Researcher solves potato puzzle

By BRAD CARLSON
Capital Press

When potato farmers show the University of Idaho's Pamela Hutchinson apparent early season damage from herbicides, she wonders if excess rainfall is to blame.


Pamela Hutchinson

"The last three years, I've been asked by growers to go out in the field in the spring or early summer. They see what they thought was herbicide damage to potatoes before or right after emergence," she said. "Unusual conditions during the spring probably are what drove what you would consider injury. That condition was excess rainfall."

Hutchinson, associate professor and potato cropping-systems weed scientist with UI Extension in Aberdeen, is studying how excess rainfall plays into potato injury and weed control.

Potato herbicides are safe partly because potatoes can metabolize them. Ideally, they work in the soil's top two inches or so, where weed seeds germinate.

But if potatoes get too much herbicide, they can't metabolize it fast enough and the risk of injury increases. Variables, in addition to how much rain falls and when, include soil type, the potato plant's growth-cycle stage, and how soluble a particular herbicide is.

"As we went across the state last year, there were some areas that got 3 or more inches of excess rainfall," Hutchinson said. "It was after growers applied herbicide and after some had incorporated herbicide in irrigation. Those treatments were applied after planting but before emergence."

Excess rainfall could move some soluble herbicides farther down into the soil profile than usual, where it could possibly be taken up by the emerging potato plant.

"Even though I've tested high rates on multiple varieties, it has always been under normal growing conditions," Hutchinson said.

Hutchinson, using the UI Aberdeen irrigation system, this year simulated 3 and 6 inches of excess rainfall.

"I saw the symptoms I saw out in the field, last year especially," she said.

Yellowing of leaf veins in a potato variety that typically would not show that type of damage was one result where a highly soluble herbicide was used. In another instance, Hutchinson found less damage than she expected following a simulated 6 inches of excess rainfall where a less-soluble herbicide was used.

She aims to continue the project for at least another year, possibly cooperating with a farmer with sandier soils than Aberdeen's.

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PAMELA J.S. HUTCHINSON

Title: Associate professor, extension specialist, potato cropping-systems weed scientist, University of Idaho Aberdeen Research and Extension Center.

Education: B.S., agronomy and pest management, Iowa State University, 1980; M.S., weed science and economics, South Dakota State University, 1987; Ph.D., weed science, University of Nebraska, 1991.

Home: Aberdeen.

Family: Tom Salaiz, a McCain Foods executive; adult son.

Hobbies: Downhill skiing, hiking, pet ownership. Percussionist, Idaho State Civic Symphony, Pocatello.

Forage specialist focuses on quality

By CAROL RYAN DUMAS
Capital Press

For nearly 40 years, farmers and ranchers have counted on Glenn Shewmaker to help them figure out the best way to grow and store a top-quality forage crop or manage a pasture.

The University of Idaho's only department-level forage specialist, Shewmaker retired last summer — although he had been in the office most of the week when Capital Press caught up with him in early November.

"I've focused most of my research on forage quality, measuring forage quality as affected by environmental conditions," Shewmaker said.


University of Idaho
Glenn Shewmaker demonstrates grass identification and plant morphology at the Lost River Grazing Academy in September 2012.

Rewarding research

That career began in 1983 as a research associate at the University of Idaho Kimberly Research & Extension Center. In 1988 he went to work as a biological technician with the USDA Agricultural Research Service at the Northwest Irrigation and Soils Research Laboratory, also in Kimberly.

In 1999, he returned to the University of Idaho as an extension forage specialist. In that role, he has performed research and field trials, authored many publications and given a steady flow of presentations and workshops.

"To survive the university system, you have to publish or perish. But the ultimate reward is producers getting the information," he said.

His research has allowed him to get real numbers and relate beneficial information to producers, he said.

"When you see the light turn on or they say, 'Yeah, that really helped me in my operation,' that's rewarding," he said.

Over the years, he's conducted forage management and utilization research, including alfalfa and grass forage quality, intensive pasture grazing systems, nutrient management planning and environmental effects of grazing.

His research has included variety trials, seeding rates, hay drying, herbicide and pesticide trials, crop fertility, soil health and cover crops.

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GLENN SHEWMAKER

Location: Kimberly, Idaho

Age: 69

Occupation: Professor and extension forage specialist, University of Idaho Kimberly Research & Extension Center (retired)

Education: Ph.D., rangeland resources, Utah State University, 1998; M.S., animal science, University of Idaho, 1976; B.S. animal science, University of Idaho, 1973

Editor and contributor: Numerous publications, including two books — "Idaho Forage Handbook," 2004, and "Pasture and Grazing Management in the Northwest," 2010

Awards: Numerous awards including the Don Hale Hall of Fame Award from the Idaho Hay and Forage Association