

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Global Food Security and Hunger: Sugar Beets

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	0%		10%	
111	Conservation and Efficient Use of Water	0%		2%	
205	Plant Management Systems	40%		40%	
212	Pathogens and Nematodes Affecting Plants	30%		26%	
213	Weeds Affecting Plants	20%		5%	
215	Biological Control of Pests Affecting Plants	0%		10%	
216	Integrated Pest Management Systems	10%		5%	
405	Drainage and Irrigation Systems and Facilities	0%		2%	
	Total	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
Plan	1.2	0.0	1.0	0.0
Actual	3.7	0.0	5.0	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
68968	0	41444	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
68968	0	41444	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
182330	0	1140171	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Global food security and hunger: Sugar beets team is made up of 10 faculty members contributing a total of 3.1 FTEs to this project. Team members generated \$347,032 in external grant support and made 5,045 direct teaching contacts. Team members produced three peer-reviewed Extension publications and three articles in professional and scientific journals. The team has one integrated area of focus : Crop production.

Significant work was undertaken related to crop pests, including revision of the sugar beet section of the PNW insect management handbook and initiation of a three-year IPM project. Other activities conducted in the field with cooperating growers include weed management trials and demonstrations with various herbicides; seedbed preparation, strip cropping, irrigation practices and other planting practices that impact disease and weed populations.

2. Brief description of the target audience

The Global food security and hunger: Sugar beets team is made up of 10 faculty members contributing a total of 3.1 FTEs to this project. Team members generated \$347,032 in external grant support and made 5,045 direct teaching contacts. Team members produced three peer-reviewed Extension publications and three articles in professional and scientific journals. The team has one integrated area of focus : Crop production.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3976	4467	0	0
Actual	4798	7341	247	100

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

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	1	
Actual	4	4	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Other publications as lead author (non peer-reviewed).

Year	Target	Actual
2010	11	9

Output #2

Output Measure

- Web publications as lead author.

Year	Target	Actual
2010	4	1

Output #3

Output Measure

- Presentations.

Year	Target	Actual
2010	22	32

Output #4

Output Measure

- Newsletters.

Year	Target	Actual
2010	2	0

Output #5

Output Measure

- Organizing schools or conferences.

Year	Target	Actual
2010	2	6

Output #6

Output Measure

- Organizing field days.

Year	Target	Actual
2010	4	4

Output #7

Output Measure

- Field tours.

Year	Target	Actual
2010	8	9

Output #8

Output Measure

- Web page visits.

Year	Target	Actual
2010	2900	344

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Adoption of best management practices for sugarbeet production will maximize cost-effectiveness while minimizing potential harm to environmental resources, benefiting sustainability of the agro-ecosystem and human health. I: Percentage reduction in input costs (survey).
2	O: Target audiences will gain knowledge and an awareness of sugarbeet publications and other sources of information. I: The number of participants who report increased knowledge measured by: pre- and post-tests or presentation evaluations
3	O: Development of new research information. I: Research publications (peer reviewed).
4	O: Development of new research information.I: Number of research presentations.
5	O: An increase in adoption of IPM practices and BMPs. I: Number of growers adopting one or more IPM practices or BMPs indicated by surveys.

Outcome #1

1. Outcome Measures

O: Adoption of best management practices for sugarbeet production will maximize cost-effectiveness while minimizing potential harm to environmental resources, benefiting sustainability of the agro-ecosystem and human health. I: Percentage reduction in input costs (survey).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Sugar beet production costs continue to increase along with other crop production inputs.

What has been done

Conducted four strip sugar beet weed control studies to better understand how to control weeds in strip tillage.

Results

Growers learned that tank mixtures of soil-active herbicides worked well with glyphosate.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

Outcome #2

1. Outcome Measures

O: Target audiences will gain knowledge and an awareness of sugarbeet publications and other sources of information. I: The number of participants who report increased knowledge measured by: pre- and post-tests or presentation evaluations

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	7	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers and ag-related workers need easy access to information.

What has been done

We have updated our growers list, placed growers by crops and have kept them updated on current events and technology advances via email or mail. The demand for easy access to information has prompted us to enhance and keep updating the information that we provide on our website. The staff are keeping new research findings on file.

Results

Our website averages 25 downloads per month of the sugar beet publications available. We have been able to send out flyers and updates to growers via email and mail due to maintaining an accurate growers list.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

Outcome #3

1. Outcome Measures

O: Development of new research information. I: Research publications (peer reviewed).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	0	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

Outcome #4

1. Outcome Measures

O: Development of new research information. I: Number of research presentations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Information needed to understand how best to use glyphosate for weed control in sugar beets.

What has been done

Co-authored and presented three poster presentations at two different professional meetings.

Results

Audience learned about tank mix compatibility of glyphosate with other pesticides including herbicides, fungicides and insecticides.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

Outcome #5

1. Outcome Measures

O: An increase in adoption of IPM practices and BMPs. I: Number of growers adopting one or more IPM practices or BMPs indicated by surveys.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Other ()

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Evaluation Results

No evaluations conducted during 2010. Funding received in Aug 2010 will afford us an opportunity to follow-through with a statistically valid survey after nearly two decade of extension IPM programming in sugarbeets.

Key Items of Evaluation