

DID YOU KNOW...

That Humans have 206 bones in their body; Horses have 205; and Cattle have 223 +/-2 (vary between 18-20 vertebrae in the tail).

by **Theresa Ward**

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Wheelchair accessible facilities available. With advance request efforts will be made to accommodate persons with disabilities.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

Abortion Causes in Cattle

Most cattle herds suffer an abortion rate of 1 or 2 percent. Seeing a single abortion, therefore, is not usually great cause for alarm. If the abortion rate increases to 3 to 5 percent you should begin to make efforts to obtain a diagnosis. In this process it is best to discuss the problem with your veterinarian, including review of the vaccination and reproduction history of the herd. The vet can assist in collection and perhaps submitting samples to a laboratory.

If a vet is not available, collect the aborted fetus and at least part of the placenta (afterbirth), place in plastic bags, and refrigerate (or put on ice) to keep at 38° to 45°F. Do not wash off these tissues and do not allow them to freeze. Record numbers of all cows noted to abort and isolate them from other cows (and bulls).

Abortions can be caused by many diseases, some of which there are vaccines for. You should establish a good vaccination program with your vet based on the diseases that are known to occur in your area. The plan can be relatively simple but once started, stay with it unless you have very good reasons to change.

Bovine Virus Diarrhea (BVD)

This common abortion disease is caused by a viral agent of which there are multiple strains and types; all of which are significant causes of abortions. BVD is spread by aerosol or contact, and especially from persistently infected (PI) cattle.

BVD infection usually causes only a mild disease in the dam. Infection may result in embryonic death and resorption, abortion, congenital defects, or a normal appearing but PI calf (with a very defective immune system). The virus may cause abortion within a few days to 2 months after infection, at any stage of gestation.

Most herds can gain some control of the disease by vaccination of replacement heifers. This is done with a modified live virus (MLV) BVD vaccine 1 or 2 months before their first breeding. Some herds may benefit from continued annual booster vaccination of the cows at 1 or 2 months before breeding. Use of a MLV vaccine during pregnancy may cause abortion and fetal defects, but the MLV vaccines can be used when the cows are open. A killed virus may be used anytime but requires two doses the first year.

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It may be possible to eradicate BVD by strict isolation of the herd and testing and removal of PI animals. Part of the challenge with this is to identify and remove newborn PI calves before they expose cows that have been re-bred (which continues the PI cycle).

Brucellosis

This bacterial disease is caused by *Brucella abortus*. Almost all cattle herds in the U.S. are now free of brucellosis due to a long-term regulatory program involving calfhood vaccination and testing and slaughter of carrier cows.

The bacteria is spread among cattle by contact with aborted tissues, fluids, etc. It can be spread over longer distances by scavenging dogs, coyotes, wolves, or birds carrying infected tissues to new areas. Abortion usually occurs in cattle during the last half of gestation.

Vaccination is still very much in use, but only heifers 4 to 12 months of age are vaccinated and this must be done by an accredited vet.

Campylobacter (Vibrio)

Another bacterial disease that used to be called "Vibrio." It is spread at breeding and usually causes early embryonic death (infertility; repeat breeders). It looks very much like Trichomoniasis, but it can occasionally cause abortion.

Several vaccines are available, but they vary greatly in their makeup, so the directions should be followed carefully for the specific product used. Some vaccines must be used within just a month or so before breeding to maintain adequate immunity during the breeding season. One vaccine (oil based) can be given 1 to 7 months pre-breeding and will still maintain protective immunity through the breeding season. An annual booster is required for all vaccines currently available.

Chlamydia

This agent is different than a virus or bacteria. The strain involved in cattle abortion is "immunotype 1." It usually causes only sporadic abortion losses in cattle, but some herds have experienced a loss of 10%. The agent is spread by contact and oral ingestion of the organism. Abortion usually occurs in the last trimester.

There is no vaccine. Preventive efforts should be directed to separation of aborting cows and cleaning up all aborted tissues.

Foothill Abortion (EBA)

This disease has also been called epizootic bovine abortion (EBA). It occurs in the central-eastern foothills of California, western Nevada, and southern Oregon. The agent causing the abortion has not yet been identified, but it is spread by the Pajahuello tick as a tick-borne infection. This tick has been consistently implicated in the areas where these abortions occur, or at least where the exposure occurred.

The abortions do not occur until 3 or 4 months after exposure to the tick and so are usually in the last trimester of pregnancy. The cattle must be between 35 days and 6 months of pregnancy at exposure to the tick or they do not abort. Pre-pregnancy exposure or EBA caused abortion provides immunity for a few years.

There are no vaccines. The cattle at greatest risk are those not previously exposed, which are introduced into those known infected geographic areas when 1 to 6 months pregnant.

Infectious Bovine Rhinotracheitis (IBR)

One of the most common causes of abortion is this viral agent of the Bovine Herpes Group I. It has caused abortion storms in herds resulting in 5 to 60% calf loss. Some modified live virus IBR vaccines may cause abortion if they are not specifically designed for use in pregnant cows or if given to calves that are nursing pregnant cows. The viral agent is readily spread via aerosol or contact and is a common cause of respiratory infections in cattle. Abortions are most common during the last half of gestation.

Replacement heifers should be vaccinated at least a month before their first breeding. Make sure that all IBR vaccines used on pregnant cows or calves nursing them are safe for use in cows that are pregnant.

Leptospirosis

This is a bacterial infection of which five common strains have been identified as causing abortion in cattle. Lepto is spread by infected urine or contaminated water (oral ingestion). A variety of animals other than cattle may also be infected by and carry Lepto, including rodents, dogs, cats, and man.

Cattle abortion may occur at any stage of gestation but is more common during the last trimester. Some calves may be born alive but weak,

or they may die in-utero and be retained for up to 72 hours. The aborting cow is usually not ill.

Killed vaccines are available for one, three, or all five of the Lepto strains. Some herds must be vaccinated every 6 months rather than just annually. *L. hardjo* infected cows may require treatment with antibiotics to clear them and prevent them from continuing to spread the organism.

Neospora

This is a recently recognized disease caused by a protozoan, *Neospora caninum*. It is most common in dairy cattle but also occurs in beef cattle.

There are still many questions to answer about this disease. Infected cows only seem to abort when they are severely stressed during pregnancy. But the calves born from these cows are almost always infected and carry that organism for life and infect their offspring. The infection is not spread cow to cow within the herd. Uninfected cows can become infected by exposure to feed contaminated with dog feces. The majority of abortions seem to occur at 4 to 6 months of gestation after a period of stress to the dam resulting in lowered resistance.

There are no vaccines. It is important to prevent dogs from ingesting aborted or other dead calf tissues and also to keep them from contaminating feed supplies with their feces. Hopefully, other methods of prevention will soon become available.

Sarcocystis

This protozoan organism commonly infects cattle but only rarely and with massive infection does it cause abortion. Infected dogs, coyotes, foxes, and cats shed this protozoan in their feces as a very resistant stage, which survives in the environment and is ingested with forage. Severely affected cows usually abort during the last trimester.

There are no vaccines. Infection usually causes no signs or only mild signs in cattle.

Trichomoniasis

Trich is caused by the protozoan *Tritrichomonas fetus*. This organism is spread at breeding only. The majority of cows clear themselves of the infection after several estrus cycles. Bulls tend to remain infected and carry the organism from one breeding season to the next. Trich usually results in early embryonic death, which appears as repeat breeders and infertility. But it may occasionally cause abortion, usually at less than 5 months gestation.

A vaccine is available for use in cows but must be combined with other control efforts for the herd. The vaccine will not prevent bulls from becoming infected, nor clear them if infected. Control is directed at identifying positive bulls and culling them from the herd. Keeping bulls separate from cows, except during the planned breeding season, also reduces the spread.

Summary of Diseases causing abortion

Infectious Disease	How Spread	Usual stage of gestation	Control methods
BVD	Aerosol, contact	2 months after exposure	ML vaccine to heifers; cull PI animals
Brucellosis	Contact with aborted tissue	Last Half	Regulatory program; heifer vaccination; test/cull
Campylobacter (Vibrio)	Breeding	Early embryonic death or abortion	Vaccine for <i>C. venerealis</i> ; antibiotic treatment
Chlamydia	Contact and oral ingestion	Last trimester	Separation, sanitation
Foothill abortion	Exposure to Pajahuello ticks	3 or 4 months after exposure (last trimester)	Expose heifer calves to geographic area
IBR	Aerosol, contact	Last half	Vaccination program
Leptospirosis	Oral- infected urine or contaminate water	Any stage	Vaccine, antibiotic
Neospora	Oral- contaminated feed-dog feces	4 to 6 months	Dog control—fetal tissues and out of feed areas
Sarcocystis	Oral- infected dog feces	Last trimester	Canine feces away from feed
Trichomoniasis	Breeding mucus, preputial scraping	Early embryonic death or under 5 months	Identify and cull infected bulls; control breeding; vaccine

Weed Management

Now is a perfect time to be on top of your weed management in your irrigated pastures. Finding and removing weeds early before they take over your pasture can be a very beneficial management tool. Unpalatable weeds can quickly spread in a pasture if left unchecked for a few years, reducing your grazing capacity.

There are three basic methods of weed management: mechanical (mowing or hand pulling), biological (insects or our friendly four legged critters with a little coaxing), and the most common, chemical. The key to either one of them working is early detection and persistence. The best herbicide on the market will not be any good if you wait until after the weed has set seed to spray. Or if you only manage the weed for one year, there is a very good chance that it can still come back next year if there is any seed source left.

Pay attention to what plants are growing in the pasture when you irrigate. If the weed is a water loving weed it may indicate problems with your irrigation; having too much water on the pasture and saturating the soil. Determining what the problem is (too much water applied, poor drainage, compacted soils, hardpan, etc.) and solving it will also get rid of the symptom (the water loving weed).

Be persistent in your war on weeds and you can have a healthy, productive pasture. Feel free to call if you need any more information on identifying weeds, knowing if they may be poisonous, or on control methods.

West Nile Virus

For the past couple of years you've seen information on West Nile Virus (WNV) in the Livestock Lines. Last year WNV was found in the Southern part of the State, primarily in dead birds, sentinel chickens (chickens kept in a high mosquito area to check for any infections) and mosquito pools. With our unusually warm spring, mosquitoes are starting to emerge. Be sure to reduce any breeding ground (they can use any standing water and only need about four days to complete a life cycle), use bug spray with DEET, wear long sleeved shirts, and talk to your vet about vaccinating your horses. Horses seem to be affected at a high rate, especially older horses. If you do decided to vaccinate your horse, there has to be a booster shot after about 3-6 weeks, and full protection begins

about 4-6 weeks after the second shot. So plan ahead!

Important phone numbers: Mosquito Abatement: Modesto office: 522-4098; Stockton: 982-4675; Turlock: 634-1234. To report any dead birds call: 1-877-WNV-BIRD.

20th Annual Range Camp

UC Cooperative Extension along with the NRCS, RCDs and the Society for Range Management hold an annual Range Camp in Half Moon Bay at the UC owned Elkus Ranch for high school kids interested in range management. This year marks the 20th year of camp! Campers are exposed to all aspects of range management, multiple use planning, plant ID, burning, grazing management, livestock management, compass, GPS, and map use, etc. After a week of learning and enjoying the coast, campers are tested on their knowledge and the high scorers are given an opportunity to be sponsored to attend the national Society for Range Management meeting, this year in Fort Worth, Texas in February. Any one who is interested in going should contact me at the Modesto office. There may be a possibility of scholarships to help pay for camp.

Westside Ranchers Meeting

This year the Westside Ranchers Meeting will be April 21st at Frank Raines Park. As always, the agenda will be packed with up to date information concerning the Westside. For more information contact Mike McElhiney at 491-9320.

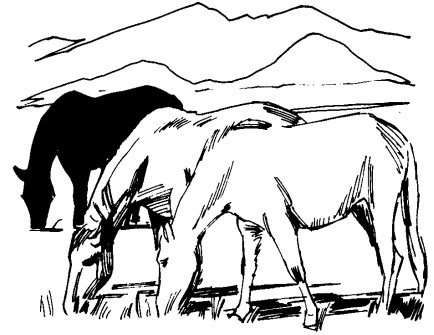
Ecological Site Descriptions

The NRCS has changed the name of the old Range Sites found in the soil surveys to Ecological Site Descriptions (ESD). And in a joint venture, UC Cooperative Extension is going to be collecting data and writing ESDs for the oak foothill areas of the State on both the West and East sides. Basically, the data that we collect will be vegetation amount, type and presence of shrubs and trees along a 100 yard length for certain soils. Then all of the data for similar soils up and down the State will be combined to write the ESD.

So if you get a phone call or letter from me, chances are that some of the soils we are interested in characterizing are on your ranch. If you have any questions please give me a call.

ANNOUNCING:

20TH ANNUAL CALIFORNIA RANGE AND NATURAL RESOURCES CAMP



JUNE 20-25, 2004 ELKUS YOUTH
RANCH
HALF MOON BAY, CALIFORNIA

A camp for people 15-18 years old.
Sessions and Activities include:



- Riparian Watershed Management
- Rangeland Management
- Wildlife Management
- Field Projects
- Forestry
- Careers
- Recreation
- Private & Public Lands
- Rangeland-Urban Interface
- Tour of Operating Ranch
- Mock Town Council Meeting

Awards Available (Belt Buckles & Certificates)

The top three campers are eligible to attend the High School Youth Forum in Ft. Worth, Texas in February 2005

Sponsored By:

California Section of the Society for Range Management
 U.C. Cooperative Extension
 California Association of Resource Conservation Districts (CARCD's)
 Host District - San Mateo County RCD
 East Bay Municipal Utility District
 U.S. Navy - Natural Resources Program
 Natural Resources Conservation Service

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