

Dryland Cropping Systems

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Dryland Cropping 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	20%		18%	
111	Conservation and Efficient Use of Water	20%		18%	
205	Plant Management Systems	20%		27%	
212	Pathogens and Nematodes Affecting Plants	20%		20%	
213	Weeds Affecting Plants	20%		17%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	1.2	0.0	8.2	0.0
Actual	0.4	0.0	4.6	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	0	224209	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1697877	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	409828	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct Research Experiments.
 - Construct Research Facilities.
 - Conduct Workshops, meetings.
 - Deliver Services.
 - Develop Products, Curriculum, Resources.
 - Provide Training.
 - Assessments.
 - Partnering.

2. Brief description of the target audience

Professional peers and scientific communities
 State commodity commissions and grower groups
 Natural resource industry clientele – growers, field representatives, grower co-ops and partnerships, processors and handlers, export companies, importing companies
 State and federal agencies – Oregon Department of Agriculture, Natural Resources Conservation Service.
 Bureau of Indian Affairs, Confederated Tribes of the Umatilla Indian Reservation, US Forest Service, Bureau of Land Management.

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	5000	15000	250	1000
2008	5005	15000	70	100

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

Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	5	
2008	0	32	32

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
2008	8	101

Output #2

Output Measure

DEVELOP IMPROVED ANIMAL AND PLANT PRODUCTION SYSTEMS (Machado, Wysocki, Petrie) Identification of suitable alternative crops for wheat-based crop rotations; determination of best management practices for alternative crops Control of downy brome and other weeds through extracts from broadleaf plants (natural herbicides) Cultivar testing on canola and mustard Nutrient and crop management extension recommendations Improved nitrogen management strategies for soft white wheat Improved nutrient recommendations for soft white wheat grown in conservation tillage systems and for potential alternative cereal crops

Year	Target	Actual
2008	20	72

Output #3

Output Measure

PROVIDE ADDITIONAL UNDERSTANDING FOR PLANT AND ANIMAL PROTECTION FROM DISEASES AND PESTS (Smiley, Ball) development and release of wheat cultivars with improved capacity to resist or tolerate infections by plant-pathogenic fungi (*Bipolaris sorokiniana*, *Fusarium culmorum*, and *F. pseudograminearum*) and plant-parasitic nematodes (*Heterodera avenae*, *Pratylenchus neglectus*, and *P. thornei*). integrate disease resistant cultivars into existing, but inadequate as "stand-alone" cultural management procedures including manipulation of tillage systems, planting equipment, planting dates, fertilizer placement, fungicide seed treatments, and others. Large plot studies conducted in commercial wheat fields to develop season-long chemical fallow management systems. Compare chemical fallow treatments with conventional tilled summer. Identify optimum inputs and agronomically compatible weed management in alternate crops Evaluate new herbicide candidates and non-chemical cultural practices under field conditions for weed control effectiveness, crop safety, and soil persistence under eastern Oregon dryland conditions.

Year	Target	Actual
2008	10	100

Output #4

Output Measure

EFFECTS ON AND PROTECTION OF ENVIRONMENTAL HEALTH AND ECOLOGY (Wysocki, Petrie) Nutrient and crop management extension recommendations Improved nitrogen management strategies for soft white wheat Improved nutrient recommendations for soft white wheat grown in conservation tillage systems and for potential alternative cereal crops

Year	Target	Actual
2008	5	1

V(G). State Defined Outcomes

O No.	Outcome Name
1	<p>Improved strategies and cultivars</p> <ul style="list-style-type: none"> • Basic agronomic practices for commercially promising alternative crops under reduced tillage systems. • Natural herbicides to control weeds in organic and/or no-till wheat production • Disease resistant wheat lines • Improved weed control in no-till fallow systems, including optimum inputs • New herbicide candidates • Improved nutrient and crop management • Rotational crop cultivars
2	<p>More profitable production Improved economic and biological sustainability of cropping systems in eastern Oregon No-till (direct-seed) organic wheat production Wheat breeders develop disease resistant cultivars for release Effective weed management in dryland crops Canola established as rotation crop in semiarid Oregon with markets and added value in local, rural communities Profitable alternative cereal crops for dryland cropping systems in the PNW</p>
3	<p>Sustainable production Sustainable and economically viable wheat and dryland cropping industry for vibrant rural economy in eastern Oregon</p> <ul style="list-style-type: none"> • Improved soil, water, and crop management practices and strategies that protect Oregon resources

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

Brief Explanation

{No Data Entered}

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}