

USDA United States
Department of
Agriculture

Cooperative State
Research, Education
and Extension Service

Washington, DC
20250

August 23, 2001

Dr. Thayne R. Dutson, Director
Agricultural Experiment Station
Oregon State University
126 Strand Agriculture Hall
Corvallis, Oregon 97331-2212

Dear Dr. Dutson:

I am writing to acknowledge the completion of our review of the first Plan of Work Report of Accomplishments submitted by the Oregon State University Agricultural Experiment Station to the Cooperative State Research, Education, and Extension Service as required under the Agricultural, Research, Extension and Education Reform Act of 1998, and it was accepted. We appreciate your efforts in submitting this report.

The review of your report was completed by a team comprising National Program Leaders, planning and evaluation staff and the Deputy Administrator for Partnerships. The review was based on the criteria published in the Federal Register notice dated July 1, 1999.

The following comments are provided based on the review:

This is a well organized and formatted annual report. In nearly all cases there is good commentary about the research issues and the manner in which the Agricultural Experiment Station is addressing the issues. Moreover, there is an elaborate listing of partners and collaborators, and in many cases a listing of the research products. The report includes information about stakeholders, progress towards multistate activities, and their methods of connecting to "underserved" audiences.

The impact statements that were included in the first report were useful. As activities move toward completion of the 2000 - 2004 Plan of Work cycle, we look forward to more outcomes and impacts that demonstrate a response to stakeholder needs (i.e., the capacity of stakeholders to influence evolving priorities).

The following two examples from your report illustrate accomplishment statements that are written to show the type of impact we are looking for in an annual report:

Example #1

(1) Research Overview

The goal is to develop new potato cultivars adapted to the Pacific Northwest as part of a cooperative potato variety development program involving university, industry, and USDA personnel. Initiate and execute applied research on commercial and seed potato production problems in Central Oregon.

(2) Research Impacts

This research has impacted commercial and seed potato growers, potato processing companies and potato packer/shippers in the PNW.

(3) Research Outcomes

Umatilla Russet, a new potato cultivar, was released in 1999. Nearly 3400 acres of Umatilla Russet seed was produced in the U.S. (3176 acres) and Canada (206 acres) during the 2000 growing season. Umatilla Russet yields an average of 21% more U.S. No. 1 s than Russet Burbank under approximately the same fertilizer regime, has 10% less hollow heart/brown center than Russet Burbank and is immune to net necrosis, a tuber flesh blemish caused by leafroll virus infection. Seed of Umatilla Russet is currently selling at a \$2.00/cwt premium to Russet Burbank, or a \$2.4 million gross increase in seed sales (\$259,000 for Oregon in 2001). Available seed can plant 60,000 acres during the 2001 -growing season, replacing Russet Burbank acreage. Yield increases, one less pesticide application per year and internal quality improvements would result in additional gross sales increase of \$27.0 million over Russet Burbank (\$3.4 million for Oregon in 2001).

(4) Integrated Research

This program involves cooperation with scientists from other OSU departments, PNW universities and potato processors, and the ARS.

Example #2

Seed Production Management

(1) Research Overview

The overall objective is to develop economically viable and environmentally sound management strategies for production of grass seed crops in the Willamette Valley. The primary focus is on annual ryegrass, perennial ryegrass, tall fescue, and fine fescue. For annual ryegrass, improving stand establishment under non-thermal residue management practices, while using cost-conserving methods of establishment, has been identified as one of the most effective strategies to improve profitability of the crop without compromising the environment. For perennial grasses, improving N fertilization practices and controlling crop lodging are still the most promising management tools for improving their productivity.

(2) Research Impacts

Those most likely to appreciate direct benefit from this research are the 1,300+ seed growers and seed production firms doing business in Oregon. Seed production is major agricultural enterprise in Oregon. In 2000, almost 567,000 acres of forage and turf grass, and legume seed were harvested with a farm gate value of over \$343 million. Grass seed crops are dominant in both acres (over 524,000) and dollars (over \$325 million.). Two thirds of all U.S. cool-season grass seed production is grown in Oregon. Nearly all U.S. perennial ryegrass seed is produced in western Oregon. Overall 75 to 80% of Oregon seed is sold domestically with the remaining 20 to 25% going into foreign markets, which include the European Community, Japan, Canada, Korea and Australia.

(3) Research Outcomes

The most noticeable outcome of this research activity is witnessed by the rapid decline in acres of grass seed crops annually open burned. For years, Willamette Valley grass seed growers burned their fields after harvest to control diseases, weeds and stimulate new growth. Public debate over field burning essentially ended when the 1991 Oregon Legislature established a gradual phase down in the amount of acres allowed for open field burning with a final limit established at 65,000 acres. Through on-farm demonstration projects and other educational efforts, growers learned about alternatives to field burning that contributed to a significant reduction in acreage burned while maintaining yield, seed quality, and profitability.

Willamette Valley grass seed growers, in particular, have made significant adjustments in post-harvest residue management since the phase down began. These changes have paralleled research results completed over the last eight years through grants provided by the Oregon Department of Agriculture's Alternatives to Open Field Burning program.

Extensive trials in this period demonstrated that non-thermal management of grass seed production is an acceptable replacement for open field burning for the major grass species grown in the Willamette Valley in terms of seed yield and stand life. In addition, research has shown open field burning is still an important management tool, particularly for those species of grass that cannot be profitably produced without thermal sanitation.

Since 1988, Willamette Valley grass seed growers reduced the number of acres burned by more than 70 percent. At the same time, grass seed crops increased from 332,610 acres in 1988 to 479,800 acres in 2000. This reduction in field burning has occurred without a loss in seed yield or quality, and sales climbed from \$190 million in 1988 to more than \$325 million in 2000. In addition, baling of seed crop residue has created a grass straw export market. In 1999, straw balers and handlers exported approximately 500,000 tons and sold another 50 tons in domestic markets. This new commodity is valued at over \$23 million.

(4) Integrated Research

International linkages are maintained through involvement with the International Herbage Seed Production Research Group. In addition, research activities are actively discussed in collaboration with peer researchers in Washington and Idaho. The USDA-CSREES Special Grant, Grass Seed Cropping Systems for a Sustainable Agriculture, has been very instrumental in facilitating regional cooperation. Locally, cooperation with research scientists at the USDA-ARS National Forage Seed Production Research Center contributes to the breadth of our interface with the Oregon seed industry. Finally, communications are frequently with several university and AES branch station scientists in planning our research program.

However, most other accomplishment statements for the subject areas seem to focus more on activities, outputs and projected impacts rather than actual evidence of results (impacts) of these activities. The following example illustrates this point:

(1) Research Overview

Genetic investigations continue to try and ascertain factors that influence the lethal developmental condition referred to as embryonic chick edema. As studies were progressing, a new embryonic failure has been identified in the SCWL dwarf chickens that results in a 25 % reduction in hatchability of fertile eggs. This condition is described as Ectopia Cordis. Affected embryos at 148 h of incubation are characterized by the presence of a reduced area vasculosa, unilateral microphthalmia, and situation of the heart out of the thoracic cavity. This condition is inherited as an autosomal recessive trait and the symbol, *ec* has been proposed for the gene. This

condition, ec, is not similar to 3 previously described talpid disorders. The expression of ec is not influenced by breeder age or length of pre-incubation egg storage.

Lesions resembling those observed in avian embryos with chick edema syndrome can also result from exposure to polyhalogenated compounds. Preliminary feeding trials have been conducted to assess the capability of a mannan oligosaccharide's ability to bind potential plant lectins in a poultry diet. The addition of a commercially available mannan oligosaccharide, 3% (BioMos) to a starter ration containing exogenous plant lectins, 0.5% will ameliorate growth depression associated with lectins.

(2) Research Impacts

The identification of this new avian embryonic failure will allow the poultry breeder to eliminate carriers of this genetic disorder from their breeding foundation populations thus producing more cost efficient chicks with reduced losses due to genetic abnormalities. The identification of this new genetic disorder may also serve as an animal model in which to study ectopia cordis a condition that is also observed in human fetuses.

(3) Research Outcomes

The ability to add a naturally occurring substance such as a mannan oligosaccharide to bind plant toxin materials in animal feeds has a unique potential to enhance animal performance. Increasing the growth rate and improving feed efficiency of animals on less than optimal feed sources would have economic benefit to the animal producer.

(4) Integrated Research - none

In your next report, please provide more information on the allocation of Federal Fiscal Resources. In short, according to your display, approximately 82 percent of your budget and personnel support Goal 1. Does one assume that 82 percent of the Federal Fiscal Resources support Goal 1, or, for example, do you annually allocate the Federal Fiscal Resources to support new and emerging issues in other Goals? Also, strengthen connectivity and commitments to underserved populations. This report acknowledges outreach to underserved populations but the outreach appears to be indirect. Moreover, there is little to no information on how research priorities are redesigned or adjusted to address issues germane to underserved populations.

Our plans are to post on the CSREES AREERA website a compilation of successful impact statements and some of those that could be improved in future submissions. Under the leadership of the Plan of Work Advisors we will also be planning engagements with an invited group of representatives from land-grant institutions to assist us with the review of the first report submissions to find ways to improve and simplify the process for future reports.

Please note that you requested a (post-waiver) in submitting the target percentages for integrated research and extension activities for FY 2000. This information should be included in the March 1, 2002, Plan of Work Annual Report from the Oregon Agricultural Experiment Station.

We appreciate your efforts to work with us to improve our reporting and accountability system. Following your review of our comments, if you have questions or interpretations, please contact me by E-mail at gcooper@reusda.gov, or by phone at 202-720-5623, or Bart Hewitt, Program Analyst, by E-mail at bhewitt@reusda.gov, or by phone at 202-720-0747.

Sincerely,

GEORGE E. COOPER
Deputy Administrator
Partnerships

cc:
CSREES Office of Extramural Programs
CSREES State Facilitator
Deputy Administrator for Natural Resources