

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

**Program #3**

**1. Name of the Planned Program**

Nutrition and Food Safety

**2. Brief summary about Planned Program**

Cooperative Extension has active work teams in the following areas:

- Food Safety Education including
  - Food Safety Training for Food Service Managers and Workers
  - Food Safety Education for Consumers, High Risk Audiences and Caregivers
  - Promoting Food Security for Limited Resource Audiences
  - Health Promotion/Chronic Disease Prevention
  - Obesity/Overweight Prevention/Strong Women, Strong Bones
  - Heart Disease
  - Diabetes Awareness, Prevention and Management

The AES research program in human nutrition focuses on basic research to understand the interactions between plant composition and human health, the interrelationships between nutrition, exercise, and human health, and the basic biochemistry of human nutrition. Food safety research emphasizes pre-harvest management of livestock to prevent transmission of human pathogens in livestock production and handling and post-harvest detection and management systems to prevent contamination of meat and plant products with human pathogens

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

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

**1. Program Knowledge Areas and Percentage**

● 701	20%	Nutrient Composition of Food
● 703	40%	Nutrition Education and Behavior
● 711	10%	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
● 712	20%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
● 805	10%	Community Institutions, Health, and Social Services

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

•Foodborne illness in the US is a major economic burden and cause of human suffering and death. Economic and social consequences of foodborne illness are estimated to be over \$3 billion each year, with lost productivity estimated at \$30-40 billion. It is estimated that foodborne contaminants cause approximately 76 billion illnesses, 325,000 hospitalizations, and 5,000 deaths in the US each year. The risk of foodborne illness is especially important when hazardous food is served in group settings (eating establishments, child and assisted care facilities) and/or to high risk individuals (seniors, young children, pregnant women, immuno-compromised individuals).

•Ten million Americans experience hunger throughout the year, 30% of those are children. In Colorado, 1 in 5 children are hungry or at risk of malnutrition. Also in Colorado, a high proportion of those at high risk for food insecurity are of Hispanic origin. Low-income single mothers with children are especially vulnerable to hunger and food insecurity. In 2000, 46.5% of these

households were food-insecure. Research has documented the link between food insufficiency and poor health outcomes, particularly in children.

- Since 1980, overweight and obesity have become an increasing problem in the US, causing the Surgeon General to declare obesity a national epidemic. The prevalence of overweight is increasing for children and adolescents. Currently 18.2 million people have diabetes and 1.3 million new cases are diagnosed each year. The number of adult Americans diagnosed with high blood pressure increased 30% between 1994 and 2002. Cardiovascular disease is the leading cause of death in Colorado (32% of all deaths). Osteoporosis is a major health issue for 55% of people over age 50.

## 2. Scope of the Program

- Multistate Integrated Research and Extension
- In-State Research
- Multistate Research
- Integrated Research and Extension
- Multistate Extension
- In-State Extension

## V(D). Planned Program (Assumptions and Goals)

### 1. Assumptions made for the Program

- Given accurate knowledge and support, individuals at risk for food-borne illness, food insecurity, and major diseases will increase their understanding, change attitudes and behaviors, and ultimately be less at risk, less hungry and healthier.

### 2. Ultimate goal(s) of this Program

#### Food Safety Education

- Increase the proportion of consumers who follow key food safety practices.
- Improve food employee behaviors and food preparation practices that relate directly to foodborne illnesses in retail food establishments.
- Increase the proportion of high risk consumers and their caregivers who follow key food safety practices.

#### Promoting Food Security

- Individuals gain awareness, knowledge and skills to stretch their food resources while planning nutrient dense meals.
- Individuals will use skills gained to reduce food cost, thus increasing food availability.
- Individuals will use skills gained to make and/or select safe, nutritious, economical food at home and away from home.
- Individuals experience eating nutritiously on a limited budget, using resources appropriately.

#### Health Promotion/Chronic Disease Prevention

- Increase the proportion of adults and youth who are at a healthy weight and reduce the proportion of adults and youth who are obese.
- Increase the number to persons with diabetes who receive formal diabetes education.
- Prevent new cases of diabetes through changes in diet.
- Reduce the proportion of adults with high blood pressure and high total blood cholesterol.
- Reduce the proportion of adults with osteoporosis

#### Food Safety Research

- Pre-harvest management of livestock to prevent acquisition of human pathogens in livestock production and handling
- Post-harvest detection and management systems to prevent contamination of meat products with human pathogens
- Assessment of production systems and regulatory protocols for effective food safety.

#### Nutrition Research

- Determine important relationships between diet and health
- Evaluate the relationships between plant composition, food processing, and diet on bioavailability of nutrients and interactions with disease and obesity
- Study the impact of diet and exercise on human health

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

### 1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	24.0	0.0	7.0	0.0
2009	24.0	0.0	7.0	0.0
2010	24.0	0.0	7.0	0.0
2011	24.0	0.0	7.0	0.0
2012	24.0	0.0	7.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Food Safety Education

- Food Safety training for consumers, high risk audiences and their caregivers.(Eat Well for Less, La Cocina Saludable, Worksite Wellness, Safe Home Food Preparation and Preservation, Promotion at Farmers Markets.)
- Food Safety Training for Food Service Managers and Workers (Food Safety Works, ServSafe, Food Safety for Food Bank Workers).

Promoting Food Security

- Multi-lesson series programs-Eat Well for Less, La Cocina Saludable]
- Single event porgrams targeting limited resource families
- Newsletters-Senior Nutrition News

Health Promotion/Chronic Disease Prevention

- Multi-lesson series - Dining with Diabetes, Small Changes Make a Big Difference, Strong Women-Strong Bones, Moving Toward a Healthier You, Healthy Heart, Smart-START for a Healthy Heart
- Self-paced program - Self-Care for a Healthy Heart
- Single lessons - Workable Wellness (worksite wellness).
- Youth program- Food Friends-Making New Foods Fun for Kids, Eating Right Is Basic, Chef Combo's Fantastic Adventures in Tasing and Nutrition, Professor Popcorn

Research

- Technical and extension publications
- Development of new technologies for improving food safety
- Development of recommendations on diet, exercise or other health related topics

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Demonstrations</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● Education Class</li> </ul>	<ul style="list-style-type: none"> <li>● Newsletters</li> <li>● Other 1 (Multimedia kiosks)</li> <li>● Public Service Announcement</li> <li>● Web sites</li> </ul>

**3. Description of targeted audience**

Food Safety Education

- Consumers, High Risk Audiences (pregnant, immuno-compromised, elderly).
- Food Handlers and their managers at retail food establishments.
- Producers and processors of plant and animal agricultural products.

Promoting Food Security

- Limited-resource individuals and families at risk of being food insecure.

- Agencies addressing food security (food banks, food pantries, food stamps, WIC, etc.).
- Health Promotion/Chronic Disease Prevention
  - Individuals at risk for diabetes, heart disease, obesity(adults and youth)
  - Seniors at risk for osteoporosis.
  - Youth - nutrition focus

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

**1. Standard output measures**

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	3500	150000	250	1000
2009	3500	150000	250	1000
2010	3500	150000	250	1000
2011	3500	150000	250	1000
2012	3500	150000	250	1000

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

**Expected Patent Applications**

**2008 :0                      2009 :0                      2010 :0                      2011 :0                      2012 :0**

**3. Expected Peer Review Publications**

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

**V(H). State Defined Outputs**

**1. Output Target**

- Number of trainings in Food Safety Education, Food Security, Health Promtion and Disease Prevention held.

**2008 :25                      2009 :25                      2010 :25                      2011 :25                      2012 :25**

- Amount of grant dollars received to support Nutrition, Health and Food Safety

**2008 :25000                      2009 :25000                      2010 :25000                      2011 :25000                      2012 :25000**

- Number of newsletters on Food Safety Education, Food Security, and Health Promotion and Disease Prevention distributed.

**2008 :25000                      2009 :25000                      2010 :25000                      2011 :25000                      2012 :25000**

- Technical publications on food safety and nutrition.

**2008** :20

**2009** :20

**2010** :20

**2011** :20

**2012** :20

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Percent of participants at trainings indicating an increase in knowledge gained
2	Percent of participants reporting a change in attitude regarding the training topic
3	Percent of participants indicating a change in behavior as a result of the training
4	Number of participants at the trainings

**Outcome #1**

**1. Outcome Target**

Percent of participants at trainings indicating an increase in knowledge gained

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2008 :50                      2009 : 50                      2010 : 50                      2011 :50                      2012 : 50**

**3. Associated Institute Type(s)**

{No Data Entered}

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 805 - Community Institutions, Health, and Social Services

**Outcome #2**

**1. Outcome Target**

Percent of participants reporting a change in attitude regarding the training topic

**2. Outcome Type :** Change in Action Outcome Measure

**2008 :50                      2009 : 50                      2010 : 50                      2011 :50                      2012 : 50**

**3. Associated Institute Type(s)**

{No Data Entered}

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 805 - Community Institutions, Health, and Social Services

**Outcome #3**

**1. Outcome Target**

Percent of participants indicating a change in behavior as a result of the training

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2008 :50                      2009 : 50                      2010 : 50                      2011 :50                      2012 : 50**

**3. Associated Institute Type(s)**

{No Data Entered}

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 805 - Community Institutions, Health, and Social Services

**Outcome #4**

**1. Outcome Target**

Number of participants at the trainings

**2. Outcome Type :** Change in Knowledge Outcome Measure

**2008 :**3000

**2009 :** 3000

**2010 :** 3000

**2011 :**3000

**2012 :** 3000

**3. Associated Institute Type(s)**

{No Data Entered}

**4. Associated Knowledge Area(s)**

- 703 - Nutrition Education and Behavior
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 805 - Community Institutions, Health, and Social Services

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Public Policy changes
- Populations changes (immigration,new cultural groupings,etc.)
- Appropriations changes
- Government Regulations
- Natural Disasters (drought,weather extremes,etc.)
- Economy

**Description**

Individuals' ability to attend fee-for-service programs may be impacted by economic downturns. Extension's ability to provide programming and scholarships for these programs may be impacted if appropriations continue to decrease and staff is lost. Immigration reform may change the nature of the audience. Research programs are dependent on funding from external agencies.

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

**1. Evaluation Studies Planned**

- During (during program)
- After Only (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)

**Description**

Regular pre-post evaluations are used. Formative evaluations are often used during the program to adjust focus and direction. Case studies are used to clearly demonstrate impact.

**2. Data Collection Methods**

- On-Site
- Tests
- Sampling
- Case Study
- Observation

**Description**

Pre-post tests. Standard survey methods.