

when they have the ability to absorb antibodies directly through their gut wall and into the blood stream. The gut wall 'closes' by the end of that 24-hour period. Calves can absorb more antibodies in the first one to two hours after birth than they can 20 to 24 hours after birth.

BOVINE TRICHOMONIASIS: ESSENTIAL FACTS AND TESTING

What is bovine trichomoniasis?

Bovine Trichomoniasis (a.k.a. Trich) is an important cause of economic loss in cattle operations that use natural service. This disease is caused by a protozoan organism called *Trichomonas foetus*. This organism lives in the internal sheath and prepuce of the bull. In cows this organism colonizes the internal reproductive tract.

How does it get transmitted?

Trichomoniasis is a venereal disease of cattle. It is transmitted from cow to cow by a bull during breeding. Bulls show no clinical signs. Cows can commonly clear the infection within a few months; however, infection in bulls over 4 years of age is usually permanent and is the main source of transmission from one breeding season to another. The disease is self-limiting in cows, as opposed to bulls, that will be permanently infected. After several heat cycles, most cows and heifers clear the infection, but this may take months.

How does it affect cattle? What will you usually see if you have a problem?

The most common signs in an infected herd are related to infertility. The cows will breed and settle, but then they experience early embryonic death of the fertilized embryo. About 30-40 days later the cow will once again come back into heat and breed. This may go on for 2-4 cycles until the cow clears the infection and settles for good, staying pregnant to deliver a full term live calf. While this whole process is happening the cows may have a calving date that is 3-6 months late.

Ranchers may notice the following signs when Trich infects a herd:

- Early abortion (too early to find an aborted fetus) and return to heat
- Repeated breeding resulting in long breeding seasons.
- A wide range of gestational ages at pregnancy check.
- In first-time infected herds, it is common to end with a 50 to 70 percent calf crop strung out over three to eight months.

cial culture media. If one bull is found positive, you should assume that the whole herd is exposed. Studies of positive bulls have shown that this culture method will miss about 10 to 20 percent of infected bulls if the test is performed only once. So, if no infected bull is found on the basis of one culture of all the bulls in the herd, then we can be 80 to 90 percent sure that the herd is "clean."

How can you treat infected herds?

There is a vaccine available for *Trichomonas foetus* (Trichguard or Trichguard Plus [Ft. Dodge]). The vaccine helps cows/heifers to clear the infection in a matter of weeks (vs. months in unvaccinated cows). In most cases, it does not prevent infection. The vaccine does not prevent infection or reduce the disease in bulls. There is no approved treatment for infected bulls.

How can you prevent the disease in your herd?

- Use young, fertile bulls or artificial insemination (AI).
- Culture new bulls at breeding soundness exam time.
- Keep a closed herd and test any animal that you buy.

How can you control the disease in our herd?

If one of your bulls is positive for trichomonas, it is recommended to cull all bulls and vaccinate all females twice, one month apart. If you want to keep your bulls, you can vaccinate all females annually, but it would be better to cull all bulls and open cows before next season. An alternative, if you don't want to cull all bulls, is to sample them at least three times at weekly intervals. With three negative tests, we will be 99 percent confident that a bull is negative.

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AG NEWS

Division of Agricultural Sciences & Natural Resources
Oklahoma State University

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March 2008

9th ANNUAL CROP PRODUCTION CLINIC

Thurs, Mar 13, 2008

Panhandle Research & Extension Center, Goodwell, OK

Program

- 8:00-8:30am—Registration
8:30am—Introduction to Biofuels Curtis Bensch, PhD, OSU
9:30am—Cellulosic Ethanol Production.....Ray Hunke, PhD, OSU
10:30am—On Farm Fermentation..... Danielle Bellmer, PhD, OSU
11:30am—Lunch—Kim's Ribs ([Please RSVP by March 11th](#))
Sponsored by: Farm Credit of Western OK, Jack Lyons-DuPont, Golden Harvest, Gustin Equipment
12:30pm—Distillers Grains in Feedlots Britt Hicks, PhD, OSU
1:30pm—Canola Production & Biodiesel..... Chad Godsey, PhD, OSU
2:30pm—Overview of Conestoga Energy Plant.....Tom Willis, CEO, Liberal, KS, Conestoga Energy Partners
3:30pm—Biomass Production for Cellulosic EthanolRick Kochenower, OSU

There are Six (7.0) Certification Crop Advisor CEU's approved, including 4.0 Crop Mgt & 3.0 Professional.

For questions or to pre-register call 580-349-5440.

FOOD PRICE OUTLOOK, 2008

In 2008, the Consumer Price Index (CPI) for all food is projected to increase 3.0 to 4.0 percent, as retailers continue to pass on higher commodity and energy costs to consumers in the form of higher retail prices. Food-at-home prices are forecast to increase 3.5 to 4.5 percent, while food-away-from-home prices are forecast to increase 3.0 to 4.0 percent in 2008. The all-food CPI increased 4.0 percent between 2006 and 2007, the highest annual increase since 1990. Food-at-home prices, led by eggs, dairy, and poultry prices, increased 4.2 percent, while food-away-from-home prices rose 3.6 percent in 2007.



If you have ever seen emerging peach leaves that are puckered, swollen, distorted and a reddish-green color, you have seen peach leaf curl. Uncontrolled, this disease can severely weaken trees because of untimely leaf drop when the leaves unfurl in the spring. Fortunately, peach leaf curl is not that difficult to control if the spray is applied early enough. By the time you see symptoms, it is much too late. As a matter of fact, fungicides are ineffective if applied after the buds begin to swell. The recent cold temperatures should keep our trees in tight bud long enough to find a window for application. Don't spray when temperatures will fall below freezing before the spray dries.

Peach leaf curl can be controlled by a single fungicide application either in the fall after leaf drop or in the spring before bud swell. There are several fungicides labeled for this disease including Bordeaux, liquid lime sulfur, and chlorothalonil (Ortho Garden Disease Control, Gordon's Multipurpose Fungicide, and Daconil). Thoroughly cover the entire tree during application. Note that it is much easier to achieve good spray

TURFGRASS



coverage if the tree is pruned before spraying.

Lawn Calendar for Warm-Season Grasses include bermudagrass, zoysiagrass and buffalograss.

March

Spot treat broadleaf weeds if necessary. Treat on a day that is 50 degrees F or warmer. Rain or irrigation within 24 hours of application will reduce effectiveness.

April

Apply crabgrass preventer between Apr. 1 and Apr. 15, or apply preventer when the Eastern Redbud is in full bloom. If using a product with Barricade, apply two weeks earlier. Crabgrass preventers need to be watered in before they will start to work.

May - August 15

Fertilize with 1 lb. of nitrogen per 1,000 square feet per application. Remember, more applications will give a deeper green color, but will increase mowing and lead to a build-up of thatch with bermudagrass and zoysiagrass.

Bermudagrass - Use two to four applications.

Zoysiagrass - Use one to two applications. Too much nitrogen leads to thatch build-up.

Buffalograss - Use one to two applications.

One Application: Apply in June

Two Applications: Apply May and July.

Three Applications: Apply May, June, and early August

Four Applications: Apply May, June, July and early August

June

If grubs have been a problem in the past, apply a product containing Merit or Mach 2. Either product should be applied by mid-July. Merit can be applied as early as mid-May if there are problems with billbugs or May Beetle grubs. Both of these work as grub preventers. These insecticides are effective and safe. They must be watered in before they become active. June is a good time to core aerate a warm-season lawn. Core aeration will help alleviate compaction, increase the rate of water infiltration, improve soil air exchange and help control thatch.

Late-July through August

If you see grub damage, apply a grub killer. If Merit or Mach 2 has been applied, this should not be necessary. Grub killers must be watered in immediately.

Late October

Spray for broadleaf weeds if they are a problem. Treat on a day that is at least 50 degrees F. Rain or irrigation within 24 hours reduces effectiveness.

Use the rates listed on the label for all products mentioned.

BRINGING HOUSEPLANTS DOWN TO SIZE

We sometimes receive calls from gardeners who wish to donate houseplants that have outgrown their location. In most cases, we don't have room to accept plants and suggest that people bring them down to size by air-layering. Air-layering is a process where a branch is encouraged to form roots while still attached to the parent plant. After rooting, the original plant is discarded and the newly rooted one is potted as a replacement. Though this propagation technique cannot be used on all houseplants, it does work well on many that tend to outgrow their boundaries including croton, dracaena, dieffenbachia, Norfolk Island pine, rubber plant and schefflera.

It is best to choose wood that is about 1 year old. Older or more immature wood often roots poorly, if at all. Any place on the stem that is of the proper maturity can be used, but a convenient location is often about 12 inches from the tip. Following are the steps required for air-layering:

- Leaves should be removed around the area to be air-layered.
- Wound the stem. This can be done by making a slanting cut upward, an inch or more in length and half-way through the stem. Place a portion of a toothpick in the cut so it cannot close and heal. If the stem is seriously weakened, use a stick "splint" to prevent breakage. Another method that works well is to strip the bark completely around the stem in a band one-half to one inch wide.
- Apply rooting hormone to the wounded surface of the cut or the stripped portion of the branch.
- Pack a baseball-sized wad of moist, unmilled sphagnum peat moss around the wounded area so it forms a ball. This is where new roots will form. It is important to use the long, stringy unmilled peat moss rather than the more common milled material so peat moss does not fall away from the stem when released. Even unmilled peat moss may need to be secured with string to keep it in place.
- Wrap the ball of sphagnum peat moss with clear plastic wrap. Be sure to use enough wrap so that the plastic overlaps and prevents the ball from drying out. Secure the top and bottom edges of the wrap closed with electrical tape string or other convenient fasteners. Roots may appear in as little as a month though it may take much longer for the plant to be ready for transplanting. Check periodically to be sure peat moss remains moist. Water if needed. When roots



have filled the peat moss, the plant is ready to be severed from the parent and transplanted.



RED MEAT CONSUMPTION TO DECREASE OVER NEXT DECADE: USDA

Per capita consumption of beef will decline by nearly five pounds over the next 10 years, but won't significantly shift to other, cheaper proteins, according to USDA's Agricultural Long-Term Projections to 2017, published Tuesday.

USDA indicates per capita beef consumption was 65.0 pounds in 2007 and will decrease year by year until 2017, when it will be 60.1 pounds. Meanwhile, per capita consumption of pork (50.5 pounds in 2007) will dip to 48.8 pounds, and per capita consumption of broilers (85.4 pounds in 2007) will grow to 88.1 pounds.

The net decrease for all three proteins would be 2.9 pounds, reflecting production adjustments to higher feed costs as well as rising exports across species.

Annual per capita consumption of red meats and poultry falls from 221 pounds in 2007 to a low of 214 pounds in 2012-14, then resumes growth to almost 217 pounds in 2017.

USDA TESTS SYSTEM THAT COULD REPLACE HUMAN GRADERS

By [Lisa M. Keefe](#) on 2/15/2008 for [Meatingplace.com](#)

A video analysis instrument — which grades beef carcasses by analyzing a digital video image it takes of the ribeye portion — could become a widely used substitute for U.S. Department of Agriculture graders, according to a USDA official.

The systems have been tested for "accuracy, precision and repeatability" of results in a laboratory setting, Marty O'Connor, chief of the standards analysis and technology branch of USDA's Agricultural Marketing Service.

USDA is rolling out commercial tests of the video grading system in four major processing facilities: National Beef Co. and Cargill Meat Solutions in Dodge City, Kan., Nebraska Beef Co. in Omaha, Neb., and JBS Swift Group in Grand Island, Neb.

The goal is for grading to be more uniform, precise and accurate across the country than has proven possible with human graders performing subjective evaluations.

Assuming the technology stands up under commercial testing, it could be used by any company that grades its beef according to USDA standards. Nationwide, about 160 USDA graders now evaluate about 94% of the steer and heifer slaughter.

The greater efficiencies made possible with the video imaging technology means that the agency could begin to cut back on the number of graders it employs within a year. In three to five years, if the technology proves reliable

enough, the USDA could move to a system of auditing the grading results, further reducing its head count in that area.

This video technology already is installed in many large processing facilities, for in-house sorting.

STUDIES SHOW COLOSTRUM HAS FAR-REACHING IMPACT

Most cattle producers are aware that getting colostrum into the calf immediately is a critical step toward building the calf's immunity and ability to survive and thrive.

But newer research is starting to quantify just how far-reaching the effects of colostrum are to the future performance of a calf. "The immune system starts with colostrum when the calf is born. We are finding that proper calving time management, which includes nutrition for the cows and calves getting immediate and adequate colostrum, can help insure lower pre-weaning morbidity," says Rachel Endecott, Extension beef cattle specialist with Montana State University.

She cites a Nebraska study that followed 1,568 calves from birth through the feedlot. It found that calves without adequate passive immunity from colostrum were twice as likely to get sick and five times more likely to die pre-weaning. That also translated to higher feedlot mortality among those calves that failed to get adequate colostrum as a newborn.

To demonstrate the affect colostrum may have on heifer performance, Endecott cites an Arizona study conducted with dairy heifers that showed higher culling rates during first lactation in heifers that were classified as having a failure of passive immunity from colostrum as a newborn calf.

Endecott says, "This might indicate some relationship between colostrum intake and cow longevity in the herd if those females are kept as a replacement. But this is only one study, and data is limited on the beef side."

Further emphasizing the importance of colostrum, Endecott says research indicates not all colostrum is the same. An Idaho experiment with first-calf beef heifers looked at the quality of colostrum when females were fed differing levels of protein concentration prior to calving. The study found that cows fed low protein diets



prior to calving had calves that were less able to absorb the immunoglobulins in colostrum compared to calves from dams fed adequate protein before calving. Thus, Endecott says

cow nutrition also becomes critical for producing colostrum to benefit newborn calves.

The rule of thumb is that calves need colostrum as soon as possible in the first 24 hours of life, which is