# Food Systems-OARDC Led

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

### 1. Name of the Planned Program

Food Systems-OARDC Led

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

### 1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---|---|---|---|---|---|
| 501 | New and Improved Food Processing Technologies | 40% | | 40% | |
| 502 | New and Improved Food Products | 20% | | 20% | |
| 702 | Requirements and Function of Nutrients and Other Food Components | 15% | | 15% | |
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources. | 5% | | 5% | |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins | 20% | | 20% | |
| | **Total** | 100% | | 100% | |

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

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

| Year: 2007 | Extension | | Research | |
|---|---|---|---|---|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 0.0 | 0.0 | 9.2 | 0.0 |
| Actual | 0.0 | 0.0 | 8.5 | 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 | 530281 | 0 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 0 | 0 | 1754091 | 0 |
| 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

Outputs within the Food Systems planned program are/will be: - online and in print research based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - commercialized techniques; - non-commercialized techniques that are distributed to those in need without costs (e.g. enhanced preservation methods for home food canning); - limited number of patents; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

### 2. Brief description of the target audience

Targeted audiences are, but not limited to: - specific individuals or groups who have expressed a need for food processing and product information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - fellow academic units that partner with food scientists to create systems and processes needed to support not only the research, but also the adoption of the research findings by stakeholders - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. persons who engage in home canning of food; - other scientists and scientific groups; - political entities; - extension personnel; - students from pre-school to post doctorate studies; - news organizations; and - business and industrial groups.

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

### 1. Standard output measures

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

| | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---|---|---|---|---|
| **Year** | **Target** | **Target** | **Target** | **Target** |
| **Plan** | 0 | 0 | 0 | 0 |
| 2007 | 0 | 0 | 0 | 0 |

### 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**

| | Extension | Research | Total |
|---|---|---|---|
| **Plan** | | | |
| 2007 | 0 | 35 | 0 |

## V(F). State Defined Outputs

**Output Target**

**Output #1**

**Output Measure**

Ćǵpeer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

| Year | Target | Actual |
|---|---|---|
| 2007 | 16 | 35 |

**Output #2**

**Output Measure**

ǵonline and print research-based engineering publications will be tracked in terms of number of hits on the web site and the numbers and sites for distribution of printed materials;

| Year | Target | Actual |
|---|---|---|
| 2007 | 0 | 5 |

**Output #3**

**Output Measure**

ǵcommercialized food science techniques will be tracked as to purchaser, number of adoptions, and by whom;

| Year | Target | Actual |
|---|---|---|
| 2007 | 0 | 1 |

**Output #4**

**Output Measure**

Ćǵnon - commercialized techniques will be tracked as to number of adoptions, and by whom;

| Year | Target | Actual |
|---|---|---|
| 2007 | 1 | 2 |

**Output #5**

**Output Measure**

ǵpatents by number and who partnered/purchased/commercialized;

| Year | Target | Actual |
|---|---|---|
| 2007 | 0 | 0 |

**Output #6**

**Output Measure**

Ćǵconsultations with recipients and in what areas;

| Year | Target | Actual |
|---|---|---|
| 2007 | 16 | 20 |

**Output #7**

**Output Measure**

ǵtraining programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training; and

| Year | Target | Actual |
|---|---|---|
| 2007 | 0 | 20 |

**Output #8**

**Output Measure**

Ćǵplanning meeting participation as to who (non-OARDC) participated at what level to help take a research project to the next level.

| Year | Target | Actual |
|---|---|---|
| 2007 | 0 | 10 |

**Output #9**

**Output Measure**

Number of students receiving graduate degrees.

| Year | Target | Actual |
|---|---|---|
| 2007 | {No Data Entered} | 33 |

## V(G). State Defined Outcomes

| O No. | Outcome Name |
|---|---|
| 1 | Advance processing techniques, e.g. electrostatic coating, to achieve the desired traits requested by industrial partners, that are manifested in consumer demand studies, or that are novel technologies that may meet latent needs |
| 2 | Contribute to the advancement of food packaging technologies, e.g. ultrasonic sealing, controlled environment packaging, to the extent that, annually, the risk of contamination due to packaging is reduced measurably. |
| 3 | Participate in the creation of a standardized model and protocols for studying functional foods within five years for the purpose of providing consumers with more informed functional choices that are currently available |
| 4 | Advance the study of stacking functional foods that have a lower than expected societal demand (e.g. soy) with more desirable foods such as tomato products as a means of providing consumers with more access than is currently present. |
| 5 | Expand utilization of products with known functionality or nutraceutical value and give consumers greater informed consumer choice, including the bioavailability of the desire substance in the food, than they presently have. |
| 6 | Reduce health risk by releasing at least one major study each five years demonstrating nutritional health benefits, e.g. carotenoids and cataracts, anthocyanins and colon cancer or as a substitute for artificial dyes. |
| 7 | Reduce health risk by releasing at lest one major study each five years demonstrating negative nutritional side effects, fatty acids and obesity or obesity-related hepatic stealosis or prostate cancer. |
| 8 | Advance the understanding of the potential role of trace minerals such as selenium's protection against breast cancer or copper's protecting against cardiovascular diseases to that extent society can make scienceĞbased choices. |
| 9 | Annually document a contribution regarding how to reduce food borne pathogens in the food supply chain. |
| 10 | Expand the knowledge base for contamination detection within packaged foods by developing or refining technologies such as magnetic resonance or infrared spectroscopy that will, within ten years, eliminate the problem. |
| 11 | - inform the process of collecting, storing, processing, and distributing waste products from plant and animal agriculture to the extent that there are demonstrated gains among multiple outcomes annually |
| 12 | Processing technology research such as pulse electronic field, high pressure, ohmic heating, and microwave will provide processors with a set of alternatives leading to efficiency and quality gains within economic realities annually. |
| 13 | Processing technology research will improve and optimize equipment and processing of food in such manner as meet consumer demand as or before that demand emerges. |
| 14 | Reduce through research and development the negative processing impacts on physio-chemical or molecular properties of food within varying parameters to make foods more acceptable and higher quality commensurate with demand. |
| 15 | Research to detect and protect against pesticides is an outcome target commensurate with need and demand. |

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**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 |
|---|---|---|

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

| KA Code | Knowledge Area |
|---|---|

## 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.)

**Brief Explanation**

Weak economy and government regulations are two factors that most effect outcomes.

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

**1. Evaluation Studies Planned**

Before-After (before and after program)
During (during program)
Case Study
Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
Comparison between locales where the program operates and sites without program intervention

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}