

Enhancing Economic Opportunities for Agricultural Producers while Protecting Washington's Resources

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Enhancing Economic Opportunities for Agricultural Producers while Protecting Washington's Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%			
112	Watershed Protection and Management	10%			
205	Plant Management Systems	30%			
213	Weeds Affecting Plants	10%			
216	Integrated Pest Management Systems	20%			
307	Animal Management Systems	10%			
601	Economics of Agricultural Production and Farm Management	10%			
	Total	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	50.0	0.0	0.0	0.0
Actual	75.6	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c 2112734	1890 Extension	Hatch	Evans-Allen
	0	0	0
1862 Matching 2112734	1890 Matching	1862 Matching	1890 Matching
	0	0	0
1862 All Other 10022712	1890 All Other	1862 All Other	1890 All Other
	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

WSU Extension works with the people of Washington State to address agricultural, natural resource, and environmental issues by providing information, education, technical assistance, and local development programs. Our programs are available to all without discrimination.

WSU Extension addressed this goal directly through educational programs, demonstration activities, and facilitation processes. Training programs for faculty, staff, volunteers and appropriate partner organizations as well as for specific clientele groups, the general public and underserved populations were conducted. Educational programs addressed the following:

- Sustaining Economically Viable Food Production
- Managing the Risk Associated with Agricultural Production
- Developing Alternative Crops and Markets
- Harvesting Clean Energy from Farm Fields
- Supporting Viable Growth of Organic Agriculture
- Protecting Crops and Animals from Pests and Diseases
- Enhancing Farm Profitability through Value Added Products and Processes
- Protecting and Enhancing the Agricultural Natural Resource Base

Other outreach techniques included field demonstrations, mass media (such as web pages, video streams, newspapers and newsletters), workshops and meetings. Trained volunteers supported programming efforts.

2. Brief description of the target audience

Commercial and small-scale agricultural producers, interest groups, WSU employees, industry support and agency personnel, consumers, rural families, single parent subsistence farm families, and ethnic minorities associated with agriculture.

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	50000	100000	25000	0
2007	104622	1143356	16016	57489

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	94	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of integrated research and extension programs fostered for intrastate, interstate and international impacts.

Year	Target	Actual
2007	10	70

Output #2

Output Measure

Number of contacts with minority stakeholders within the state resulting in increased knowledge about sustainable agricultural practices.

Year	Target	Actual
2007	10000	22620

V(G). State Defined Outcomes

O No.	Outcome Name
1	Percentage of educational activity attendees that increased their knowledge about practices that can enhance agricultural profitability and competitiveness.
2	Percentage of educational activity attendees that plan to effectively manage the risks of market price variation, adverse environmental inputs, changing government programs, and variation in public awareness about nutrition and food safety.
3	Percentage of educational activity attendees that can recognize and evaluate the economic, environmental and social opportunities of alternative plant and animal production systems including production of bio-energy, bi-product utilization, agritourism, and value-added processing.
4	Percentage of educational activity attendees that increased their knowledge of organic production practices, regulations, and marketing opportunities.
5	Percentage of educational activity attendees that increased their knowledge of effective pest management practices, conservation tillage systems, and/or riparian management methods that protect endangered species and the environment and safeguard human health.
6	Number of Extension faculty and staff creating, implementing and evaluating culturally competent programs to increase the diversity of Extension program participants and partners.
7	Number of organic farms and ranches certified in Washington that were assisted by Extension programming or through partnerships between Extension and other agencies and organizations.
8	Estimated reduction dollars spent for chemical pesticides among farms utilizing integrated pest management strategies.

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

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

1. Evaluation Studies Planned

After Only (post program)

Retrospective (post program)

Before-After (before and after program)

During (during program)

Other (Leveraging research data to assess economic and environmental impacts.)

Evaluation Results

The WSU Extension Agriculture Program is very diverse. Therefore, a number of evaluation techniques are utilized. Many of the results leverage the collaboration between extension programs and applied research conducted at research and extension centers and elsewhere. An overview of evaluation results follows.

- As a result of research and demonstration programs and stimulated by substantially higher value for HRW over SWH winter wheat, hard red winter (HRW) wheat acreage in Washington State for 2007 production is expected to exceed 400,000 acres. This is a 100% increase from 2007 (200,000 acres) and represents over \$10 million in increased value to producers shifting from Soft White Winter to HRW.

- Based on seed sales of WSU-developed varieties, grower adoption of novel trait winter wheat varieties with the Clearfield technology exceeded over 100,000 winter wheat acres in the first year of commercial availability and represented over 5% of all winter wheat acres. The ability for producers to utilize this variety with the Clearfield system has an estimated increased value in excess of \$3 million in 2007.

- Based on post program surveys, forty-five percent of growers changed their practices and adopted recommendations for soil testing and applying micronutrients to increase green pea yields. Growers have independently verified yield increases of 300 to 500 lb/acre on green pea production fields when following these practices. On acreages where testing and appropriate fertilization are known to have been adopted, this resulted in an economic impact of \$360,000 in 2007.

- Participants in the Beef 300 program reported that their knowledge and understanding of "Beef Production from Farm to Table" increased by 1.25 units on a 5 point scale and 94% of participants identified at least one practice change they planned to implement that would positively impact the economic status of their operation.

- Based on post program surveys, two hundred people indicated that they changed management practices to include best management practices of riparian areas, and twenty producers have changed heifer development practices to include managed intensive grazing instead of total confinement.

- Producer surveys indicated that application of Ag Weather Net model-based disease management has helped them reduce fungicide usage by 73%.

- As a result of applied research and extension programs, modern and more environmentally-friendly products have been registered to control cherry fruit fly, reducing the dependence on the use of organophosphate or carbamate insecticides. GF-120 bait was registered as a result of this work, and has become the dominant method for control of cherry fruit fly.

- Surveys indicate that cherry growers in Washington have saved over \$ 4.50 million in labor, materials and application cost over the past four seasons through the use of GF-120 bait in contrast to other pesticide strategies. Consequently, the use of organophosphate and carbamate was reduced by about 90,000 pounds in Washington in 2007. Employee exposure to OP and carbamate while applying control sprays was reduced by at least 10,000 hours.

- Data from WSU research and extension projects led to the registration of GF-120 bait in Canada.

- 75% of the potato growers in the Columbia Basin applied information from the information hotline to successfully manage late blight. This resulted in a cost saving due to more efficient use of fungicides (6 fewer applications in 2007), less late blight on foliage in the field and less tube blight in storage than those that did not follow disease management recommendation.

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- Surveys of potato fields and growers indicate that the mean number of fungicide applications now used for effective management is 1.3 and the man cost of an application has decreased because of a shift of products to \$24.37/ acre/ application. This is a mean reduction of 1.2 fungicide applications and a savings of \$63.32/ acre (change from \$100/ acre to \$36.68) in the white mold areas which is at least 85% of the acreage in the Columbia Basin. Multiplied over 85% of 142,000

Key Items of Evaluation

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