V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Childhood Obesity

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food		0%		10%
702	Requirements and Function of Nutrients and Other Food Components		0%		10%
703	Nutrition Education and Behavior		0%		80%
	Total		0%		100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.0	1.7
Actual Paid Professional	0.0	0.0	0.0	1.2
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
0	0	0	178948
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	90889
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Microbiological testing - selection of yogurt containing effective probiotics to reduce lactose intolerance; Recruitment of participants to the feeding study; Survey on self-reporting symptoms of lactose intolerance; Testing urine galactose; feeding study; Reporting of lactose symptoms during the feeding study; workshops on efficacy of yogurts containing probiotics to reduce lactose intolerance and control weight gain; Acceptability study (sensory evaluation sessions); Development of nutrition education program (nutrition lessons, nutrition messages, program identifiers); Workshops on nutrient-dense dairy products and health benefits of yogurts containing probiotics in adults (Media announcements, Sampling of yogurts, Shopping education).

Fifteen African American students enrolled in the University of Arkansas at Pine Bluff who had been either clinically diagnosed or self-diagnosed as lactose intolerant participated in two, one hour education sessions on the benefits of consuming dairy products. At the beginning of the first session, the group was asked to recall all foods consumed the previous 24hours. After, the group was given information on ways to incorporate dairy products into their diets. At the end, participants tasted dairy products they could tolerate such as probiotic yogurt and fresh strawberry parfaits. During the second session, returning participants (13) tasted cheddar cheese with crackers and calcium fortified orange juice. They were informed about the advantages of consuming a diet balanced in calcium and were given a list of dairy products they could tolerate (low in lactose). At the end of the session, they were asked through a survey if they planned to include more dairy products in their diets.

2. Brief description of the target audience

UAPB students (18-30 years old) made up of 50% males and 50% females who have not reached their menopause. Participants will be recruited through advertisement on campus using bulletin boards, internet and announcements on UAPB radio and television.

Fifteen (15) African American students enrolled in the University of Arkansas at Pine Bluff (UAPB); 8 females and 7 males.

3. How was eXtension used?

Flyers were posted on campus buildings to recruit participants to the research activity.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	15	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year:	2012
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of research publications

Year	Actual
2012	0

Output #2

Output Measure

- # of promising crop lines identified
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of successful food recipes
  Not reporting on this Output for this Annual Report

Output #4

Output Measure

- 1. number of yogurts to be microbiologically tested
  Not reporting on this Output for this Annual Report

Output #5

Output Measure

- 2. number of participants to be recruited for the feeding study

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- 3. number of participants in the feeding study

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- 4. number of participants in workshop on yogurt containing probiotics

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- 5. number of panelists for the acceptability study

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- 6. number of participants in workshop on increased consumption of dairy products

Year	Actual
2012	0

Output #10

Output Measure

- Number of education session

Year	Actual
2012	2

Output #11

Output Measure

- Number of participants in education sessions

Year	Actual
2012	15

Output #12

Output Measure

- Increase dairy products consumption in cups

Year	Actual
2012	1

Output #13

Output Measure

- Increase calcium intake in mg

Year	Actual
2012	300

Output #14

Output Measure

- Increase vitamin D intake in micrograms

Year	Actual
2012	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	1. Increased consumption of yogurt containing effective probiotics by at least one serving among participants
2	2.Reduced symptoms of lactose intolerance among participants
3	3.Increased calcium intake among participants
4	4.Reduced weight gain among participants
5	5.Increased awareness of health benefits of yogurts and dairy products containing probiotics to the public
6	6.Increased consumption of at least one serving of a nutrient-dense dairy product by the public
7	# of people accept/like the new crop varieties
8	# of people have knowledge about the new crop varieties
9	# of people use and benefit from the new crop varieties and new food sources & recipes
10	Increased dairy products consumption
11	Increased vitamin D intake

Outcome #1

1. Outcome Measures

1. Increased consumption of yogurt containing effective probiotics by at least one serving among participants

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

2.Reduced symptoms of lactose intolerance among participants

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

3.Increased calcium intake among participants

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Calcium and vitamin D contribute to building dense bones. Deficiency in calcium and vitamin D may predispose individuals to loss of bone mineral density, rickets in children, and later osteoporosis in postmenopausal women. Dairy products are good sources of calcium and vitamin D. A large number of African Americans (60-80%) are lactose intolerant, avoid consuming dairy products, and are likely to develop deficiency in calcium.

What has been done
Two (2) one hour education sessions on the benefits of consuming dairy products were conducted. 24 hour-recalls collected at the first session and and 24 hour-recalls collected six weeks after the second session were compared using USDA SuperTracker software.

Results
Participants increased their calcium intake from 500 mg to 800 mg per day six weeks later.

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

4.Reduced weight gain among participants

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures

5.Increased awareness of health benefits of yogurts and dairy products containing probiotics to the public

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #6

1. Outcome Measures

6.Increased consumption of at least one serving of a nutrient-dense dairy product by the public

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #7

1. Outcome Measures

# of people accept/like the new crop varieties

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food

Outcome #8

1. Outcome Measures

# of people have knowledge about the new crop varieties

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food

Outcome #9

1. Outcome Measures

# of people use and benefit from the new crop varieties and new food sources & recipes

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #10

1. Outcome Measures

Increased dairy products consumption

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Calcium and vitamin D contribute to building dense bones. Deficiency in calcium and vitamin D may predispose individuals to loss of bone mineral density, rickets in children, and later osteoporosis in postmenopausal women. Dairy products are good sources of calcium and vitamin D.

What has been done
Two (2) one hour education sessions on the benefits of consuming dairy products were conducted. 24 hour-recalls collected at the first session and and 24 hour-recalls collected six weeks after the second session were compared using USDA SuperTracker software.

Results
Participants (10) increased their dairy products consumption from 0.7 cup to 1.85 cups per day.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #11

1. Outcome Measures

Increased vitamin D intake

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Calcium and vitamin D contribute to building dense bones. Deficiency in calcium and vitamin D may predispose individuals to loss of bone mineral density, rickets in children, and later osteoporosis in postmenopausal women. Dairy products are good sources of calcium and vitamin D. A large number of African Americans (60-80%) are lactose intolerant, avoid consuming dairy

products, and are likely to develop deficiency in calcium.

What has been done
Two (2) one hour education sessions on the benefits of consuming dairy products were conducted. 24 hour-recalls collected at the first session and and 24 hour-recalls collected six weeks after the second session were compared using USDA SuperTracker software.

Results
Participants (10) increased their vitamin D intake from 1.3 micrograms to 2.5 micrograms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (limitations; students dropout)

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Fifteen African American students enrolled in the University of Arkansas at Pine Bluff who had been either clinically diagnosed or self-diagnosed as lactose intolerant participated in two, one hour education, sessions on the benefits of consuming dairy products. At the beginning of the first session, the group was asked to recall all foods consumed the previous 24hours. After, the group was given information on ways to incorporate dairy products into their diets. At the end, participants tasted dairy products they could tolerate such as probiotic yogurt and fresh strawberry parfaits. During the second session, returning participants (13) tasted cheddar cheese with crackers and calcium fortified orange juice. They were informed about the advantages of consuming a

diet balanced in calcium and were given a list of dairy products they could tolerate (low in lactose). At the end of the session, they were asked through a survey if they planned to include more dairy products in their diets. Twelve of the 13 students said they would. Reasons for inclusion of more dairy products varied from "having strong bones to prevent osteoporosis" to "being made aware of the importance of calcium in the diet". Six weeks later, ten of the participants submitted a second 24 hour recall. Recalls from the first session and those completed six week after the second session of the 10 participants were analyzed and compared using the USDA SuperTracker. Results showed an increase from 0.7 cup to 1.85 cup of dairy productsper person and per day. The average daily intake of calcium increased from approximately 500mg to 800mg. There was an increase in vitamin D intake from 1.3 µg per to 2.5 µg. We recommend a large study to confirm results of this study.

Key Items of Evaluation

Results showed an increase from 0.7 cup to 1.85 cup of dairy productsper person and per day. The average daily intake of calcium increased from approximately 500mg to 800mg. There was an increase in vitamin D intake from 1.3 µg per to 2.5 µg.