

# Food, Nutrition & Health

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## V(A). Planned Program (Summary)

### 1. Name of the Planned Program

Food, Nutrition & Health

## V(B). Program Knowledge Area(s)

### 1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation			4%	
302	Nutrient Utilization in Animals			2%	
305	Animal Physiological Processes			13%	
311	Animal Diseases			2%	
403	Waste Disposal, Recycling, and Reuse			1%	
502	New and Improved Food Products			1%	
604	Marketing and Distribution Practices			4%	
607	Consumer Economics			1%	
610	Domestic Policy Analysis			1%	
701	Nutrient Composition of Food			8%	
702	Requirements and Function of Nutrients and Other Food Components			10%	
703	Nutrition Education and Behavior			13%	
704	Nutrition and Hunger in the Population			1%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.			10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins			15%	
722	Zoonotic Diseases and Parasites Affecting Humans			3%	
723	Hazards to Human Health and Safety			3%	
724	Healthy Lifestyle			6%	
903	Communication, Education, and Information Delivery			2%	
	<b>Total</b>			100%	

## V(C). Planned Program (Inputs)

### 1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	0.0	0.0	1.2	0.0
<b>Actual</b>	0.0	0.0	3.1	0.0

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

Extension		Research	
<b>Smith-Lever 3b &amp; 3c</b> 0	<b>1890 Extension</b> 0	<b>Hatch</b> 282963	<b>Evans-Allen</b> 0
<b>1862 Matching</b> 0	<b>1890 Matching</b> 0	<b>1862 Matching</b> 282963	<b>1890 Matching</b> 0
<b>1862 All Other</b> 0	<b>1890 All Other</b> 0	<b>1862 All Other</b> 258992	<b>1890 All Other</b> 0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Twelve project in 2007 addressed issues related to Food, Nutrition and Health. Project 1 focused on sustaining local food systems in a globalizing environment and examined forces, responses and impacts. It was part of the UNH Office of Sustainability's Food and Society Initiative. The project participants worked with schools systems and local food producers in NH to develop a direct farm-to-cafeteria relationship. Projects 2 & 3 were part of a multi-state effort to improve fruit, vegetable and whole grain availability and intake in older adults. Project 2 participants conducted face-to-face interviews with older adults to collect information on whole grain consumption. Project 3 conducted lab experiments to examine the link between lutein and zeaxanthin and age-related macular degeneration. The project also examined the effects of whole grains and other forms of carbohydrates on blood sugar levels following consumptions. Project 4 carried out a study of forty nursing mothers to determine the levels of the environmental pollutant PCDE in breast milk. Project 5 carried out experiments to examine the relationship between obesity, insulin resistance and allergic airway disease including asthma. The PI and students of Project 6 conducted laboratory studies to determine the role of notch1 mediated signaling in the regulation of adipogenesis and adipocyte function and survival. Project 7 researchers developed new analytical methods that they applied to study defenses against Salmonella in human host cells. Project 8 carried out laboratory experiments to optimize an integrated cell-culture and real-time PCR assay for detection of reovirus in two different type of biosolids. Project 9 was a laboratory study to examine regulation of Shiga-like toxins in enterohemorrhagic E. coli, which is the cause of hemorrhagic colitis or "hamburger disease". Project 10 conducted laboratory experiments using and in-vitro model of the blood-brain barrier (BBB) to study the potential application of hyperthermia as a means of opening the BBB to enhance delivery of pharmaceuticals into the brain. In Project 11, laboratory research was conducted to evaluate the molecular basis for differences between rod and cone photoreceptors in the vertebrate retina. Project 12 conducted laboratory experiments to examine the relationship between dietary lipids (fat and cholesterol), hyperglycemia and the development of aortic atherosclerotic lesions. In additions to the activities described above, the project participants prepared manuscripts for submission to peer reviewed journals and presented research results at regional, national and/or international meetings. Undergraduate students, graduate students and post-doctoral students participated in the projects as part of their training.

**2. Brief description of the target audience**

The target audience for Project 1 included local food producers, consumers, school and institutional dieticians, state agencies, educators, and practitioners. The audiences for Project 2 & 3 include older adults, nutrition scientists, dieticians and other practitioners, public health agencies and personnel. The target audience for Project 4 includes nursing mothers, public health agencies and personnel, the medical community, nutrition researchers and scientists in related disciplines. Project 5 results are relevant to medical and nutritional researchers and educators. The findings also have implications for feed products used in the beef, poultry and pork industry. Project 6 results are of interest to the scientists and other audiences and associations connected to obesity, diabetes and tumor biology. In addition to scientists in the discipline, the results of Projects 7, 8 and 9 are of interest to public health agencies and the medical community. The target audience for Project 10 includes research scientists and physicians in the fields of neurological disorders and dementia. The findings of Projects 11 and 12 are of interest to other research scientists in the disciplines and segments of the medical community.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	900	5550	10	0
2007	0	0	0	15000

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

**Patent Applications Submitted**

**Year Target**

**Plan: 0**

2007: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	0	3	0

**V(F). State Defined Outputs****Output Target****Output #1****Output Measure**

Peer reviewed publications

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	7	3

**Output #2****Output Measure**

Chapters in Books

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	0

**Output #3****Output Measure**

Author of book or editor of book

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	0

**Output #4****Output Measure**

Non peer reviewed publications including abstracts

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	13	12

**Output #5****Output Measure**

Number of graduate theses and dissertations completed

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	{No Data Entered}	4

**Output #6****Output Measure**

Total number of project participants (not including audiences)

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	{No Data Entered}	44

**V(G). State Defined Outcomes**

O No.	Outcome Name
1	Peer Reviewed Publications
2	Number of graduate students trained
3	Number of Undergraduate students trained and/or performing investigations
4	Number of presentations/posters at regional, national or international conferences or workshops
5	Number of Grant submissions
6	Number of public presentations
7	Model Development
8	Town meetings
9	Results to NH DES

**Outcome #1**

**1. Outcome Measures**

*Not reporting on this Outcome for this Annual Report*

**2. Associated Institution Types**

**3a. Outcome Type:**

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
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**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
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**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

Economy

Government Regulations

Populations changes (immigration,new cultural groupings,etc.)

**Brief Explanation**

No external factors adversely affected project outcomes.

**V(I). Planned Program (Evaluation Studies and Data Collection)**

**1. Evaluation Studies Planned**

Before-After (before and after program)

During (during program)

Time series (multiple points before and after program)

Case Study

**Evaluation Results**

**Key Items of Evaluation**