



Research to Application

Model potato growers maximize profits through best management

When UI Extension specialist Bryan Hopkins wanted to find out whether potato fields managed for maximum yields also returned maximum profits, he set up his research plots right in growers' fields. "Growers are often justifiably skeptical of research and like to see it in practice," he says.

Hopkins selected his model Idaho, Oregon, and Washington cooperators based on their ongoing use of university "best-management practices." Rather than applying fertilizers and pesticides based on calendars or habits, these progressive potato growers use them judiciously according to the crop's needs. In 14 private fields over four years, Hopkins evaluated their "best-managed" plots alongside his own "high-input" plots, in which he ramped up fertilizer and pesticide by about 10 to 20 percent to push yields.

His findings: on average, the high-input treatments increased marketable yields by 7 hundredweight per acre but couldn't recover the chemicals' additional costs. Indeed, the net return of the high-input approach was a negative 3 percent.

Hopkins says the research affirms the model growers' use of best-management practices. "Each year, each field—and even zones within those fields—need to be treated differently," he says. "There isn't one prescription that fits for every year and every field."

The tri-state project was funded by Western Region Sustainable Agriculture Research and Education. To help growers region wide reduce their reliance on pesticide and fertilizer inputs, Hopkins and his colleagues have assembled a booklet-length list of best-management practices. It will be on the Web site of the UI's Idaho Potato Center for Research and Education, www.ag.uidaho.edu/potato, this spring.

Contact Hopkins at bhopkins@uidaho.edu.

New wheat breeds may conquer stripe rust, foot rot, thanks to offspring of two cultivars

Wheat breeder Bob Zemetra celebrated 20 years of soft white wheat breeding at the University of Idaho by crossing two popular cultivars—Brundage and Coda.

Zemetra led the development of Brundage, a soft white winter wheat released in 1999. Coda, a club wheat, originated at Washington State University in 1997.

The cross produced a wealth of diverse offspring, some 20 to 30 with striking visual differences. More importantly, new genetic combinations carry resistance

genes to major Northwest wheat diseases, stripe rust and foot rot. Zemetra also found new leads for developing short wheats coveted by no-till producers.

"They not only want short, they also want a variety that matures early and has stripe rust resistance, high yield, excellent quality, and high test weight," Zemetra said. He may have just the wheat waiting in the wings.

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DID YOU KNOW?

\$7

MILLION. The average annual cost to U.S. beef and hay production due to the noxious weed leafy spurge, despite more than \$10 million spent for its control.

*Source: UI Idaho Weed Resources at www.uidaho.edu/weeds

Goats nip noxious weed populations during bud and bloom

It took more than three years, but UI Extension Educator Shannon Williams has demonstrated that a herd of 1,000 goats can help control noxious weeds. Owned by Weed Goats 2000, the Spanish-Boar-Cashmere adult females, plus kids, have grazed up to 38,000 Lemhi County acres. When they grazed spotted knapweed once a year between the weed's bud and bloom-stages, they not only stopped its spread, they shrank its coverage by 7 percent. The helpful hoofers proved so successful against leafy spurge that they're no longer needed on 11,000 acres.

Williams says it takes three to four years before grazing reduces noxious weeds and cautions that it must be strategically integrated with biological and chemical weed-killing tools for maximum impact. "When you're doing home repairs, you depend on more than a screwdriver," she says.

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