

Note from the Superintendent

In our 2001 annual report introduction, I reflected on the need to begin an examination of alternative roles for the Klamath Experiment Station (KES) to meet the challenges faced by the agricultural industry in the Klamath Basin. In part, the suggestion was in recognition of my pending retirement, which creates an opportunity to change program emphasis to new directions.

However, changes are coming even sooner than expected. In October 2002, Assistant Professor Dr. Donald Clark resigned from his research agronomist position at KES to return to his hometown in New Mexico and a new career.

The situation has also been influenced by reductions in state funding support for the Oregon Agricultural Experiment Station (OAES). Most OAES units have received budget cuts ranging from 10 to 20 percent for the 2002-2003 fiscal year and from 5 to 10 percent for the next biennium. In some cases this is over and above the loss of funding for vacant positions. Further cuts are anticipated for the next biennium as state revenue projections continue to decline.

In view of the above and additional considerations, at least part of future staffing plans for KES have been resolved. Dr. Richard Roseberg, currently an Associate Professor and agronomist at the Southern Oregon Agricultural Research Center, will transfer to KES over the next year or so. Dr. Roseberg has a wide range of professional experience that will serve our local industry well. He has considerable expertise in exploring new crops for non traditional uses. He has worked with cereal and forage crops and has conducted research on water conservation and effects of agricultural activities on water quality. We are looking forward to new perspectives that Dr. Roseberg will bring to KES.

The year 2002 was an establishment period for KES forage research projects. Several new forage trials were planted at the station. Experiments were established to evaluate 50 alfalfa varieties under irrigated and dryland management. Both trials were irrigated during the establishment year. Several entries are expected to be relatively productive and hardy under dryland management. This would be very beneficial in situations where irrigation supplies are curtailed in mid-season or unavailable season long as in 2001. It seems likely that good candidates for dryland management could be identified by early in 2004. A smaller trial could then be established to further evaluate potentially successful entries.

Recent interest in markets for grassy alfalfa prompted the establishment of trials to evaluate 16 orchardgrass varieties in mixed culture with 2 alfalfa varieties. It is expected that we can identify varieties of orchardgrass that will reach appropriate maturity stage for harvest to coincide with optimum harvest stage for the alfalfa varieties. A separate trial with the orchardgrass varieties will further define yield, maturity, and quality parameters to assist in determining appropriate varieties for mixed grass/alfalfa production.

Federal agencies managing public lands are increasingly seeking seed of native grass species for revegetating eroded or burned landscapes. There are reports that agencies are willing to make long-term contracts for seed production. Two trials were established at KES in 2002 to evaluate the potential for producing seed for this market. One trial includes 12 wheatgrass varieties and the other includes a total of 19 entries of brome, fescue, orchardgrass, wildrye, bluegrass, ricegrass, and squirreltail. The trials will be managed for

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dryland production following the establishment year.

Data were gathered in 2002 from several grass forage trials established in 2000. Limited irrigation in 2001 has seriously affected performance of some entries in these trials. High experimental variability was observed in data from both years. Given this level of uncertainty, a decision has been made to wait for an additional year of data before publishing results.

One expected consequence of the curtailment of Klamath Reclamation Project irrigation supply in 2001 was realized at KES in 2002. The main crop produced on unirrigated fields in 2001 was weed seed. Both fields used to establish new KES forage trials received no irrigation in 2001. Standard herbicide applications failed to adequately control several weed species. It was necessary to take out the first planting and replant all trials to achieve reasonably weed-free crops. Several weed species remain problematic in these trials in the spring of 2003.

The Oregon potato variety development program continues to produce promising new selections for commercial production. Three varieties were formally released in 2002-2003. Modoc is a moderate yielding, bright-red-skinned selection with a desirable size profile, shallow eyes, early maturity, and stable skin color in storage. Modoc was originally selected at KES from North Dakota State University breeding material. Wallowa Russet is a high yielding, dual purpose, russet skinned, late maturing variety with excellent quality for frozen fries, and is less susceptible than Russet Burbank to tuber infection from late blight and net necrosis. Wallowa Russet originated from the USDA-ARS Aberdeen, Idaho breeding program and was originally selected at Powell Butte, Oregon. Willamette is a round white chipping variety

with good chipping quality out of 45⁰F storage, high yields, low susceptibility to early blight and tuber net necrosis, and medium late maturity. Willamette also originated from the Aberdeen, Idaho breeding program and was initially selected at Powell Butte, Oregon.

This is the 16th consecutive annual report of research activities at KES. Copies of most of these reports can be obtained by request from:

kenneth.rykbost@oregonstate.edu. Reports for 1999-2002 and additional information on Klamath Basin agriculture and KES programs are posted on our Internet Web page at <http://www.orst.edu/dept/kes>. We welcome comments and suggestions for improving the delivery of our research findings to our colleagues and clientele.

We extend our appreciation to our colleagues who cooperate in research activities, industry and organizations who provide financial support for research projects, members of our station Advisory Board for their counsel, and to Klamath County for continuing financial support for staffing, facilities, and equipment. Where appropriate, cooperators and financial support are acknowledged in project reports. I also want to acknowledge KES staff members, who have maintained positive attitudes and productivity during this period of uncertainty for the future of Klamath Basin agriculture and state budget support for the Agricultural Experiment Station and KES. Special thanks are due our Office Coordinator, Jewel Haskins, for formatting and assembling this report.

Kenneth A. Rykbost
Superintendent
Klamath Experiment Station

Major Cooperators in KES Research Programs

Oregon State University

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Mr. Nick David, *Department of Botany and Plant Pathology*
Mr. Phil Hamm, *Hermiston Agricultural Research and Extension Center*
Dr. Dan Hane, *Hermiston Agricultural Research and Extension Center*
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Dr. Russell Ingham, *Department of Botany and Plant Pathology*
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Dr. James Petersen, *Department of Crop and Soil Science*
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Mr. Rodney Todd, *Klamath County Cooperative Extension Service*

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Dr. Harry Carlson, *Intermountain Research and Extension Center*
Mr. Donald Kirby, *Intermountain Research and Extension Center*
Mr. Herb Philips, *Department of Vegetable Crops*
Dr. Ron Voss, *Department of Vegetable Crops*
Dr. Lee Jackson, *Department of Agronomy and Range Science*

Others

Dr. John Bamberg, *United States Potato Genebank, Sturgeon Bay, Wisconsin*
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Dr. Dennis Corsini, *USDA-Agricultural Research Service, Aberdeen, Idaho*
Mr. Jim Dahm, *Whiskey Creek Timber Company, Klamath Falls, Oregon*
Dr. Steve Fransen, *Washington State University*
Dr. David Holm, *Colorado State University*
Dr. Stephen Love, *University of Idaho*
Mr. Norm McKinley, *Dupont Corporation, Salem, Oregon*
Dr. J. Creighton Miller, Jr., *Texas A&M University*
Dr. Richard Novy, *USDA-Agricultural Research Service, Aberdeen, Idaho*
Dr. Robert Thornton, *Washington State University*
Dr. Darrell Wesenberg, *USDA-Agricultural Research Service, Aberdeen, Idaho*

We deeply appreciate their involvement and contributions to KES research efforts.

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