

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security and Hunger: Potatoes

Reporting on this Program

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%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	10%		15%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	20%		15%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	10%		5%	
603	Market Economics	10%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	4.5	0.0	11.0	0.0
Actual Paid Professional	4.9	0.0	10.4	0.0
Actual Volunteer	0.0	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	1890 Extension	Hatch	Evans-Allen
96531	0	259246	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
96531	0	259246	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
308674	0	5785270	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Potato Team is highly integrated, participating in active projects to discover new knowledge, demonstrate and transfer new technologies, and work to understand local variants that impact potato production and storage. Members of the Team meet regularly and otherwise collaborate with industry associations and the Idaho Potato Commission to understand needs of stakeholders. Zebra Chip was an important topic for stakeholders, and was included in the portfolio of research and Extension activities targeting diseases and pests. Work continued on Potato Viruses X and Y, wireworm, Late Blight, and Early Blight), including field and greenhouse experiments to understand the ecology and treatment options for serious potato pests in the field and in storage, nutrient management questions, and the value of various soil amendments. Field demonstrations help growers and other stakeholders understand the impact of various planting and pest management practices and irrigation needs and strategies. These applied activities have been shared through the Idaho Potato Conference as well as a host of workshops and classes and numerous field days and tours. Spanish language workshops were delivered for the thirteenth consecutive year at the potato conference. Faculty produced an array of refereed and Extension publications and publications in various trade journals and targeted media. Much of the Extension faculty's work is made possible through collaborations and participation on various citizen and professional alliances concerned with environmental quality and agricultural sustainability.

2. Brief description of the target audience

Target audiences are potato producers, field agronomists, consultants, and industry representatives..

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1465	579465	0	579762

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

Patent Applications Submitted

Year: 2012
 Actual: 3

Patents listed

201200157, Huckleberry Gold - Potato
 201200158, Palisade Russet - Potato
 201200159, Teton Russet - Potato

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	6	35	41

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Seminars, workshops, field day presentations.

Year	Actual
2012	104

Output #2

Output Measure

- Trade Journal Articles.

Year	Actual
2012	52

Output #3

Output Measure

- Field Days.

Year	Actual
2012	9

Output #4

Output Measure

- Individual Consultations.

Year	Actual
2012	378

Output #5

Output Measure

- Graduate Students.

Year	Actual
2012	0

Output #6

Output Measure

- Workshops conducted.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Email Information Dissemination.

Year	Actual
2012	491

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Growers apply best potato management practices. I: Number of growers adopting recommended practices
2	O: Growers are aware of pest incidence. I: Number of Subscribers to pest alert website
3	O: Growers are knowledgeable about best potato management practices. I: Number of growers gaining knowledge about practices who have attended workshops or seminars.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome #1

1. Outcome Measures

O: Growers apply best potato management practices. I: Number of growers adopting recommended practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	295

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Potato virus Y in seed potatoes. Potato virus Y can lead to yield and quality reductions in commercial potatoes. Seed and commercial growers as well as process and fresh potato buyers are very concerned about internal tuber defects caused by the new tuber necrotic strains of this virus.

What has been done

Extension presentations and magazine articles were delivered stressing the importance of very low levels of potato virus Y in the seed potatoes used for both seed and commercial production.

Results

The amount of PVY in Idaho seed potatoes has gone down by more than 20% over the last 4 years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
503	Quality Maintenance in Storing and Marketing Food Products

603 Market Economics

Outcome #2

1. Outcome Measures

O: Growers are aware of pest incidence. I: Number of Subscribers to pest alert website

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

O: Growers are knowledgeable about best potato management practices. I: Number of growers gaining knowledge about practices who have attended workshops or seminars.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	392

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Produce growers are mandated to successfully pass the USDA GAP/GHP Audit to contract and sell with certain packers or processors. This means each grower must have a food safety plan implemented and have all required documents for the audit.

What has been done

One activity was a presentation was made on Food Safety and Good Agricultural Practices (GAP) at the Grower's Own Conference, Twin Falls, ID, Feb. 3, 2011. This was directed at small farms and organic producers.

Results

The presentation was ranked a 3.49 out of 4 (4 = very useful). There were 37 attendees and survey respondents. At least 9 people made comments that they will implement a GAP type plan.

4. Associated Knowledge Areas

KA Code Knowledge Area

102	Soil, Plant, Water, Nutrient Relationships
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503	Quality Maintenance in Storing and Marketing Food Products
603	Market Economics

Outcome #4

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
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102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
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V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (disease outbreak)

Brief Explanation

programmatic shift in emphasis to respond to threat of potato virus Y and other pathogens.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Exit surveys distributed at the University of Idaho Potato Conference and collected after each presentation indicate that growers gained knowledge and will make changes in their farm management techniques based on information gained at the conference.

Evidence of the impact of education is apparent in the continuing decrease in potato virus Y (PVY) in the Idaho seed potato system. In 2007, 60% of the seed lots in the Idaho Seed Potato system contained some level of PVY and 27% of the lots contained more than 2% PVY and could not be increased for any additional years (the industry term for this is "ineligible for recertification"). For the 2010 season, the percentage of seed lots with some PVY is down to 40% and the percentage of lots ineligible for recertification is down to only 8%. Because of our extension and research activities targeting the reduction of PVY, Idaho seed potatoes are now some of the highest quality seed available in North America.

Key Items of Evaluation