



Learn, Grow, Eat & GO! Annual Report FY 2019 State Program Impact Report

Relevance

Texas A&M AgriLife Extension Service's, Learn, Grow, Eat & GO! (LGEG) – Junior Master Gardener curriculum, is a 10 week academically rich, elementary-focused, program incorporating 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. 119 counties completed the pre and post LGEG surveys with 9,275 pre-tests and 6,322 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 since 2018. Pre and post response rates and participant demographics are detailed below:

		Pre	Post	Total
Source of Data	Fall 2018-Spring 2019 Qualtrics	6945	4106	11051
	Fall 2018- Spring 2019 Scan Form	2330	2216	4546
Total		9275	6322	15597

Gender

Male	49.8%
Female	50.2%

Age

7 years	13.8%
8 years	29.6%
9 years	26.3%
10 years	12.9%
11 years	6.1%
12 years	11.4%

Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Central	714	7.7	7.7	7.7
	East	2471	26.6	26.6	34.3
	North	1129	12.2	12.2	46.5
	South	3026	32.6	32.6	79.1
	Southeast	1328	14.3	14.3	93.5
	West	607	6.5	6.5	100.0
	Total	9275	100.0	100.0	

Ethnicity

Hispanic	41.0%
White	34.9%
African American	8.2%
Native American or Alaskan Native	3.1%
Multi-racial or Other	12.7%

County LGEG participation for 119 Texas Counties

		County			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Anderson	271	2.9	2.9	2.9
	Andrews	191	2.1	2.1	5.0
	Angelina	479	5.2	5.2	10.1
	Aransas	2	.0	.0	10.2
	Archer	2	.0	.0	10.2
	Atascosa	1	.0	.0	10.2
	Austin	1	.0	.0	10.2
	Bandera	1	.0	.0	10.2
	Bastrop	1	.0	.0	10.2
	Baylor	41	.4	.4	10.7
	Bee	63	.7	.7	11.4
	Bell	33	.4	.4	11.7
	Bexar	144	1.6	1.6	13.3
	Bosque	2	.0	.0	13.3
	Brazoria	445	4.8	4.8	18.1
	Brazos	9	.1	.1	18.2
	Briscoe	61	.7	.7	18.8
	Brooks	3	.0	.0	18.9
	Burnet	20	.2	.2	19.1
	Caldwell	12	.1	.1	19.2
	Cherokee	72	.8	.8	20.0
	Childress	51	.5	.5	20.5
	Coke	20	.2	.2	20.8
	Coleman	49	.5	.5	21.3
	Comal	341	3.7	3.7	25.0
	Cottle	17	.2	.2	25.1
	Crockett	68	.7	.7	25.9
	Crosby	19	.2	.2	26.1
	Dallas	82	.9	.9	27.0
	Denton	82	.9	.9	27.8
	Duval	77	.8	.8	28.7
	Eastland	2	.0	.0	28.7
	Ector	1	.0	.0	28.7
	Falls	1	.0	.0	28.7
	Foard	15	.2	.2	28.9
	Franklin	42	.5	.5	29.3
	Galveston	1	.0	.0	29.3

		County			Cumulative Percent
		Frequency	Percent	Valid Percent	
	Menard	23	.2	.2	61.9
	Milam	1	.0	.0	61.9
	Montgomery	27	.3	.3	62.2
	Moore	55	.6	.6	62.8
	Naacogdoches	108	1.2	1.2	64.0
	Newton	69	.7	.7	64.7
	Nueces	11	.1	.1	64.8
	Palo Pinto	223	2.4	2.4	67.2
	Parker	16	.2	.2	67.4
	Pecos	1	.0	.0	67.4
	Polk	42	.5	.5	67.9
	Potter	435	4.7	4.7	72.5
	Randall	81	.9	.9	73.4
	Refugio	148	1.6	1.6	75.0
	Rusk	31	.3	.3	75.4
	Sabine	2	.0	.0	75.4
	San Augustine	44	.5	.5	75.8
	Soury	78	.8	.8	76.7
	Shackelford	1	.0	.0	76.7
	Shelby	52	.6	.6	77.3
	Sherman	1	.0	.0	77.3
	Smith	212	2.3	2.3	79.6
	Starr	305	3.3	3.3	82.8
	Stephens	6	.1	.1	82.9
	Swisher	42	.5	.5	83.4
	Tarrant	12	.1	.1	83.5
	Terrell	1	.0	.0	83.5
	Titus	46	.5	.5	84.0
	Tom Green	19	.2	.2	84.2
	Trinity	90	1.0	1.0	85.2
	Tyler	18	.2	.2	85.4
	Upshur	13	.1	.1	85.5
	Upton	1	.0	.0	85.5
	Uvalde	19	.2	.2	85.7
	Val Verde	1	.0	.0	85.7
	Walker	1	.0	.0	85.7
	Washington	1	.0	.0	85.8

		County			Cumulative Percent
		Frequency	Percent	Valid Percent	
	Garza	2	.0	.0	29.4
	Gillespie	1	.0	.0	29.4
	Goliad	102	1.1	1.1	30.5
	Grayson	103	1.1	1.1	31.6
	Gregg	474	5.1	5.1	36.7
	Guadalupe	747	8.1	8.1	44.8
	Hale	143	1.5	1.5	46.3
	Hall	39	.4	.4	46.7
	Hansford	1	.0	.0	46.7
	Harris	31	.3	.3	47.1
	Harrison	108	1.2	1.2	48.2
	Haskell	9	.1	.1	48.3
	Hays	37	.4	.4	48.7
	Henderson	1	.0	.0	48.7
	Hidalgo	36	.4	.4	49.1
	Hill	58	.6	.6	49.7
	Hood	4	.0	.0	49.8
	Houston	17	.2	.2	50.0
	Hutchinson	9	.1	.1	50.1
	Jack	68	.7	.7	50.8
	Jackson	145	1.6	1.6	52.4
	Jim Hogg	15	.2	.2	52.5
	Karnes	28	.3	.3	52.8
	Kendall	1	.0	.0	52.8
	Kenedy	1	.0	.0	52.9
	King	19	.2	.2	53.1
	Kleberg	110	1.2	1.2	54.2
	Lamb	97	1.0	1.0	55.3
	Lampasas	71	.8	.8	56.1
	Liberty	313	3.4	3.4	59.4
	Live Oak	41	.4	.4	59.9
	Llano	120	1.3	1.3	61.2
	Lubbock	1	.0	.0	61.2
	Lynn	1	.0	.0	61.2
	McCulloch	19	.2	.2	61.4
	McLennan	23	.2	.2	61.6
	Medina	1	.0	.0	61.6

		County			Cumulative Percent
		Frequency	Percent	Valid Percent	
	Webb	921	9.9	9.9	95.7
	Wheeler	64	.7	.7	96.4
	Willacy	72	.8	.8	97.2
	Winkler	1	.0	.0	97.2
	Wise	123	1.3	1.3	98.5
	Wood	1	.0	.0	98.5
	Zapata	136	1.5	1.5	100.0
	Zavala	3	.0	.0	100.0
	Total	9275	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?	26.5%	38.2%	11.7%
Do you like Lettuce?	73.7%	78.4%	4.7%
Do you like Carrots?	78.1%	79.9%	1.8%
Do you like Spinach?	36.9%	49.5%	12.6%
Do you like Potatoes?	61.8%	64.9%	3.1%
Do you like Swiss chard?	9.4%	21.6%	12.2%
Do you like Tomatoes?	53.2%	54.9%	1.7%
Do you like Broccoli?	60.2%	62.9%	2.7%
Do you like Bell Peppers?	40.0%	47.1%	7.1%
Do you like Squash?	26.5%	34.8%	8.3%
Do you like Sugar Snap Peas?	25.3%	40.3%	15.0%
Do you like Bok Choy?	11.9%	24.3%	12.4%

Conclusion comment: Student answers reflected an increase in vegetable preference for all 12 vegetables featured in the LGEG 10 week curriculum. The greatest increase (more than 10% from mean pre to mean post) was seen for Cauliflower, Spinach, Swiss Chard, Sugar Snap Peas and Bok Choy.

Q: Students were asked what beverage they 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	27.8%	27.4%	.4%
Fruit juice	More than once	19.0%	20.1%	1.1%
Water	More than once	51.3%	55.5%	4.2%
Milk	More than once	26.7%	29.0%	2.3%

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	28.8%	29.2%	.4%
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 pre/post differences showed an increase in consumption of fruit juice, water, and milk with the greatest increase being water at 4.2%. The consumption of sweetened beverages such as soda, sweet tea, or sports drinks remained constant. 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 fruit juice when comparing pre to post answers.

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	39.2%	29.7%	9.5%
Response – Yes	60.8%	70.3%	9.5%

Yesterday, how many hours of screen time did you have (away from school)	Mean Before	Mean After	Percent Change
Response – 2 hours or more	43.4%	37.3%	6.1%
Response – Less than 2 hours	41.7%	46.6%	4.9%
None	14.9%	16.1%	1.2%

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 9.5% decrease in students reporting doing no physical activity. There was a 9.5% 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 6.1% 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	7.9%	10.1%	2.2%
	Once	28.4%	31.2%	2.8%
	Did not consume any	63.8%	58.7%	5.1%
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	7.8%	8.9%	1.1%
	Once	30.7%	35.1%	4.4%
	Did not consume any	61.5%	55.9%	5.6%
Yesterday, how many times did you eat any beans like pinto, garbanzo or kidney beans	More than once	4.9%	5.1%	.2%
	Once	26.2%	27.4%	1.2%
	Did not consume any	68.9%	67.5%	1.4%
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	8.5%	10.1%	1.6%
	Once	31.9%	36.3%	4.4%
	Did not consume any	59.6%	53.6%	6.0%
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	24.8%	29.4%	4.6%
	Once	46.7%	44.2%	---
	Did not consume any	28.5%	26.4%	2.1%

Conclusion Comment: When reviewing vegetables consumed yesterday, there were increases of consumption from pre to post test scores for all frequencies of vegetable consumption (orange vegetable, green vegetables, other vegetables). There were also slight increases in bean consumption when comparing pre and post test scores. Fruit consumption increased in the more than once daily frequency. In all categories, there were fewer students reporting they did not consume any vegetables when comparing pre and post scores.

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
- Washed vegetables before cooking or eating them
- Picked vegetables from a garden to cook or eat 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

67.4% of students reported they felt gardening had made them a better math and science student

66.2% of students reported the garden program made them want to come to school

55.8% of students reported they had taught someone else how to make better food choices

62.3% of students reported they have gardened with their family and enjoyed it

Overall Summary

There were increases in vegetable preferences for all 12 vegetables featured in the LGEG curricula. Survey data indicated an increase of fruit juice, water, and milk consumption, with the greatest difference being a 4.2% increase in water consumption. When students were asked to reflect on yesterday activities, there was a 9.5% decrease in students reporting no physical activity and 9.5% increase in students' hard physical activity from pre to post tests. There were fewer students reporting they did not do any physical activity and more students reporting they did more hard physical activity. Additionally, there was a 6.1% decrease in using screens 2 hours or more when away from school. Student responses were significant in four areas of family engagement: planting more seeds or plants at home in a vegetable garden with their family, washing vegetables before cooking or eating them, picking vegetables from a garden to cook or eat with their family, and students and family gardening with others in a community or school garden. Finally, 67.4% of students reported they felt gardening had made them a better math and science student; 66.2% of students reported the garden program made them want to come to school; 55.8 % of students reported they had taught someone else how to make better food choices; and 62.3% of students reported they enjoyed gardening with their family.

Areas for improvement

There were 9,275 pre-tests and 6,322 post-tests. Results could be impacted due to lower return rate of post surveys. Fidelity of implementation can affect program impact. Extension employees are encouraged to promote full implementation and to utilize the LGEG program to introduce and layer other Extension healthy programs to maximize youth impact and reach into the home environment.