

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

**Program # 5**

**1. Name of the Planned Program**

Global Food Security and Hunger

**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	25%		20%	
502	New and Improved Food Products	20%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	5%		20%	
607	Consumer Economics	10%		10%	
703	Nutrition Education and Behavior	10%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		15%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	20%		20%	
	<b>Total</b>	100%		100%	

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

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	26.0	0.0	9.1	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
1332366	0	749237	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1332366	0	1113903	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

This Planned Program advances broad global food security goals and includes both basic and applied research, and associated outreach and extension programs. Research ranges from microbial studies, to packaging, to food taste tests, to consumer preferences and behavior. Laboratories, pilot plants, farms, and multiple business sites are available throughout state to permit data gathering and to continue long - term experiments. All functional laboratories and sites are improved over time as program need warrants. Extension has the capacity to advance knowledge acquisition, promote adoption strategies, and help build human capital to promote global food security and reduce hunger worldwide. OARDC and OSU Extension faculty and staff engage in appropriate levels of outreach, engagement, and consultation, with both internal and external stakeholders.

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

Targeted audiences include, but are not limited to: specific individuals or groups who have expressed a need for food-related 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; other 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

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}
Actual	2000	100	100	1000

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

**Patent Applications Submitted**

Year: 2010  
 Plan:  
 Actual: 2

**Patents listed**

Awarded: 7,638,682 Soybean Cultivar HFPR - 5 and  
 7,592,028 Composition and Process for Making High Soy Protein- Containing Bakery Products

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

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
Actual	1	32	33

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

**Output Target**

**Output #1**

**Output Measure**

- Number of participants attending educational programs of one teaching hour or more.

Year	Target	Actual
2010	{No Data Entered}	1327

**Output #2**

**Output Measure**

- Total number of workshops offered to producers and agri-business leaders

Year	Target	Actual
2010	{No Data Entered}	19

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

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Ohio Market Maker results will indicate food preferences and number of farmers/retailers networks established (measured in number of networks established).
2	Advance new plant varieties or plant qualities that yield new and more desirable foodstuffs.

## **Outcome #1**

### **1. Outcome Measures**

Ohio Market Maker results will indicate food preferences and number of farmers/retailers networks established (measured in number of networks established).

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	{No Data Entered}	679

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

#### **Issue (Who cares and Why)**

Increasingly, across Ohio and the US, there is a growing demand by consumers for locally grown and fresh food products. Making the connection between consumers, local agricultural producers, wholesale markets, and restaurants find local foods from local agricultural producers, community gardens, and farm markets is needed is what MarketMaker is all about.

#### **What has been done**

MarketMaker is an interactive mapping system that locates businesses and markets of agricultural products in Ohio, providing an important link between producers and consumers. The program is part of a national network of state websites connecting farmers with food retailers, grocery stores, processors, caterers, chefs, & other food supply chain contacts. It boasts one of the most extensive collections of searchable food industry-related data in the country categorized by buyers, sellers, location.

#### **Results**

MarketMaker is an interactive mapping system that locates businesses and markets of agricultural products in Ohio, providing an important link between producers and consumers. The program is part of a national network of state websites connecting farmers with food retailers, grocery stores, processors, caterers, chefs, & other food supply chain contacts. It boasts one of the most extensive collections of searchable food industry-related data in the country categorized by buyers, sellers, location, & other demographic information. 679 producers registered with Ohio MarketMaker as of the end of 2010. More than 5000 people have visited the Ohio MarketMaker site to locate farmers, farmers markets, food retailers, eating places, and agritainment.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
607	Consumer Economics
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

#### Outcome #2

##### 1. Outcome Measures

Advance new plant varieties or plant qualities that yield new and more desirable foodstuffs.

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	1

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

###### **Issue (Who cares and Why)**

STRONG GLUTEN WHEAT - Ohio is the number one producer of soft red winter wheat (SRWW) in the US. SRWW is used for many products from cakes to cereals to breads. Until recently, all SRWW was bred to have the same quality parameters: high flour yield, low water absorption, weak gluten. Other classes of wheat are blended with SRWW to make a particular product such as blending strong-gluten hard wheat with SRWW for cracker making. The inclusion of the hard wheat has the detrimental side effect of raising water absorption. A food processor in Toledo Ohio is the second largest flour mill in the US and produces cracker flour using hard wheat imported from the Great Plains at considerable expense.

###### **What has been done**

The OSU wheat breeding program released a new wheat cultivar called OH04-264-58. This cultivar has competitive yield in Ohio, good resistance to prevailing Ohio diseases, and has strong gluten. Like the original strong gluten SRWW that the Toledo mill preferred, OH04-264-58 has a unique gene that imparts strong gluten and stable gluten strength. Thus OH04-264-58 appears suited to the needs of the Ohio miller.

#### **Results**

The Toledo plant used nearly 1,500,000 bushels of strong gluten wheat SRWW in 2010 with plans to expand the program to approximately 3,000,000 bushels annually with the right cultivar.

Assuming a premium of \$0.40 per bushel, then a strong gluten SRWW like OH04-264-58 is worth \$600,000 to \$1,200,000 annually to Midwest growers, primarily in Ohio. In addition sourcing the strong gluten wheat locally will save the mill millions of dollars annually in freight charges.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
502	New and Improved Food Products
607	Consumer Economics

#### **V(H). Planned Program (External Factors)**

##### **External factors which affected outcomes**

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

##### **Brief Explanation**

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

##### **1. Evaluation Studies Planned**

#### **Evaluation Results**

#### **Key Items of Evaluation**

