



**Arlene Boileau** 4-H & Youth  
**Bob Pawelek** Livestock  
**Clint Jacks** Staff Chair, Madras  
**Deanie Johnson** Secretary  
**Bernadette Handley** Home Economics  
**Zack delNero** Natural Resources  
**Minnie RedDog** 4-H Assistant

The Oregon State University Extension Service staff is devoted to extending research-based information from OSU to the people of Warm Springs in agriculture, home economics, 4-H youth, forestry, community development, energy and extension sea grant program with OSU, United States Department of Agriculture, Jefferson County and the Confederated Tribes of Warm Springs cooperating. The Extension Service offers its programs and materials equally to all people.

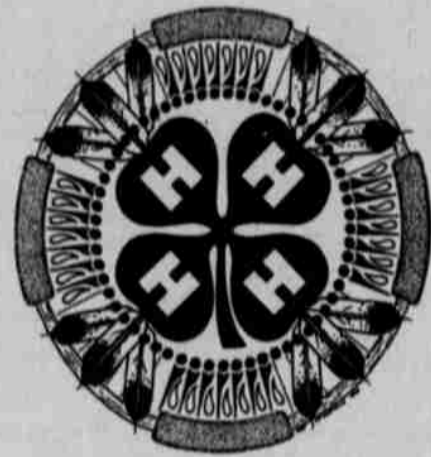


### The Clover speaks

by Arlene Boileau 4-H Agent & Minnie RedDog 4-H Program Assistant  
 Up Coming Summer Activities to remember. "OSU Summer Days at Oregon State University" June 20-23, 2000, May 15, 2000 is the last day to sign up. Round Lake 4-H Camp June 26-30, 2000, June 1, 2000 is the last day to sign up. Warm Springs 4-H Culture Enrichment Camp at Peters Pasture August 6-12 & August 14-20, 2000, July 3 is the last day to sign up.

If you have any questions regarding any of the above activities give Arlene or Minnie a call at the Warm Springs OSU office 553-3238.  
 The word is out calling for camp volunteers for the Warm Springs 4-H Culture Enrichment Camp at Peters Pasture. If you like to work with children from grades 2-10 this job is perfect. The first week will be 2-5 graders, and the second week of camp will be 6-10 graders. Volunteer positions that are open are Boys/Girls Camp Counselors, and Teachers: beadwork, natural art, drawing art, drum making, drying of fish and deer meat. If you are interested in volunteering for this camp give Arlene or Minnie a call at the OSU extension office 553-3238.  
 Okay little chiefs we will be making Peanut Butter Chocolate Bars, but don't forget to wash your hands with soap. The cooking utensils you will need are measur-

ing cups, measuring spoons, baking pan, large bowl, microwave, microwavable bowl, and two mixing spoons.  
 Ingredients needed are:



6 cups of Honey Nut Cheerios Cereal,  
 1 and 1/2 (half) cups of miniature marshmallows,  
 1 and 1/2 (half) cups of peanut butter chips,  
 1/2 (three-fourths) cup light corn syrup,  
 3 tablespoons margarine or butter,  
 1 cup of milk chocolate chips, melted.  
**First**, put a thin layer of butter all over in the baking pan. **Second**, measure the cereal and marshmallows into large bowl, set aside.

**Third**, in the microwavable bowl put peanut butter chips, corn syrup and butter then microwave on high with bowl uncovered, stirring after each minute until smooth. **Fourth**, pour the microwave ingredients over the cereal mixture, and stir until all the cereal is covered with mixture. **Fifth**, pour cereal with mixture in the buttered pan and press with a spoon, to make this easy put butter on the back of the spoon and then press the cereal down. **Sixth**, pour the melted chocolate over the cereal in the pan. **Seventh** put pan in the refrigerator for one hour or until the chocolate on to is hard. This makes 36 bars. **Enjoy!**  
 The Warm Springs 4-H Program is looking for 4-H Leaders in the following areas. Bead work all stages, Beginning Sewing, Cooking, Small Animals of all kinds, Care of Puppies, a Dance Group. The 4-H program has written information on how to do all of the listed activities we have just listed, so stop by the OSU Extension Office in the Education Building and pick up an application to become a 4-H leader

**4-H leaders wanted!! Do something positive for kids! Call Arlene and/or Minnie to sign-up**

### Natural Resource notables

by Zach del Nero, Natural Resources Agent

**Crustacean Connection**  
 The following information is from an article in the February 2000 issue of *Agricultural Research*, from Sarah Tarshis, formerly of the USDA Agricultural Research Service.

The thought of tiny creatures in your water may seem disgusting, but ARS scientist Charles Cooper hopes to find a whole lot of healthy critters in his water - especially if they're *Hyalella azteca*. That's because these crustaceans are a sign of good water quality. If Cooper finds healthy *Hyalella* swimming in streams and lakes, he knows the water is clean and not exceeding critical levels of agricultural chemicals that sometimes runoff from fields into water supplies.

*Hyalella* have become a valuable tool since 1972, when the first Clean Water Act was passed. Scientists and regulators have used many approaches to measure water quality and to clean contaminated water. But Cooper, an ecologist in the USDA-ARS Water Quality and Ecology Research Unit at Oxford, Mississippi, has turned to nature for this task - specifically to *Hyalella*. These 1/8 to 1/4-inch-long crustaceans are commonly found in lakes, ponds, and streams throughout North America. *Hyalella* consume decaying plant matter and can be found swimming in the water or burrowing into sediment. They are an important link in the aquatic food chain and a food source for several predators, including fish and various invertebrates. Tiny *Hyalella* offer many advantages as a biological indicator of environmental quality. They are easy to raise, reproduce readily, and they are inexpensive and easy to work with," says Cooper.

The tiny crustaceans provide biological measurements of water quality so researchers don't have to rely solely on

chemical and physical measurements. *Hyalella* are collected with other small ani-



mals common to water systems and are examined to determine whether an ecosystem is functioning properly. Scientists can then focus their research on the areas that are potentially problematic.

*Hyalella* are also used in laboratory experiments. Cooper and ecologist Scott Knight expose them to various concentrations of chemicals to evaluate and model responses to actual exposures in streams and lakes. They run toxicity tests using known and controlled mixtures of multiple chemicals to determine critical levels of contamination. Then they compare their lab results to those obtained in outdoor bodies of water to determine if the lab data reflect what is happening in the real world.

Monitoring water quality through chemical and physical measures reveals the effects of improved conservation farming practices. The biological method used by Cooper, however, confirms whether these practices are improving the overall health of the ecosystem. In the end, results are used to make recommendations to farmers to promote a healthy, clean environment.

## HOME SWEET HOME



By Bernadette Handley, Family & Community Development Agent



### Dear Mom and Dad,

I heard on the radio that April is **National Child Abuse Prevention Month**. I am not sure what **Child Abuse** is but it does not sound nice. I heard the radio person say that children are abused every day and some even die from their injuries. And it is usually a grown up that does the hurting. I just don't understand why a grown up would do that.

I know that you would never do that to me. I know that I have made you pretty upset... like the time I forgot to roll up the van windows and it rained all night. You explained what I did wrong and I had to take the towels out and soak it all up. I learned my lesson for sure... those towels were heavy with all that water! You were pretty upset but you never yelled at me or hit me or made me feel stupid. I just thought ALL parents did that... aren't they s'posed to?

Or Mom, remember the time when I helped make coffee and spilled it all over your white pants? And it made you late for work AND stained the pants? You were upset at me, I could tell. Because whenever you get upset... I hear you say "breathe... breathe... breathe" and then you count to ten.

I am not sure why you tell yourself to "breathe" - doesn't your body just DO that? And why do you count to ten? You and dad taught me how to count... don't you already know how to do that? You sat me down and explained how important it is to be careful with hot drinks and to take my time and not rush so I don't spill. You were upset but you never yelled at me or hit me or made me feel stupid. I just thought ALL parents did that... aren't they s'posed to?

And Daddy... remember the time I got mad at Rex for not playing "fetch" with me and I kicked him? You told me in a stern voice how all living creatures are special and should never be hurt... that when you abuse someone or something they won't trust you. It takes a long time to rebuild that trust. And then you made me go to my room and have a time out... it was a long one... 15 minutes... and I had to think about how bad I must have made Rex feel when I did that. I was really sorry and I told Rex that... and I never kicked him again. You were upset but you never yelled at me or hit me or made me feel stupid. I just thought ALL parents did that... aren't they s'posed to?

Ya know... I thought grown ups were

smart since they are older. If I behave in a way that is not nice - you make me go to my room. Why don't grown ups just go into their room when THEY get angry or act mean to people?

My friend at school told me that I must be lucky to have such nice parents. You say nice things to me just because you love me. I just thought ALL parents did that... aren't they s'posed to? He's the lil boy that I told you about... remember? He does not seem very happy... sometimes I see him cry in the corner. He misses school - I think he is sick A LOT! We play out on the playground together... I can usually beat him when we race. When his mom came to pick him up, she didn't hug him and smile at him like you do with me. She got mad right there in front of everyone because he got dirt on his jeans. He looked like he was going to cry. I think my friend is right... I am lucky to have such nice parents who say nice things to me just because they love me. You never yell at me or hit me or make me feel stupid. I just thought ALL parents did that... aren't they s'posed to?

Luv, Your child

## OSU researcher studying beaver impact on desert trout

CORVALLIS - Is the state's largest rodent the friend or foe of an isolated population of endangered trout?

A graduate student in Oregon State University's Department of Fisheries and Wildlife is closing in on the answer with his two-year study of Willow Creek in Oregon's lonesome southeastern corner.

"We don't know for sure yet whether the study will show that the presence of beavers is harmful, neutral or beneficial to the fish, and when we do we won't know how far beyond Willow Creek whatever we determine may be true," said Andrew Talabere, who is conducting the research for his master's degree.

"But," he added, "we do know that this study is going to give us another tool to use in the potential recovery of these threatened fish."

Talabere is talking about Lahontan cutthroat trout, the only fish in Willow Creek. The federal government listed the Lahontan cutthroats in that tiny stream and nearby White Horse Creek as threatened in 1991.

Willow Creek is only 18 miles long. It starts in southeastern Oregon's Trout Creek Mountains near the Oregon-Nevada border and runs almost due north toward Steens Mountain. It ends in a marshy area that is a shallow lake during wet climatic periods. A person could jump across the creek in spots.

Several years ago researchers with the Oregon Department of Fish and Wildlife noted that the area right around the banks of Willow and White Horse creeks, damaged in decades past by livestock, wild horses and weather factors such as droughts, was improving. They suspected the improvement could be attributed, at least in part, to a change in how the federal land the creek runs through was managed.

The Bureau of Land Management was working cooperatively with ranchers, environmentalists and state resource managers. The improvement included the return of willows and other trees around the streams, and there seemed to be a related rise in beaver activity, in-

cluding the number of dams.  
 Talabere began his field research in 1998 under the supervision of OSU fisheries ecologist Bill Liss and aquatic ecologist Bob Gresswell.

In recent years there has been increasing interest in how beaver ponds affect fish distribution, Talabere noted. "Some work on this had been done in the Midwest and west of the Cascades. But none had been done in this kind of desert ecosystem."

"There's a lot of concern that beaver ponds increase the water temperature, both because of an increase in the surface area of the stream and because beavers cut down trees, removing shade," he added.

Basically, what the OSU graduate student did during two fields seasons was measure shade and other physical characteristics along the stream, and survey the fish in the creek.

For comparison, Talabere and assistants conducted identical studies in stretches of the creek with beaver ponds and in stretches without beaver influ-

ences. They also placed special devices in some of the study areas to monitor the water temperature over time.

There is a difference in the beaver pond complexes between the temperature of the water going in and coming out, Talabere says. "The water heats up a degree or so in complexes in our higher-elevation study areas," he said, "and two or three degrees in lower-elevation complexes. But it did that in the study stretches without beaver activity, too."

He hasn't finished analyzing the amount of shade by the creek, but he suspects there is more where beavers are active.

"When I go out to Willow Creek beaver ponds in March," Talabere said, "some of them tend to look like war zones. Clearcut. All stumps. But by July it's all grown back, and more. There have been beavers in North America for three to four million years and willows even longer. They've evolved together."

"This is highly speculative at this point," said Talabere, "but there appear to be more large fish in the beaver complexes (we studied). If that's true, and I haven't analyzed all the data yet, it means the beaver ponds are providing either more food that allows fish to get larger, or greater habitat area. Ultimately what it means for the population is that you grow more large fish per unit of stream and get more reproduction."

The research is featured in an article in the Winter 2000 issue of *Oregon's Agricultural Progress*, a magazine published by OSU's Agricultural Experiment Station. Copies are available by writing: Jeanne Bush, EESC, 422 Kerr Administration, OSU, Corvallis, OR 97331-2119, or calling Bush at 541-737-3717.

Talabere said he expects to complete his report on what he learned in the study of Willow Creek by July 2000.

By Andy Duncan, 541-737-3379  
 SOURCE: Andrew Talabere, 541-757-4263

## STOCKMAN'S ROUNDUP: The performance-based livestock husbandry program; what is it?



by Bob Pawelek OSU Livestock Agent

**What is it?**  
 An agriculture education program that emphasizes basic animal science, math and decision-making skills in the context of producing and marketing food and fiber products. Youth are taught to collect and

record production data on livestock in their care and then are helped to interpret and use that information in the light of basic principles of genetics, nutrition, medicine and physiology. Success in livestock projects is measured by distance from production targets that are set for specific traits, e.g. carcass quality, average daily gain, structural soundness and conformation. Ultrasound measurements are made of fat thickness and loin eye area for meat animals prior to the 4-H market show. At the show, production data are given to the judge to assist him/her in evaluating each animal's traits. Exhibitors receive written scores for their animals in carcass, appearance, gain and finished weight categories. Production measurements are compiled in a database system so that 4-H members and their leaders will have the opportunity to retrieve and evaluate performance data at any time, and so learn from it.

**Why?**  
 Because junior livestock shows should provide a context for teaching and reinforcing good husbandry practices.

To emphasize education.  
 To demonstrate the value of using systematic evaluation procedures.

To teach goal-setting and progress

evaluation.

To educate the youth and the public about agriculture.  
**What does the system do?**  
 The performance system is intended to reward 4-H members for producing animals which fit a defined set of specifications, as if they were direct-marketing livestock to a packer-buyer or were managing a production unit for a commercial farm. With experience and good instruction, members can not only improve their success in the project but make personal discoveries in the fields of food science, nutrition, genetics, physiology, management, and veterinary care.

**How is the Junior Livestock Show affected?**  
 The livestock show is not managed differently except for the procedure for selecting the championship class and the fact that the judge uses a scorecard to evaluate each animal. Animals invited back for the champion drive are those whose scores placed them in the top 10 to 15 of the show. These will often be the class winners, but not always. The judge may select any animal in the final drive for grand or reserve champion, and may use the performance information to assist with the selection.

**The Judge**  
 The judge is critical to the success of the show, who assigns scores for lean yield, quality grade (beef), muscling, leanness, body conformation and structural soundness.

**The Scorecard**  
 An AMS Access database manages performance information for all 4-H livestock projects in the county. After being filled out by the judge, these scorecards are returned to the exhibitors for their permanent record.

**Conclusions & Comments**  
 This approach requires a strong educational program to support it. The concepts lying behind the terminology (lean yield, quality grade, average daily gain, etc.) are not beyond the reach of younger members, but teaching them may require some extra effort and training on the part of Extension staff and 4-H program leaders. The 4-H project should produce two things at its end: a more skilled and confident child, and a quality product - in this case a market animal that would meet or exceed industry standards for quality and wholesomeness.

While the program takes advantage of some fairly sophisticated tools, these are not necessary to the system. A great many

variations of this system are possible, ranging from the highly sophisticated to the very practical and simple. Computers are not required, though they are an advantage for larger shows.

Finally, efficient and accurate scorecard tabulation during the show is crucial to success and sanity. Judges who have been using similar systems in Idaho and elsewhere find that their part is not noticeably slowed by using a scorecard, once they are familiar with it. Tabulation is more often where the bottleneck occurs. Computers can help with that, as in this system, but they can't be totally relied upon. A good show requires a considerable amount of preplanning and careful execution. In our case, we used three human tabulators equipped with calculators to record and cross-check the scorecards simultaneously. After only a little practice they were able to present the judge with a completed set of scorecards, ranked by score with ties identified within only 30 seconds of the last card being turned in.

This new approach will take time to prove itself and will need additional refinement in the process. However, it has great prospects for improving our ability to teach, to challenge, and to prepare our youth for the future.