



What you need to know before vaccinating your horses for West Nile Virus

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Because West Nile Virus (WNV) has appeared statewide in South Dakota, horses in all counties are at risk of exposure. History indicates that WNV will continue to be present for years to come.

Several commercial WNV vaccines are available for horses. Field observation suggests the vaccines are effective, and experiments indicate proper vaccination may prevent 94% or more of WNV cases. Few adverse reactions have been reported. Epidemiologic data suggests that vaccinated horses are 3 to 16 times less likely to die from WNV infections than are non-vaccinated horses.

You need to consider some things and have a plan in place before vaccinating your horses for West Nile Virus. Consult with your veterinarian to determine what program and management options best suit your needs. Some basic considerations are:

- **Length of mosquito season.** Since mosquitoes are present in May, you will generally want to booster or at least have part of the vaccination series started in May. By October mosquito pressure is generally low, so the period May through October is when WNV protection is needed.
- **Time when WNV disease peaks.** WNV disease peaks in August, so you want good protection at this time.
- **Vaccination history.** The vaccination history must be taken into account. This is especially true for vaccination programs aimed at foals.

- **Intended use.** The intended use of the horse, including the location of horse shows/exhibitions is a further consideration in constructing vaccination programs.

WNV Vaccination of Horses

For **initial** immunization of adult horses, two vaccinations 3 to 6 weeks apart are needed to “prime” the immune system. The maximum immune response is not obtained until 3 weeks following the second vaccination. That means a **total of 6 weeks** from the first vaccination until the horse is considered immunized. Don’t underestimate the time it will take to bring your horse to full protection.

Following the initial series, it is currently recommended that horses be boosted at least annually (in spring to early summer) and, in areas with a prolonged mosquito season, every 4 to 6 months in the mosquito season. In South Dakota, if horses receive the annual booster in April/May, protection should be sufficient until September/October, which is at the end of mosquito season. However, some owners and veterinarians may recommend a midsummer booster, especially for horses residing in or traveling to southern states.

WNV Vaccination of Foals

Two primary considerations determine when to initiate a vaccination series for a foal. The first is to **plan the program so maximum protection is obtained by August**, the peak time for WNV disease. The second thing is to know is the vaccination history of the dam.

Because South Dakota is an area considered to be at high risk for exposure to WNV, a vaccination series of three inoculations is generally recommended to “prime” the immune response in foals.

Foals born to a properly vaccinated dam will absorb colostral antibodies that may be protective for some time. However, the duration of protection of colostral antibodies is not known and may be extremely variable. Foals may not respond to WNV vaccine until colostral antibody declines to some low level. Unfortunately, we cannot know, for an individual foal, when the colostral antibodies will decline to a point that WNV vaccine will stimulate a good immune response.

Because of this, for foals born to properly vaccinated dams, it is recommended to initiate WNV vaccination of the foal at 3 to 4 months of age and to revaccinate every 4 to 6 weeks for a total of three inoculations.

Foals born to a non-vaccinated mare may have little to no colostral antibody protection, and a three-inoculation series

may be started earlier than three months of age—for example, 1 1/2 to 2 months of age. However, data on which to base more specific recommendations for foals from non-vaccinated mares is not very sufficient.

WNV vaccination recommendations may change as experience and knowledge of the disease advance. It is important to keep yourself informed about West Nile Virus and its effects on horses. As with any decision regarding use of vaccines, always consult with your veterinarian, who will be aware of the local conditions that affect you and your horse.

References

- Schuler, et al. 2004. Evaluation of an outbreak of West Nile Virus infection of horses: 569 cases (2002). *JAVMA* 225: 1084-9.
- American Association of Equine Practitioners. 2005. West Nile Virus vaccination guidelines.

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ExEx11009, revised May 2006. Access at <http://agbiopubs.sdstate.edu/articles/ExEx11009.pdf>