

Plant and Soil Management in Agricultural Systems

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant and Soil Management in Agricultural Systems

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	57%		57%	
205	Plant Management Systems	18%		18%	
511	New and Improved Non-Food Products and Processes	25%		25%	
Total		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
Plan	6.0	0.0	2.9	0.0
Actual	0.3	0.0	1.2	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	155363	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1255257	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	669175	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Program participants are working to develop and apply the best tools of contemporary plant and soil sciences to address the challenges and opportunities facing the agricultural industry and natural resource communities of Oregon through field and laboratory research. Investigators in the nutrient management subprogram developed guidance for land application of byproducts, and produced a calibrated soil test that accurately predicts spring fertilizer rate, analyzed plant nutrient tissue and uptake to determine the levels of potassium and sulfur fertilization effect on yield, quality and nutrient uptake of plants. Investigators in the plant management subprogram conducted field trials to develop new alfalfa species and varieties adapted to Central Oregon. On-farm trials were used extensively to assist grass seed growers in developing economically and environmentally responsible spring-applied nitrogen management programs. Preliminary studies will examine Russian dandelion as a potential source of high quality rubber as well as other alternative crops for the semi-arid climate and soils of Southern Oregon. Investigators in the technology subprogram developed a mapserver application that analyzes quantitative tolerances and functions for depicting areas for forage, biofuels and invasive species. Information was disseminated at grower meetings, experiment station field days and tours, national conferences and commodity commission meetings and through the Web. Results were published in journals, monographs and books.

2. Brief description of the target audience

Professional peers, scientific communities and agricultural representatives
 State commodity commissions, grower groups, trade organizations
 Natural resource industry clientele – growers, field representatives, grower coops and partnerships, processors and handlers, export companies, importing companies
 County, state and federal agencies – Oregon Department of Agriculture, Natural Resource Conservation Service, Soil and Water Conservation Districts, urban biosolid handlers,
 Undergraduate and graduate students being trained in extension and research activities

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	750	5000	50	0
2007	1150	2700	75	200

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	8	3	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

SCHOLARLY excellence in referred articles, book chapters, and books; participation on professional boards and panels, as well as science panels.

Year	Target	Actual
2007	33	40

Output #2

Output Measure

DEVELOP IMPROVED ANIMAL AND PLANT PRODUCTION SYSTEMS - A comprehensive understanding of the morphological, physiological and/or genetic basis for plant responses in studied management systems to

- nutrients
- temperature, moisture and other abiotic stresses
- plant growth regulators
- attack by other organisms - Develop and promote strategies for nitrogen management, growth regulators, abiotic stresses, post-harvest management, and alternative crops for pest and weed management

Year	Target	Actual
2007	0	7

Output #3

Output Measure

DEVELOP BREEDING PROGRAMS THAT RESULT IN DESIRABLE TRAITS, CULTIVARS AND VARIETIES
 Work with plant breeding and genetics colleagues to release new varieties for general public and/or licensed release. Information on best management practices for new varieties will be developed

Year	Target	Actual
2007	0	1

V(G). State Defined Outcomes

O No.	Outcome Name
1	New management systems will be developed and shared with end users; information will be adapted for use in other areas of the nation or world
2	new management systems will be adopted by end users
3	<ul style="list-style-type: none">• Agricultural producers will realize greater economic return in their cropping enterprises;• Plant nutrient and other production input use will be optimized

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}