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## Equine Herpes Virus

by Dr. Peter Mundschenk, State Veterinarian

Equine Herpes Virus (EHV) is often times a mild disease in horses and is caused by EHV-1. When this virus infects a horse, there is a time that the horse is often shedding the virus in nasal secretions with or without clinical signs. If the horse gets a high viral load in the blood, then there is an increased chance that this horse will become neurological. We say these horses have Equine Herpesvirus Myeloencephalopathy (EHM). Often times these horses are still shedding the virus into the environment. Non-neuropathic EHV-1 strain and Neuropathic EHV-1 strain classifications are somewhat confusing as both strains can lead to neurologic involvement. It is recommended that if your horse is showing signs of disease, do not to take it to an event. Horse owners should work with a veterinarian when it comes to vaccination recommendations for your equine companion. Also think twice before sharing tack, buckets, or grooming supplies as these can spread the virus, and practice good biosecurity.

### Information on Equine Herpesvirus Myeloencephalopath

**Disease Type:** This disease is caused by the EHV-1 virus which is common in the horse population. In extremely rare cases, EHV-4 can develop into EHM.

**Transmission:** EHV-1 is spread from horse to horse through contact with nasal discharge or spread as aerosol droplets.

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# Equine Herpes Virus

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Horses can also contract the virus by coming into contact with contaminated surfaces such as stalls, water, feed, tack, and transport vehicles. Humans can spread the virus from horse to horse by contaminated hands and clothing.

**Frequency:** Although EHV-1 and EHV-4 are a relatively common cause of a mild respiratory disease, EHM, the neurologic form caused by either EHV-1 or EHV-4, is not common.

**Incubation period:** Ranges from 2 to 10 days. Horses can shed the virus during the incubation period.

**Carrier status:** Infected horses are carriers and can shed the virus even when showing no clinical signs.

**Latency:** EHV is a viral disease that most horses have been infected with at some point in their life. It is unknown why this virus produces the neurological form in some horses. Horses that have had EHV-1 may be carriers and the virus may be latent and reoccur under periods of stress such as transport or a new activity.

**Severity:** EHM is life threatening.

## Clinical signs:

- Fever-This virus typically causes a biphasic (two

phase) fever. The horse will have a fever on day 1 or 2 and again on day 6 or 7. Neurological signs may not present until the second fever. Some horses may not develop a fever.

- Nasal discharge
- Depression
- Incoordination
- Hind limb weakness
- Loss of tail tone
- Loss of bladder tone-urine dribbling or inability to urinate
- Dog sitting position
- Leaning against a fence or wall to maintain balance
- Recumbency-inability to rise

**Diagnosis:** The diagnosis is made by having a veterinarian collect nasal swabs and whole blood collected from the horse. Horses with neurologic signs which test positive for EHV-1 are considered positive for EHM.

**Treatment:** There is no cure for EHM. Supportive care is administered including the use of nonsteroidal anti-inflammatory drugs (NSAIDS) such as phenylbutazone (Bute) or flunixin meglumine (Banamine) to reduce fever, inflammation, and pain. Corticosteroids have been used but there is no evidence of benefit. Antiviral drugs such as acyclovir and valacyclovir have been used but their value in horses with EHV infection is unknown.

**Prognosis:** Prognosis for horses who test positive for EHV and then develop

neurologic signs of EHM is often poor with fatality as high as 30%. In rare cases, horses with neurologic signs can recover from the infection but may retain neurologic deficits.

**Prevention:** Currently, there is no USDA licensed EHV-1 vaccine which is proven to protect against the neurological disease associated with EHV-1. The best method of protection is always to maintain current EHV vaccinations on all horses on your property and to follow correct biosecurity protocol when bringing new horses onto your premises, when travelling, or during any activity where horses may come together.

**Biosecurity:** EHV-1, and rarely EHV-4, has the potential to cause EHM so biosecurity measures appropriate for EHV-1 should be taken. EHV-1 is spread via aerosol particles from nasal discharge or from contaminated surfaces including people, clothing, feed and water, implements, and stalls; isolation of affected or exposed horses is critical to preventing spread of the virus. Proper biosecurity measures include extensive cleaning and disinfection of surfaces and equipment that come in contact with affected horses. Individuals treating or coming into contact with infected horses need to follow appropriate disinfection protocols when handling multiple horses. [Click here for more info.](#)



## Public Health Prevention of TB and Brucellosis through Raw Milk

by Marisela Cruz, Dairy  
Inspector

Unpasteurized raw milk can have the potential to carry multiple microorganisms such as Brucellosis and Tuberculosis (TB). The Dairy Control program requires that all cows and goats producing raw milk for sale to the ultimate consumer for human consumption be tested annually for TB and Brucellosis by an accredited veterinarian, according to ARS 3-1772.

These two diseases are highly transmittable though the consumption of raw dairy products or close contact with the animal or animal tissue such as the placenta. Therefore, it is very critical that all Arizona producers of raw milk for consumption adhere to this statute every year and submit health certification of testing to our State Veterinarian's office.

In addition to the herd testing enforcement, state dairy inspectors collect raw milk samples on a monthly basis as well. These samples are delivered to the State Lab for brucellosis ring testing.

## 2019 NERO Conference

by Roland Mader, Dairy/Egg  
Manager

We just finished the 2019 National Egg Regulatory Officials (NERO) conference. As expected, it was an egg-citing conference and the agenda covered many topics. The Food and Drug Administration (FDA) played a big role in this year's conference and is looking to partner up with NERO in the creation of sanitation standards to streamline egg inspections under 21 CFR 117. This partnership will enhance productivity and allows for FDA to accept state egg program inspection by reciprocation.

NERO consists of State Department of Agriculture officials; that regulate shell eggs and egg products, with the primary objective to promote uniform standards for quality, safety, labeling and handling of shell eggs and egg products that ensure a safe, fresh and truthfully marketed egg supply to the consumer.

NERO's Mission: "To regulate and support the egg industry in a manner that encourages uniformity while promoting food safety and quality assurance." More information about NERO can be found by following this link <http://nerous.org/>



**Bunnies' Tres Leches Mini Cakes**  
as featured by the Incredible Egg

Yield: 12 servings | Total Time: 40mins

### Ingredients

- 1 box white cake mix (16.25 oz)
- 1 ¼ cups water
- 1/3 cup vegetable oil
- 4 large EGGS
- 1 ½ cups strawberries, chopped
- 1 cup canned sweetened condensed milk
- 1 cup canned fat free evaporated milk
- ¼ cup low fat milk

### For Topping

- 1 cup heavy whipping cream
- 1 ½ Tbsp. granulated sugar
- ½ tsp. vanilla extract
- 12 sliced strawberries for garnish

### Directions

1. PREHEAT oven to 350° F. SPRAY twelve 4 oz. ramekins with nonstick cooking spray. SET aside.
2. COMBINE cake mix, water, vegetable oil and eggs in a large bowl. WHISK to combine ingredients. FOLD in strawberries and pour mixture into prepared ramekins. BAKE for 20-22 minutes or until a toothpick inserted comes out clean. Let COOL completely.
3. WHISK together condensed milk, evaporated milk and low fat milk in a medium bowl for the milk topping. POKE holes in the cakes thoroughly using a fork. SPOON 4 tablespoons of mixture over each cake. COVER with aluminum foil and REFRIGERATE for at least 2 hours to overnight to allow the liquid mixture to soak in.
4. PLACE whipping cream, sugar and vanilla in the bowl of a stand mixer. WHIP until stiff peaks form. SPREAD evenly over top of the cake. GARNISH each cake with 1 sliced strawberry.

Visit <https://www.incredibleegg.org/recipe/bunnies-tres-leches-mini-cakes/> for insider tips for this recipe.





## Meat & Poultry Inspection's New Employee: Courtney McGuire

Meat and Poultry Inspection would like to welcome our newest team member, Courtney McGuire. Courtney will be providing inspection coverage to slaughter

and processing establishments in southern Arizona.

My name is Courtney McGuire. I've been an Arizona resident for 28 years and absolutely love my state. I have 3 horses and 2 dogs. I enjoy running barrels and team roping on my off time. I grew up in a rodeo family and have been working hard on keeping that tradition going. I've recently been employed by the Arizona Department of Agriculture and already I am enjoying my job.



Did you know that cattle produce more than just beef and milk? Many common items such as buttons and lipstick are made from cattle production. [Click here](#) to learn more about cattle byproducts and the items they make.

## Contact Us

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(602) 542-4189

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(602) 542-6407

State Vet's Office:  
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The Maricopa County Fair is going on April 10th through the 14th, 2019. Please come join our staff from the Arizona Department of Agriculture and enjoy the fun and festivities. The fair is a great way for young children and young adults to learn about livestock and agriculture related functions.

Members of 4H and FFA show their livestock and exhibit items such as welding projects, quilts, photos and many other projects. This is a great learning experience for the youth in Maricopa County. There are many things to do with live music and shows, a petting zoo, and a carnival. Please join our staff in supporting Maricopa County's up and coming agriculture producers. Our staff assists with security on their time off to make this a fun and safe event.

The fair is located at 1826 West McDowell Rd, at the Fairgrounds.

