

Researchers progressing in weed investigation

By KATHLEEN MONJE
Of The Emerald

Veterinary researchers at Oregon State University (OSU) have conquered one obstacle in their investigation of a real killer weed — tansy ragwort.

The yellow-flowering weed flourishes in Oregon; it successfully resists most herbicides. Cattle, horses and sheep all eat it, but only sheep are immune to its toxic effects.

OSU researchers Morrie Craig and Loren Koller have found a blood test that detects

the beginning of liver deterioration caused by tansy ragwort.

Cattle and horses, after eating tansy over a long period, react to a toxin in the weed. They lose their coordination and vision, and eventually die of liver cirrhosis.

The blood tests involve two enzymes that increase in large amounts in effected animals. Before Craig and Koller isolated the enzymes, physical symptoms were the only way of detecting tansy poisoning.

By the time animals show

signs of poisoning, they are usually near death. Even very small amounts of tansy can begin the process of liver deterioration in cattle and horses, Craig says.

The experimental animals are fed a pelleted diet containing alfalfa, grass and molasses as well as five percent tansy. Greater than normal amounts of the two enzymes begin appearing in their blood shortly after the tests started.

By six weeks, the level of one enzyme — glutamate dehydrogenase — peaked at ten times its normal level in the cattle.

The other enzyme, gamma glutamyl transpeptidase, responded slower but stayed elevated. Horses showed similar results, Craig says.

Sheep ranchers have maintained for years their animals aren't affected by the weed. In Craig's tests, sheep ate a diet of 50 percent tansy and showed no elevated enzyme counts or liver damage.

"By this time — four months into the project — the sheep have eaten two times their body weight in tansy ragwort and still we have had no response," Craig says.

Most cattle and horses will not eat growing tansy because of its alkaloid taste, Craig says. But if good pasture is scarce, they get a taste for it, he says. Animals also eat weed in hay, where they are less able to detect it.

"The clinical blood test can help stock buyers determine the amount of tansy liver damage in an animal," Craig says.

Tansy is found in England and Europe, as well as the Pacific Northwest, Craig says, and close cousins to the destructive weed grow in the midwest states, Mexico, New Zealand and Australia.



Drawing by Jim Payne

Professor attends forum, secures donation for fund

The University Development Fund has received a \$2,500 donation as a result of a faculty member's participation in the Cities Service Company Faculty Forum.

Leah Stern-Zweig, assistant professor at the University Honors College, served as moderator for a November forum held in Tulsa, Okla.

Each year, says Stern-Zweig, the Cities Service Oil Company invites eight faculty members from colleges and universities throughout the United States to meet with eight company management people at the forum. Discussion topics this year included big business, government and education.

Cities Service Foundation, established by the Cities Service Oil Company of Tulsa, Okla., made the \$2,500 donation.

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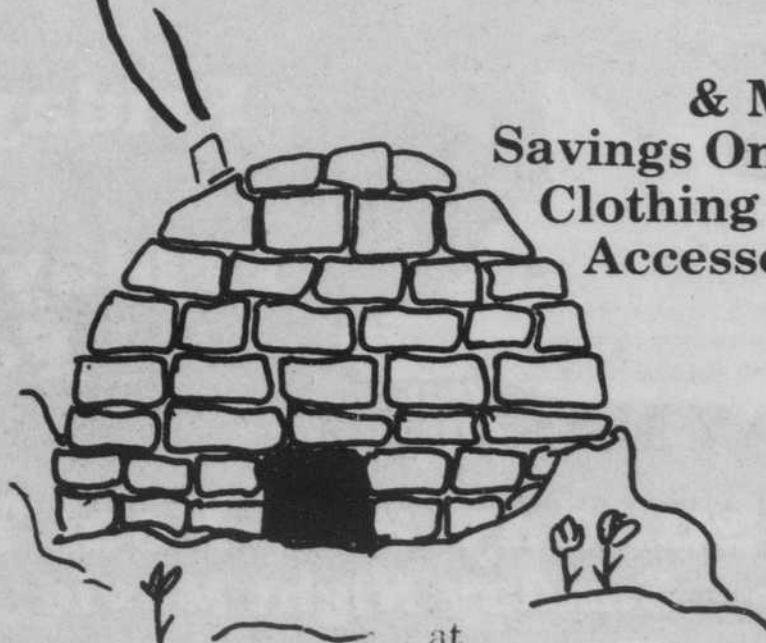
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