	56.0
	Kendall	1	.0	.0	56.1
	Kenedy	1	.0	.0	56.1
	Kleberg	59	.6	.6	56.7

		Frequency	Percent	Valid Percent	Cumulative Percent
	Lampasas	84	.9	.9	57.6
	Lipscomb	31	.3	.3	57.9
	Live Oak	46	.5	.5	58.4
	Lynn	4	.0	.0	58.4
	Mason	43	.4	.4	58.9
	McCulloch	12	.1	.1	59.0
	McLennan	1	.0	.0	59.0
	Mitchell	76	.8	.8	59.8
	Montague	1	.0	.0	59.8
	Montgomery	20	.2	.2	60.0
	Moore	61	.6	.6	60.7
	Nacogdoches	315	3.3	3.3	63.9
	Newton	75	.8	.8	64.7
	Nolan	1	.0	.0	64.7
	Nueces	254	2.7	2.7	67.4
	Palo Pinto	14	.1	.1	67.5
	Parker	764	8.0	8.0	75.5
	Pecos	78	.8	.8	76.4
	Potter	341	3.6	3.6	79.9
	Rains	145	1.5	1.5	81.4
	Randall	132	1.4	1.4	82.8
	Reeves	26	.3	.3	83.1
	Rockwall	1	.0	.0	83.1
	Rusk	126	1.3	1.3	84.4
	San Augustine	86	.9	.9	85.3
	Scurry	179	1.9	1.9	87.2
	Shelby	438	4.6	4.6	91.8
	Sherman	2	.0	.0	91.8
	Smith	69	.7	.7	92.5
	Swisher	3	.0	.0	92.6
	Tarrant	8	.1	.1	92.6
	Titus	79	.8	.8	93.5
	Tom Green	16	.2	.2	93.6
	Tyler	24	.3	.3	93.9
	Victoria	137	1.4	1.4	95.3
	Webb	39	.4	.4	95.7
	Wheeler	29	.3	.3	96.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Willacy	43	.4	.4	96.5
	Williamson	124	1.3	1.3	97.8
	Wise	188	2.0	2.0	99.7
	Zapata	25	.3	.3	100.0
	Total	9558	100.0	100.0	

## Results

### Summary by Question:

**Q: We want to know what you think about the following vegetables. Do you like to eat \_\_\_\_?**

What do you think about these vegetables?	Mean Before	Mean After	Percent Change Increase
Do you like Cauliflower?	24.7%	32.9%	8.2%
Do you like Lettuce?	73.4%	75.2%	1.8%
Do you like Carrots?	64.9%	79.8%	14.9%
Do you like Spinach?	33.8%	48.9%	15.1%
Do you like Potatoes?	64.2%	64.6%	.4%
Do you like Swiss chard?	12.6%	21.0%	8.4%
Do you like Tomatoes?	60.5%	59.4%	---
Do you like Broccoli?	58.7%	64.8%	6.1%
Do you like Bell Peppers?	41.8%	47.8%	6.0%
Do you like Squash?	27.8%	35.4%	7.6%
Do you like Sugar Snap Peas?	27.8%	37.2%	9.4%
Do you like Bok Choy?	13.0%	28.5%	15.5%

**Conclusion comment:** Student answers reflected an increase in vegetable preference for 11 of the 12 vegetables featured in the LGEG 10 week curriculum. The greatest increase was seen for Bok Choy, Spinach, and Carrots. Additionally, students were asked if they had tried each of the vegetables on both the pre-tests and post-tests. There was an increase in willingness to try for all 12 vegetables.

**Q: Students were asked what beverage that than drank yesterday and the frequency**

Yesterday how many times did you consume	Frequency	Mean Before	Mean After	Percent Change
Sweetened beverages such as soda, sweet tea or sports drinks	More than once	32.8%	30.7%	2.1 %
Fruit juice	More than once	32.5%	24.6%	7.9%
Water	More than once	42.2%	55.9%	13.7%
Milk	More than once	25.0%	29.9%	4.9%

Yesterday how many times did you consume	Frequency	Mean Before	Mean After	Percent Change
Sweetened beverages such as soda, sweet tea or sports drinks	Did not consume	20.9%	29.1%	8.2%
Fruit juice	Did not consume	27.6%	34.7%	7.1%
Water	Did not consume	11.4%	10.0%	----
Milk	Did not consume	27.9%	32.3%	----

**Conclusion Comment:** Student answers on yesterday consumption when comparing mean differences showed a reduction in consumption of both daily sugar sweetened beverages and fruit juice. The greatest change being an almost 8% reduction from pre to post results in the frequency of fruit juice beverage consumption. Water consumption increased by 13.7% from pre to post on this question. When students were asked which beverages in the table above they did NOT consume yesterday, there were a greater number of students choosing not to consume any sweetened beverages or fruit juice when comparing pre to post answers. Additionally, students were choosing more water and milk when comparing pre-tests to post-test results.

**Q: Students were asked to reflect on physical activity and screen time**

Yesterday, did you do any hard physical play for 30 minutes or longer (after school)	Mean Before	Mean After	Percent Change
Response – No	26.3%	24.3%	2.0%
Response – Yes	73.7%	75.7%	2.0%

Yesterday, how many hours of screen time did you have (away from school)	Mean Before	Mean After	Percent Change
Response – 2 hours or more	36.2%	34.0%	2.2%
Response – Less than 2 hours	45.5%	48.1%	2.6%
None	18.3%	17.9%	.4%

**Conclusion Comment:** When students were asked to reflect on yesterday activities related to hard physical activity and play for 30 minutes or longer, there was a 2.0% decrease in students reporting doing no physical activity. There was a 2.0% increase in students reporting they had done hard physical activity when comparing pre and post mean scores. In general, there were less students reporting they did not do any physical activity yesterday and more students reporting they did more hard physical activity yesterday when comparing pre to post results. When students were asked about yesterday screen time activities, there was a decrease in screen time for 2 hours or more.

**Q: Students were asked which vegetables/fruits that they ate yesterday and frequency of consumption**

Vegetable/Fruit Consumed	Frequency of consumption	Pre test	Post test	Percent change
Yesterday, how many times did you eat orange vegetables (EX; carrots, squash or sweet potatoes)	More than once	15.3%	15.3%	----
	Once	32.0%	28.0%	----
	Did not consume any	52.7%	56.7%	----
Yesterday, how many times did you eat a salad made with lettuce, or any green vegetables like spinach, collard greens, Swiss chard, green beans, sugar snap peas, broccoli, or other greens	More than once	12.4%	11.8%	----
	Once	36.0%	30.8%	----
	Did not consume any	51.7%	57.4%	----
Yesterday, how many times did you eat any beans like pinto, garbanzo or kidney beans	More than once	8.8%	8.5%	----
	Once	23.9%	24.8%	----
	Did not consume any	67.3%	66.7%	----
Yesterday, how many times did you eat any other vegetables like tomatoes, asparagus, red cabbage, cauliflower, cucumbers, mushrooms, bell peppers, eggplant or celery	More than once	13.7%	13.4%	----
	Once	32.3%	31.7%	----
	Did not consume any	54.0%	54.9%	----
Yesterday, how many times did you eat fruit? Fruits are all fresh, frozen, canned or dried fruits. Do not count fruit juice,	More than once	35.5%	33.9%	----
	Once	42.7%	39.9%	----
	Did not consume any	21.8%	26.2%	----

**Conclusion Comment:** When reviewing vegetables consumed yesterday, there were no increases of consumption from pre to post tests. Fruit consumption was already extremely high as 78.2% of children indicated they were already eating fruit once or more daily.

**Q: Tell us which of the following activities you have done in the last year with your family.**

**Conclusion Comment:**

The following items showed statistically significant change from pre to post results. Students responded they:

- Planted more seeds or plants at home in a vegetable garden with their family
- Gardened with family and others in a community or school garden

**Q: Students were asked about academic confidence, school attendance, sharing their knowledge, and gardening enjoyment at the conclusion of the program**

67.9% of students reported they felt gardening had made them a better math and science student

69.7% of students reported the garden program made them want to come to school

61.2% of students reported they had taught someone else how to make better food choices

65.0% of students reported they have gardened with their family and enjoyed it

**Overall Summary**

There were increases in vegetable preferences for 11 of the 12 vegetables featured in the LGEG curricula. Survey data indicated an almost 8% reduction in fruit juice consumption and 13.7% increase for water consumption, with more students choosing not to consume any sweetened beverages from pre to post tests. When students were asked to reflect on yesterday activities there was a decrease in students reporting no physical activity and an increase in hard physical activities from pre to post tests. Additionally, there was a decrease in screen time away from school. Student responses were significant in two areas of family engagement: *planting more seeds or plants at home in a vegetable garden with their family and students* and *family gardening with others in community or school garden*. Finally, 67.9% reported they felt gardening had made them a better math and science student; 69.7% of students reported the garden program made them want to come to school; 61.2 % of students reported they had taught someone else how to make better food choices; and 65.0% of students reported they enjoyed gardening with their family.

**Areas for improvement**

There were 9,558 pre-tests and 6,582 post-tests. Results could be impacted due to lower return rate of post surveys. Fidelity of implementation can affect program impact. When comparing the statewide LGEG report to the Healthy Texas LGEG report, there were increases for the Healthy Texas counties related to student's reporting vegetables/fruit consumption/frequency of consumption and statistically significant increases for student's preparing LGEG recipes with family and picking vegetables from a garden to cook or eat with their family. Some of these increases could be due to greater county support/funding, increased fidelity of implementation, and accountability for programming.