



# Protect horses through **VACCINATIONS**

## Consider the factors that influence your vaccination program

*By Alex Malcolm*

**G**reat horse care programs include a strong focus on control of internal parasites and preventing infectious diseases.

Appropriate vaccinations for horses play an important role and, for relatively little investment, reduce the risk of diseases that cost considerably more to treat.

### **How do Vaccinations Work?**

Vaccines bolster an animal's immune system so it can fight a specific disease. Vaccination exposes a horse to an antigen, which is usually a bacterium, virus, or toxin that has been altered so it can no longer cause disease. This exposure stimulates an immune response so the horse can more rapidly respond to the disease-producing agent in the future.

Vaccination does not guarantee protection against disease. Other management practices that minimize stress and limit potential exposure to infectious agents are also essential to a successful disease control program.

Developing a vaccination program with your veterinarian and periodically reviewing the program is important. Consider:

(1) The likelihood of the horse getting the disease, which may vary with the geographic location, season, age of the horse, use of the horse, and specific management practices

(2) The potential severity of the disease

(3) The safety and efficacy of the vaccine

### **Know the Diseases**

If a disease is prevalent in an area, or you travel to places where exposure could occur and the disease is potentially fatal, you would probably vaccinate for that disease. If there is little risk for exposure, vaccination may be unwarranted. Vaccines often contain a combination of antigens to target multiple diseases. All horse vaccination programs should include tetanus, West Nile virus, eastern/western equine encephalomyelitis, and rabies because of their infectious potential and/or severity.

Since vaccinations are not 100-percent effective, knowing how horses contract the disease so prevention measures can be taken is important. Knowledge about symptoms of disease may save your horse's life through early detection and treatment.

### **Protect your Horse by Deworming**

In some studies, 80 percent of colic cases are associated with parasites.

### **How do Horses get Internal Parasites?**

Typically, the horse swallows worm larvae while grazing. Most of the worms that affect horses have a similar life cycle. The larvae spend time developing in the horse

before reaching adulthood within the bowel. The worms then produce eggs that are passed in the dung onto the pasture. Under warm conditions, these eggs hatch into the infective larvae again.

## Know the Target

The parasites targeted in dewormers are large and small strongyles, roundworms, pinworms, and tapeworms. Traditionally, deworming programs for adult horses primarily targeted strongyles (bloodworms). More recently, attention has shifted to the potential role of tapeworms and the need to target them.

Small strongyles are the most common parasite found on fecal examinations of adult horses.

Horses develop immunity to roundworms, so infection is most commonly seen in foals and weanlings (they are usually immune by 1 year of age). The worms can cause significant damage to foals, so deworming while they are young is important. Also, eggs can persist up to 10 years in the environment, so preventing environmental contamination is essential. Start deworming at 60 days of age.

## Deworming Frequency

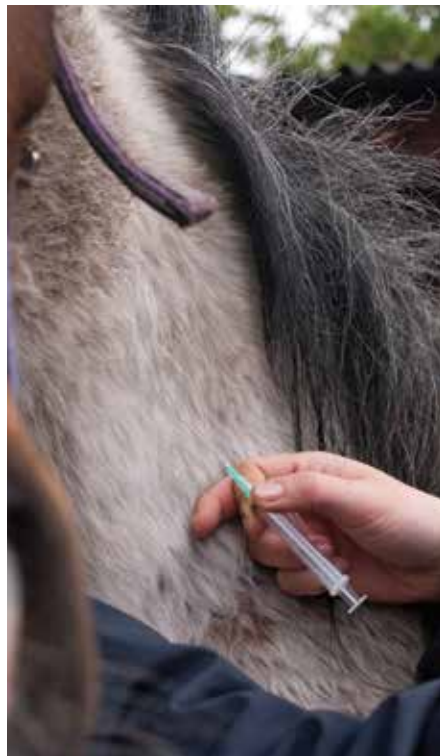
Parasite resistance to drugs is a significant problem throughout the world, especially since there are only three classes of drugs from which to choose. A balance must be struck between reducing parasite resistance to drugs and eliminating internal parasites.

Horse owners should learn what active ingredients are in deworming products (listed on the label) and select products that target each parasite group at least once a year.

More frequent deworming is often needed because of parasite load and husbandry practices that promote spread.

A good guideline is to deworm each horse every six months with an Ivermectin product (spring and fall). Ivermectin is a larvicidal (will kill parasite larvae) and, if used every six months on each horse, will eliminate large strongyles from your property. Ivermectin has shown some treatment failure in pinworms – researchers are unsure whether this is due to resistance of parasites to this drug or that the dose of Ivermectin is not efficacious against the worms. Pyrantel pamoate is typically effective for pinworms.

A new addition to a herd can bring along a resistant strain of parasite, which can quickly infest the remainder of the herd. When introducing a new horse to a farm or



ranch, deworm it immediately with Ivermectin and then stall it for four days to avoid contaminating a pasture. After that, incorporate them into your other horse deworming schedule.

## Customize the Deworming

The best deworming schedule is strategic and customized to an individual horse's parasite burden and environment. Twenty to 30 percent of the horses in a herd carry the majority of parasites and are responsible for contamination of a property with parasite eggs. An initially more expensive, but over a long term more cost-effective, measure is to have your vet perform a fecal examination on every horse on your place after a long respite from deworming (three to four months after a previous deworming). From this information, they can determine which horses carry a high, moderate, and low load of eggs (and their potential for environmental contamination). Work together to develop a tailor-made deworming protocol for each horse. This will save money, prevent over-treating certain horses, and help decrease parasite drug resistance.

## Prevention

In pastures, horses tend to defecate in one area and eat in another area. Dragging pastures will transfer throughout the pasture all the eggs and larvae that are isolated in one area. If going to drag, do so in the summer and leave the pasture empty for several weeks afterward. Frequently picking up and disposing of manure in the pasture instead of dragging may be a better option. Overpopulating and overgrazing will also increase parasite transmission.

**Alex Malcolm** is the 4-H and agricultural and natural resources educator in the Fremont County office of University of Wyoming Extension. He can be reached at (307) 857-3654 or at [amalcom@uwyo.edu](mailto:amalcom@uwyo.edu).

## HORSE DISEASES COMMONLY INCLUDED IN A VACCINATION PROGRAM

Name	Transmission	Symptoms	Severity
Tetanus	Bacteria enters body through open wound	Lameness Stiffness Sawhorse stance Inability to eat ("lockjaw") Extreme sensitivity to noise	Very susceptible Fatal to more than 80% of horses
West Nile encephalitis (West Nile virus)	Infected mosquito bites horse Infected birds carry the virus, which is transferred through mosquitos	Infects central nervous system Loss of appetite Lethargy Neurologic signs include: Behavior changes Ataxia (wobbliness) Excitability Teeth grinding Muscle tremors of face or neck	Infection from this virus DOES NOT always cause illness Can be fatal in horses that have developed severe symptoms
Eastern/western equine encephalomyelitis (sleeping sickness)	Transmitted by biting insects (i.e. mosquitoes)	Fever Drowsiness Seizures Unstable gait Inability to rise Blindness	Serious and frequently fatal in horses Can be transmitted to humans by infected birds and rodents, not through horse contact.
Rabies	Bite wound from infected animal	Weakness Head tilt Difficulty swallowing Paralysis of facial muscles Aggressiveness	Rare in horses but 100% fatal Can be spread to humans
Equine herpesvirus EHV1 and EHV4	Spread through nasal discharge of infected horse directly – nose to nose Indirectly – water buckets, blankets, etc.	Respiratory Mild coughing Clear drainage from nose & eyes Possible fever Decreased Appetite Neurologic Wobbling in rear end Urinary incontinence (urine dribbling) Flaccid tail Abortion	Highly contagious from horse to horse Will affect all horses in a barn in a matter of days Can be severe May fall or lie down and unable to stand
Infuenza	Most common	Respiratory Fever Clear nasal discharge Coughing Loss of appetite	Extremely contagious
Strangles	Direct contact	Upper respiratory	Highly contagious Horses can be carriers and not show symptoms