

# Food, Agricultural, and Biological Engineering Systems-OARDC Led

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

### 1. Name of the Planned Program

Food, Agricultural, and Biological Engineering 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
401	Structures, Facilities, and General Purpose Farm Supplies	20%		20%	
402	Engineering Systems and Equipment	30%		30%	
403	Waste Disposal, Recycling, and Reuse	50%		50%	
<b>Total</b>		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
<b>Plan</b>	0.0	0.0	4.0	0.0
<b>Actual</b>	0.0	0.0	4.1	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	321581	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	529040	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 this planned program are/will be: - online and in print research based publications targeted to (a) specific stakeholder groups, (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. wetland construction techniques); - 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 engineering information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at a USDA office, NRCS, Ohio Department of Agriculture, Soil and Water Conservation Districts or a county extension agent; - fellow academic units that rely on engineers 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. recreational large animal owners; - other scientists and scientific groups; - political entities; - extension personnel; - students for pre-school to post doctorate studies; - news organizations; and - business groups such as small town administrators, county commissioners, or commodity groups

**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>	0	0	0	0
2007	0	0	0	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	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	17	0

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

∫number of graduate students graduated and professional positions held

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	18

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

∫online 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;

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

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

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	7	17

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

∫commercialized engineering techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

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

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

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

∫patents by number and who partnered/purchased/commercialized;

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

**Output #7****Output Measure**

∫consultations with recipients and in what areas;

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	5	7

**Output #8****Output Measure**

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	5

**Output #9****Output Measure**

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	3

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

O No.	Outcome Name
1	- provide appropriate facilities and engineering processes commensurate with stakeholders demand to the extent that they have all the information necessary for making adoption decisions
2	- provide appropriate facilities and engineering processes commensurate with fellow research units demands necessary to inform their research efforts in a timely manner
3	- develop enhanced systems to support integrated plant growth systems that will annually result in increased productivity at reduced costs for the industry
4	- improve systems to that will permit small farmers to take advantage of alternatives to traditional commodity crops at a rate commensurate with demand, with an expectation of at least three economically successful adoptions per year
5	- improve mechanical devices and instrumentation needed by stakeholders to the extent that no less than one patent is awarded within each five year period
6	- develop improved systems to aid in meeting new or yet to emerge or novel needs and annually demonstrate progress to at least one stakeholder group or publish a peer-reviewed journal article of the results
7	- advance development of state of the art integrated waste management systems to the extent that OARDC and Ohio are viewed as one of the top ten programs/states in this area nationally
8	- advance the knowledge of ecological based engineered systems for waste management to the extent within five years that, where cost effective and appropriate, they will be adopted over mechanical systems
9	- aid rural stakeholders through research and extension with onsite waste disposal systems to the extent that within ten years 95% of all rural Ohio onsite waste management systems meet state standards -

**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**

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**

Government regulations, policies and incentives as well as available funds to invest in newly engineered products are the greatest external factors.

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

**1. Evaluation Studies Planned**

Before-After (before and after program)

During (during program)

Case Study

Comparison between locales where the program operates and sites without program intervention

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}