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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 Exension Service offers its programs and materials equally to all people.

The Clover speaks

by Arlene Boileau 4-H Agent & Minnie RedDog 4-H Prgm Assisant

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 and 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: measuring 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, 3/4(three/fourths) cup light corn syrup, 3 tablespoons margarine or butter, 1 cup of milk chocolate chips, melted.

1) put a thin layer of butter all over in the baking pan.

2) measure the Cereal & Marshmallows into large bowl, set aside.

3) in the microwavable bowl put peanut butter chips, corn syrup & butter then microwave on high with bowl uncovered, stirring after each minute until smooth.

4) pour the microwave ingredients over the cereal mixture, and stir until all the cereal is covered with mixture.

5) 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.

6) pour the melted chocolate over the cereal in the pan.

7) put pan in the refrigerator for one hour or until the chocolate is hard. This makes 36 bars. Enjoy

The Warm Springs 4-H Program is looking for 4-H Leaders in the following areas. Beadwork 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 a application to become a 4-H leader.

Natural Resource Notables

NR Notes 05-05-00

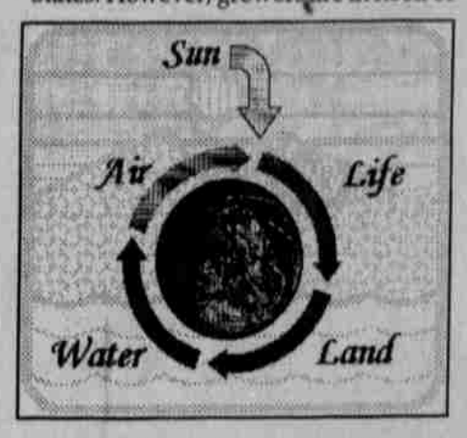
Agriculture gets new weapon against disease and insects

The Environmental Protection Agency has approved a "first-of-its-kind" protein product that activates a plant's natural defenses against insects and diseases. This new product will give farmers a new alternative to chemical pesticides. The protein comes from genetically engineered bacteria and it has shown some pretty impressive results. In field tests, yields for tomatoes and peppers increased up to 22 percent and tolerance to drought is enhanced as well.

The product, know by the trade name Messenger, should be available to producers within a few months. Science and agriculture are working hard to develop more of these "bio-pesticides" - products that either trigger or strengthen plants' natural defenses, or include microbes that attack pests. The EPA says that Messenger, approved on April 19th, is the first "natural" product that can initiate crops' own immune systems. The EPA is currently studying another material that uses a chemical to trigger plants' resistance.

Genetically engineered products are of some concern nowadays. Many environmentalist and scientific groups are worried about the long-term effects of these materials. In fact, there was some news just this week about President Clinton not requiring food labels to identify genetically engineered ingredients. In spite of all this, there has been little resistance to the release of Messenger.

It is important to have realistic expectations for these new "tools" - they do have some great potential, though, for reducing our dependence upon many chemical pesticides. One important chemical that Messenger could replace is methyl-bromide. Methyl-bromide is widely used on vegetables, tomatoes, and strawberries. A soil fumigant, methyl-bromide has been identified as a serious ozone-depleting gas and is being slowly phased out of use in the United States. However, growers are in need of



an effective replacement - and Messenger may be able to fill some of that need.

Messenger, designed by Eden Bioscience Corp. of Seattle, is designed to protect against diseases caused by viruses, bacteria, and fungi - but field tests have shown it to be effective against some insects as well. The protein, known as harpin, comes from a bacteria that causes fire blight - a disease in apples and pears. By applying the protein to crops, the plants are able to develop resistance to a wide range of other pathogens.

The EPA's tests report no threat to humans or animals, as the protein degrades so quickly that it cannot be detected within two hours of application. Scientists report that pests are not likely to develop resistance to this product, because they don't interact with the protein. EPA conducted over 500 field trials worldwide on over 40 crops, including tomatoes, cucumbers, rice, wheat, citrus fruits, cotton, tobacco, and peppers. EPA reports that, when Messenger was used on tomatoes in Florida, overall use of fungicides, bactericides, and insecticides was reduced by 71%, while yields increased 10-22%.

As public concerns force the removal of more and more chemical pesticdes, it is likely that we will see more and more of these "biopesticides" coming to market.

HOME SWEET HOME

By Bernadette Handley, Family & Community Development Agent

May is National BBQ month! If you are cooking outdoors or packing a picnic, remember to keep your food safe!

WASH HANDS AND FOOD SURFACES OFTEN. Wash your hands with hot soapy water before and after handling food. If you're grilling at a campsite or at a park, take disposable hand wipes to clean hands in case water is not available. Wash cutting boards, dishes, utensils and counter tops with hot soapy water after preparing raw meat, poultry and seafood and before going on to the next food.

DON'T CROSS-CONTAMINATE.

Separate raw meat, poultry and other perishable foods from ready-to-eat foods. Cutting boards should be thoroughly cleaned after each use. Use hot, soapy water and a brush. Make a solution of one teaspoon of chlorine bleach to a quart of water and soak the cutting board for a few minutes. Rinse with clean water and pat dry. When taking foods off the grill, do not put cooked food items back on the same plate that previously held raw food. Always use a clean plate for cooked meat, poultry and seafood.

COOK TO PROPER TEMPERATURES.

To ensure proper cooking temperatures for gas and electric grills, turn the grill on high and close lid for 10 minutes to allow the grill to reach its cooking temperature. If using charcoal, allow the coals to heat 20 minutes until ashen. Use a clean food thermometer that measures the internal temperature of cooked foods. Ground beef should cook to at least 160°F. Steaks should cook to at least 145°F, whole poultry to 180°F and chicken breasts and legs to 170°F. Serve hot, grilled foods immediately.

REFRIGERATE PERISHABLE FOODS PROMPTLY.

Choose your picnic menu carefully. Disease-producing bacteria prefer foods high in protein and moisture. These foods include milk products, eggs, poultry, meats, fish, shellfish, cream pies, custards and potato salad. Keep cold foods below 45 degrees. If you can't keep foods at the proper temperature to prevent bacterial growth, don't plan to take these foods on a picnic.

To thaw meat for a cookout, take meat or poultry out of the freezer 1-2 nights before you need it and refrigerate. Do not thaw meat and poultry on the kitchen counter. Place meat, poultry and fish in separate plastic bags to keep foods from leaking on raw, ready-to-eat foods like fruit and vegetables.

Marinate raw meat, poultry and fish in a covered, non-reactive dish (glass) in the refrigerator. Do not let marinating foods sit on the counter. Do not use the marinade to baste the food once you have started to cook. Instead, set some of the marinade aside before you add the raw meat, poultry or fish.

Keep prepared food hot (above 140 degrees) or refrigerate it immediately after preparation. Hot foods should be stored and transported in insulated containers such as an ice chest, for short trips. For longer trips, refrigerate food at 45 degrees or colder, then reheat them before you eat them. A thermos will also keep hot soups and foods hot.

Only pack what you intend to eat. Place perishable foods in the cooler directly from the refrigerator. Don't put everything on the counter and then start to pack. Store foods to be chilled in shallow containers. They provide more surface area for foods to stay cold. Use frozen bread and chilled fillings for sandwiches to help keep them cold. Use a thermos to transport cold milk, juice or other liquids.

A full cooler will maintain its cold temperatures longer than one that is partially filled so it is important to pack plenty of extra ice or freezer packs. If you only partially pack your cooler, fill the rest with more ice. If the ice starts to melt, put more into the cooler. Do not use the loose ice used to pack your cooler as ice for your drinks. If necessary, pack refreshment ice in a separate, resealable bag. Any food that has been left in the cooler after the ice has melted should be thrown away.

When in doubt, throw it out.

Satellite Event

OSU Extension hosts a series of educational satellites developed by the U.S. Department of Education.

Connecting with Youth - May 16

Learning Everywhere - June 20

Programs will be offered in the 1st floor classroom of the Education Building from 5PM-6 PM.

Contact OSU Extension @ 553-3238 if you are interested in attending.

Limit: 10.

STOCKMAN'S ROUNDUP: Consider early weaning

by Bob Pawelek
OSU Livestock Agent

Could Llamas Guard Your Cattle?
Present Use of Guard Llamas

During the past 20 years of birth and growth in the llama industry in North America, llamas were occasionally pastured with sheep. To the surprise of owners, they observed fewer sheep were being lost to coyotes and dogs. Sheep producers began experimenting with llamas as guard animals. The vast majority of guard llamas in use today are found in the Intermountain/Rocky Mountain region and the Far West.

It has become commonplace for sheep producers to utilize llamas for sheep flocks. It has been reported that a well-managed guard llama will bond with sheep, and may be used with the same flock for 15 years or more. The long distances that guard dogs travel (200-600 miles each year) takes a harder toll on the dogs, resulting in only 2-3 years of usefulness for guard dogs on western range sheep operations.

The Research

There is no documented evidence that llamas can be as effective with beef cattle herds as with sheep. A study of the usefulness of llamas as guards animals for cattle began in 1996 on the Warm Springs Reservation on 64 acres of tribal land leased to Oregon State University and the 4-H Program. It is on the fringe of the community area - just far enough away for feral dogs to be a problem. The test herd used in the 1996-97 season consisted of four cows, five calves (one cow had twins) and one yearling heifer. In 1997-98, the herd consisted of five cows, two yearling heifers, and five calves.

The pasture used was 64 acres; half in sagebrush / crested wheatgrass, one-fourth alfalfa, one-fourth improved grass. The length of time this study ran was approximately six months during both seasons. Herd was allowed to graze alfalfa only after the third cutting, one month prior to and one month post-calving. The 16-acre improved grass pasture was used for 3 months, while the 32-acre sagebrush pasture was grazed one month.

A 10-year old stud llama was used in this study. The Fall of 1996 was a particularly unfavorable season for calves on the Warm Springs Reservation, as approximately $40,000 in beef calves was lost due to predation by feral dogs and coyotes. The fall and winter of 1996 was an especially snowy winter. Hunting pressure (for predators) off the reservation was high. Coyotes quickly learned that Warm Springs was a safe haven for them, with lots of easy pickings. It is assumed that a large number of predators were passing through just as fall calving season got under way.

Regardless of the approach when dealing with predators, particularly the adaptive coyote, no method is 100% effective. It has been found that sheep first introduced to guard llamas on open range tend to have higher predator losses than those introduced and bonded into a confined corral type system. Although lambs become bonded to llamas and can be found interacting playfully with llamas, llamas introduced to ewes and lambs are no more effective than those introduced to weaned or dry ewes. This is a direction that the calving beef herd research will be headed. It is felt that without doubt, the use of llamas to guard flocks generally is a methodology to reduce predation, not to reduce the population of the predators.

Research Results

The results of this phase of the study are mixed. The second phase of the research will be conducted using a young gelded llama because research shows that gelded llamas work better for sheep-guarding than do stud llamas. It is possible that gelded llamas may be more effective than stud llamas when guarding cattle as well.

Five Easy steps to deworming cattle

By Bob Pawelek

1. If your cows were not dewormed last fall (After November 1) they are shedding eggs now and will contaminate the pasture as soon as they are turned out. If they were dewormed they should not be shedding eggs. The calves should not be shedding eggs now because they have not been grazing.

2. Pasture contamination means that eggs and larva shed last year have survived the winter and will hatch out when the grass starts growing. The larva that hatch this spring will infect the calves and cows and pasturecontamination starts over. If the pasture was not grazed this spring the larva would die during the summer but it would take three to four months for most to hatch and die. That means you could not graze until about August 15, that is too late to utilize the pasture.

3. To prevent pasture contamination deworm the cows BEFORE turn out. Then deworm the cows and calves about 5 to 6 weeks after turn out. This will kill the adult worms and developing larva that the grazing animals ingested (harvested) when grazing started. They are harvesting the eggs and larva that do over winter from pasture contamination last year. The result is no egg shedding for about 10 weeks. The cattle will have parasite safe grazing for the rest of the year.

4. The economic benefit will be about 30 to 40 pounds of added weaning weight for an investment of about $6.00. By using the mineral/dewormer product for the treatment six weeks after turn out you do not need to gather the cows and calves for treatment.

5. The program I suggest is to deworm the cows before turn out and deworm the cows and calves 5 to 6 weeks after turn out. You can deworm the cows with drench before turn out because they are available for handling through an alley way or chute. If the cows were dewormed after Nov 1 last fall they may not need to be treated this spring until you provide the mineral dewormer.