

**\*\*\*STEEP RFP Guidelines - Deadline for Submission is September 28, 2005\*\*\***

The PNW (Idaho, Oregon, and Washington) STEEP program expects to be funded for the current Federal fiscal year (FY2006) by a special \$550,000 to \$650,000 research grant in the USDA-CSREES budget. Both individual and team (two or more investigator that actively participate in the proposed work and receive funding) project proposals are welcome. Project proposals should clearly state how the proposed research addresses soil, air, and/or water quality as it relates to PNW dry land and irrigated small grain cereal-based cropping systems. Individual projects will be funded for a maximum of three years at a maximum of \$25,000 per year. Team projects also will be funded for a maximum of three years with a maximum funding level of about \$150,000 for the duration of the study. Proposals that address near, medium, and long-term high risk issues associated with the general STEEP objectives (see attached) will be considered. Where possible, researchers are encouraged to cooperate with existing projects (see attached list). We encourage collaborative, multi-state projects. Proposals to develop an educational brochure and/or publish information on the STEEP web site that broadens the understanding of STEEP and conservation tillage by the non-agricultural industry adult audience are encouraged. This includes educational or informational benefits of STEEP related research and conservation tillage practices on reduced wind and water soil erosion, and on improved environmental quality.

**At least one state or Pacific Northwest extension article (bulletin) or a Conservation Tillage Update article is required for all funded STEEP projects.**

**Proposal Review Process (New):**

1. A panel of three scientists not associated with the STEEP program will evaluate and rank all of the proposals (the evaluation form is included). The outside reviewers will submit their individual ranking of the proposals as well as review comment to the STEEP Committee.
2. Each member of the STEEP Industry Advisory Committee and members of the Technical Committee not submitting a proposal will evaluate and rank each proposal. If a member of the technical committee is listed as PI or a funded cooperator on a proposal, then their experiment station director or research leader needs to appoint a temporary alternate who will review proposals and attend the STEEP proposal review meeting in their place.
3. One member of the Technical Committee will serve as a lead reviewer for each proposal and a member of the Industry Advisory Committee will serve as a secondary reviewer for each proposal. The lead reviewer will be responsible for leading the proposal discussion.
4. The STEEP Committee requires the lead PI of each proposal, or their representative, to attend a November 15-16, 2005 meeting at the AmeriSuites Hotel (at the TRAC) in Pasco, Washington, to make 10-15 minute presentation and answer questions from the review committees (another 5-10 minutes); total time not to exceed 20 minutes per person. The STEEP committees will then meet and discuss and rank proposals (November 16-17, 2005). Timely submission of research progress reports for the STEEP annual report by researchers previously funded by STEEP will be considered when evaluating new proposals for funding. Progress reports are due on September 28, 2005.
5. The ranking of the outside reviewers and the individual rankings of the Industry Advisory and Technical Committees will be used to construct the final rank order of the proposals.

The proposal should be a maximum of four pages for individuals and seven pages for team projects. **Previously funded investigators MUST include up to three additional pages for publications, outcomes and impacts from past STEEP-funded research projects (see section headings below).** The proposal must be single-spaced within paragraphs and double-spaced between paragraphs. Use Times New Roman 12 point font and inch margins. All proposals must be written using the following **section headings in the order of 1 to 12**. Where not applicable, show heading followed by "NA".

1. Title
2. Investigator(s) (**only identify individuals that will receive funding**; include their email addresses and telephone numbers). **Do not list cooperators who will not receive funding.**
3. Individual or Team Proposal (specify)
4. Agronomic zone of interest (e.g., low, intermediate, high rainfall, irrigated)
5. Production system being investigated (e.g., winter wheat-fallow, annual cropping, water shed)
6. Statement of problem to be addressed (**DO NOT EXCEED 500 WORDS**)

7. Justification (including potential benefits to growers and/or the environment – brief, to the point – **DO NOT EXCEED 500 WORDS**)
8. Relationship to previously funded STEEP projects (if appropriate). See STEEP website (<http://pnwsteeep.wsu.edu/>).
9. **If you have been previously funded by STEEP with in the past 10 years, you must provide a list of outcomes, impacts, and STEEP specific publications from these research and technology transfer projects (up to 3 pages). This is a very important component of each proposal and is strongly considered in the evaluation process.**
10. Specific objective(s)
11. Procedures by objective – this section should be a **detailed** explanation of materials and methods. **This is the most highly weighed component of the review process for each proposal and does affect your proposal ranking.**
12. Expected outcomes and anticipated impacts. List specific methods by which outcomes will be communicated to both professional peers and grower audiences.

Attachments (not included as part of the four or seven page proposal)

Brief vita of investigator(s) demonstrating qualifications for the proposed research (two pages maximum per PI or coPI)

Budget – **Proposals with more than one investigator on the same project will need separate CSREES-55 forms for each investigator when the proposals are submitted and when awards are finalized.** You **must use** the attached USDA Form CSREES-55. Use one form for each year’s funding and each PI plus one form for the total funding for each PI; for proposals with multiple PIs include a form for each year’s total for all PIs and a total for all years and all PIs. On Form 55, actual materials and supplies should be shown under materials and supplies (line E). Items that do not belong in “materials and supplies” but rather in “all other direct costs” (line I) are equipment rental, telephone charges, copying, postage, services, etc. **Individual proposals will not include subcontracts.** Only WSU will subcontract the funds.

Budget justification: **NOTE – A poorly written budget justification is the primary reason a tentatively approved STEEP proposal is delayed for final acceptance.** Each budget line item must be explained/justified for **each PI** involved in the project on separate pages following the budget page. Detailed costs must be explained. Travel costs must be broken down by the purpose of travel (to plots or to meetings; number of travelers, number of trips, and number of miles traveling by car, either rented or personal). The cost breakdown needs to equal to the amount in travel requested. Publication costs should be stated in terms of costs per copy times the number of copies. Equipment needs to be itemized and justified. Computer needs (ADPE) must be described. Failure to adequately provide a budget justification may result in budget restriction by USDA. **We advise you to consult the following RFP at USDA-CSREES to help you in the budget justification. Pay particular attention to costs that go into Materials and Supplies and All other Direct Costs. Click on either the Word or Word Perfect format: <http://www.csrees.usda.gov/funding/forms.html>**

Current and Pending Support Form 663 for each investigator (attached)

Form CSREES-662, Assurance Form (must be signed by each PI, not the Authorized Organizational Representative, as indicated on the form. If there is an assurance issue, your assurance officer will need to sign the form when the proposal is forwarded to USDA.

Attachments:

CSREES-55 budget form  
Current and Pending Support form 663  
Assurance Form 662

**Send your proposal and 24 copies to the Agricultural Experiment Station office in the state of the Principle Investigator. It must be received by September 28, 2005.**

**Oregon State University – Charles Boyer  
University of Idaho – Greg Bohach  
Washington State University - Ralph Cavalieri**

**For more information call Donn Thill (208-885-6214), Rich Koenig (509-335-2726), Dennis Roe (509-335-3491), or Don Wysocki (541-278-4396).**

**STEEP OBJECTIVES: Focus on dry land and irrigated small grain cereal-based conservation farming systems**

OBJECTIVE I. *Determine the impact of farming practices and systems on soil, water, and air quality.*

- Characterize soil quality in terms of soil productivity and environmental functions.
- Determine how soil degradation processes affect resource quality.
- Assess the impacts of conservation practices on soil, water, and air quality and use this information to develop tools for improved conservation planning and resource management.

OBJECTIVE II. *Develop new technologies and increase efficiency of inputs that improve profitability of conservation farming systems.*

- Develop methods that effectively forecast pest problems and define economic thresholds.
- Develop profitable and environmentally sound conservation practices for pest and plant nutrient management.
- Identify crop plants and plant characteristics that enhance conservation farming systems for specific agronomic zones.
- Develop profitable conservation tillage and cropping systems for lands most vulnerable to resource degradation.

OBJECTIVE III. *Assess the profitability of conservation farming systems, document growers' progress in implementing conservation farming practices, and identify effective and profitable conservation policies.*

- Document growers' progress in implementing conservation practices over time.
- Estimate profitability, risk, and other economic impacts of conservation farming systems.
- Identify cost-effective public policies that promote adoption of conservation farming systems while maintaining farm profitability and regional economic stability.

OBJECTIVE IV. *Accelerate grower evaluation and adaptation of profitable conservation farming systems.*

- Expand the tri-state on-farm testing network and develop improved methods for evaluating conservation farming systems.
- Increase access to integrated management technologies for conservation farming systems by PNW growers and Ag support personnel.

**Examples of Some STEEP Research and Technology Transfer Project Areas (in alphabetical order)**

- Crop effects on soil microbial populations and pesticide persistence
- Direct seed effects on soil water as it relates to crop yield
- Economic studies on conservation farming systems
- Educational and/or informational benefits of STEEP related research and conservation tillage practices on reduced wind and water erosion, and on improved environmental quality for non-agricultural industry adults
- Impact of alternative crops on successful winter wheat production
- Impacts of conservation farming systems on water and air quality, including carbon sequestration
- Internship proposals for undergraduate students
- Long term changes in soil quality
- Nutrient management
- Root disease management, including seed treatments
- Seed zone environment characteristics
- Soil biology and ecology – global climate change as affected by soil quality
- Vertebrate (rodents) and invertebrate management
- Weed management

**STEEP Review Form**  
October 2005

Title: \_\_\_\_\_

PI: \_\_\_\_\_

Rank the Questions

**Highest**

**Lowest**

1. How well does the project meet the STEEP objectives?  
Comments and Statements:

5      4      3      2      1

2. How well does the project address an air, soil, or water quality problem as it relates to PNW dry land and irrigated small grain cereal-based cropping systems?  
Comments and Statements:

5      4      3      2      1

3. How well does the project offer a solution to the defined problem?  
Comments and Statements:

10      8      6      4      2

4. Are the procedures/methods well-defined and scientifically sound?  
Comments and Statements:

30      25      20      15      10

5. How well does the project increase the opportunities for growers to develop successful farming systems for soil and water conservation?  
Comments and Statements:

10      8      6      4      2

6. PI's with previously funded STEEP projects only – Has the PI published results from previously funded STEEP research  
Comments and Statements:

0      -4      -6      -8      -10

RECOMMENDATION (CIRCLE ONE):    FUND                    MAYBE FUND                    DON'T FUND

SCORE \_\_\_\_\_ (questions 1 through 5)

SCORE \_\_\_\_\_ (questions 1 through 6)

### STEEP Funded Projects for FY96 through FY05

1. Residue production and retention in small grain cereal and legume rotations with different tillage practices (Stephen Guy, ID, 97; Tim Fiez, WA, FY97).
2. PNW STEEP III integrated cropping systems technology transfer (Roger Veseth, ID, OR, WA, FY97 and 98).
3. Disease management for annual crops in low-rainfall regions (Dick Smiley, OR, FY97 - in cooperation with number 2).
4. Alternative crop rotations using no-till in low-rainfall dryland areas (Bill Schillinger, WA, FY97 - in cooperation with number 8).
5. Developing flex cropping options for wheat-fallow rotations (Don Wysocki, OR, FY97 - in cooperation with number 7).
6. On-farm evaluation of cephalosporium stripe severity and yield for wheat cultivars and cultivar mixtures grown in conservation tillage systems (Chris Mundt, OR, FY97).
7. Impact of long-term no till on soil physical, chemical, and microbial properties (Dave Bezdicsek, ID and WA, FY97).
8. Developing optimal seeding rates and planting practices to enhance yellow mustard production with low chemical inputs in conservation farming systems (Jack Brown, ID, FY98).
9. Assessing the economic viability of no-till and related conservation systems for various agro-climatic zones in the Pacific Northwest (Doug Young, WA, FY98).
10. Rotation designs for direct seed cropping systems (Dave Huggins, WA, FY98).
11. Modern application of historic crop rotation data (Bill Payne, OR, FY98).
12. Managing the economic transitions to no-till farming in the Pacific Northwest (Doug Young, WA, FY99).
13. Impact of direct seeding on crop water use efficiency, soil physical and microbial properties, and quality of soil organic matter (Dave Bezdicsek, WA, FY99).
14. Improved methods for evaluation of resistance to cephalosporium stripe of wheat (Chris Mundt, OR, FY99).
15. Integrated management system for sustained seed yield of Kentucky bluegrass without burning (Donn Thill, ID, FY99).
16. Enhancing the success of direct-seed systems through the use of case studies to facilitate farmer-to-farmer learning in the Pacific Northwest (Tim Fiez, WA, FY99).
17. Northwest coalition on direct-seed cropping systems research (Jim Cook, WA, FY99)
18. Agronomic and economic evaluation of new cropping systems and their components (Bill Payne, OR, FY99).
19. Develop suitable cultivars and agronomic practices for direct drilling winter canola into cereal stubble (Jack Brown, ID, FY99).
20. Evaluation of wheat and pea varieties under direct and conventional seeding in Washington, Idaho, and Oregon (Steve Dofing, WA, FY99).
21. Expanding access to PNW STEEP III cropping systems technology (Roger Veseth, ID/WA/OR, FY2000).
22. Long-term alternative crop rotations for the low rainfall dryland using no-till: Years 4 through 6 (Bill Schillinger, WA, FY2000).
23. Identifying superior *Brassica* species and cultivars within species that are suitable for direct-seeding throughout the Pacific Northwest region (Jack Brown, ID, FY2000).
24. New technologies and strategies for managing weeds in conservation cropping systems for dryland wheat (Frank Young, WA/ID, FY2000).
25. The influence of polyacrylamide on the movement of soil applied herbicides in furrow-irrigated corn (Don Morishita, ID, FY2000).
26. Seed placed lime to reduce the acidifying affects of nitrogen fertilizer in long-term direct seed systems (Greg Schwab, WA, FY2001)
27. Assessing the impact of no-till and conventional till on crop, variety, soil, insect and disease response (Stephen Guy, ID, FY2001)
28. Vegetation management with herbicides between crops and during fallow in direct seed dryland winter wheat cropping systems (Joe Yenish, WA, FY2001)
29. Development of residue manipulation systems for direct seeding drills to improve seed opener performance (Eric Drews, UI, FY2001)
30. Updating statistical analysis software for on-farm testing (Russ Karow, OR, FY2001)
31. No-till sowing into standing irrigated stubble instead of burning (Bill Schillinger, WA, FY2001)
32. Rotation effects of alternative crops on spring and winter wheat in direct-seed cropping systems (Jim Cook, WSU, FY2002)
33. Strategies for profitable conservation tillage farming in the Pacific Northwest (Doug Young, WSU, FY2002)
34. Identifying alternate rotation crops for eastern Oregon (**Steven Machado**, OSU, FY2002)
35. Initiating long-term agronomic experiments in north-central Oregon and south-central Washington (Steven Machado, OSU, FY2002)
36. Nutrient requirements of short-season dryland corn grown in eastern Washington using direct seeding methods (Greg Schwab, WSU, FY2002)
37. Seasonal and spatial dynamics of rodent damage and effectiveness of management options in no-till crop rotations in Idaho and Washington (Rodney Saylor, WSU, FY2002)
38. The role of alternate hosts in the epidemiology of ascochyta blight of chickpea in reduced tillage cropping systems in the Pacific Northwest (Tobin Peevers, WSU, FY2002)

39. Examination of tillage factors, crop type, soils and non-crop habitat upon soil fauna, ground dwelling predators, and aphid density in a small inland PNW watershed (Gary Chang, UI, FY2002)
40. Expanding access to PNW direct seed/conservation tillage systems technology (Roger Veseth, UI, FY2002)
41. Biology and Management of Rattail Fescue in Direct Seed Cropping Systems (Daniel A. Ball, OSU FY2003)
42. Improving Genetic Resistance to Cephalosporium Stripe of Wheat through Field and Toxin Screening and Molecular Mapping of Novel Genetic Stocks (Chris Mundt, OSU, FY2003)
43. Initiating Long-term Agronomic Experiments in North-Central Oregon & South-Central Washington (Stephen Machado, OSU, FY2003)
44. Optimizing Plant Genetics and Soil Fertility to Achieve High Grain Protein Content in Hard Red Spring Wheat (Kimberlee, Kidwell, WSU, FY2003)  
Developing optimal agronomic management systems for direct seeding *Brassica* oilseed and mustard crops in the Pacific Northwest (Jack Brown, UI, FY2003)
45. Evaluating Chemical Fallow Systems for Weed Control Efficacy, Soil Moisture Conservation, Crop Production, and Cost/Return Analysis (Joseph Yenish, WSU, FY2003)
46. Expanding Access to PNW Direct Seed and Conservation Tillage Systems technologies. (Don Wysocki and UI/WSU Tillage Extension Specialist, FY2004)
47. The Role of Alternate Hosts in the Epidemiology of Ascochyta Blight of Chickpea in Reduced Tillage Cropping Systems in the Pacific Northwest. (Tobin Peever, Lori Carris, and Fred Muehlbauer, WSU/ USDA-ARS, FY2004)
48. Education Solutions to Environmental and Economic Problems. (Mark Quinn and Catherine Perillo, WSU, FY2004)
49. Fertilization of Late-Seeded Wheat in Chemical Fallow. (Larry Lutchter, OSU, FY2004)
50. Impact of Crop Rotation and Alternative Crops on Weed Populations, Yield, and Economics in Direct Seed Systems in the Intermediate Rainfall Area of Washington. (Dennis Tonks and Aaron Esser, WSU, FY2004)
51. The Strategic Use of Broadcast and Controlled Release Fertilizer to Facilitate N Applications and Improve Nitrogen Use Efficiency in Direct Seed Systems. (Richard Koenig and David Huggins, WSU/USDA-ARS, FY2004)
52. Assessing the Impact of Direct Seeding (No-Till) and Conventional-Till on Crop, Variety, Soil, and Insect Responses in Years 4-6. (Stephen Guy, Nilsa Bosque-Perez, Sanford Eigenbrode, and Jodi Johnson-Maynard, UI, FY2004)
53. Improving Tillage Systems for Minimizing Erosion. (Jan Boll, Shulin Chen, and Don McCool, UI, WSU, USDA ARS, FY2004)
54. Soil persistence of imazamox herbicide in tilled and direct-seeded dryland winter wheat cropping systems (Donn Thill, Joe Yenish, and Dan Ball, UI, WSU, OSU, FY2005)
55. Identifying superior winter canola cultivars that are suitable for direct seeding in the PNW (Jack Brown and Don Wysocki, UI, OSU, FY2005)
56. Assessing the Impact of Direct Seeding (No-Till) and Conventional-Till on Nitrogen Fertility, Soil, and Insect Responses. (Stephen Guy, Nilsa Bosque-Perez, Sanford Eigenbrode, and Jodi Johnson-Maynard, UI, FY2005)
57. Site-specific N management for direct seed cropping systems. (Dave Huggins, Claudio Stockle, Han Kok, and R. Rossi, USDA-ARS, WSU, UI, FY2005)
58. Examine the effects of cropping systems that include canola, yellow mustard, or oriental mustard on yield of subsequent winter wheat in the PNW (Jack Brown and Don Wysocki, UI, OSU, FY2005)