Health Planning Calendar for Horse Herds

Health management practices for horses vary with the age and use of the horse and with the changing health challenges introduced to the horse. For example, horses in a closed herd, which is a herd in which horses neither enter the herd nor leave and return to the herd, may need only minimal vaccinations because they are not exposed to a wide variety of diseases. Horses that move on and off the farm frequently, such as show horses and broodmares that travel to breeding farms, as well as these horses’ herd mates, need protection from more diseases because their probability of disease exposure is fairly high. There also may be instances in which a specific herd needs additional health care that is not necessary for the average horse farm. For example, most herds do not need protection against equine viral arteritis. However, mares being bred to stallions that are known shedders of this disease, as well as the mares’ herd mates, should be vaccinated.

This publication gives general health guidelines and a general health calendar for horses of various ages and uses. Horse owners should consult their veterinarians and county Extension offices about specific conditions in their herds or areas that may make additional health management procedures advisable.

In addition to the following general health management guidelines, horse owners need to be in the habit of carefully checking their horses each day for injuries and signs of illness (see Extension publication ANR-808, “Monitoring Your Horse’s Vital Signs”). Owners should also be informed about diseases that horses might commonly encounter (see Extension publication ANR-589, “Control of Common Infectious Horse Diseases”) and should stay informed about new disease challenges and methods of preventing health problems. Disease can be reduced by following the health management practices outlined in this publication and by following good general management practices such as proper nutrition, pasture management, housing, and sanitation. Horses that are well-fed, well-managed, and not subjected to unnecessary stress usually have more disease resistance than do horses that are poorly managed.

The general health management practices that horse owners should follow include vaccinations, parasite control, dental care, and hoof care.

Vaccinations

Vaccinations can be thought of as risk management. Horse owners must determine the degree of disease exposure for their herd and decide how much risk they are willing to assume. To make an informed risk management decision about vaccinations, horse owners should consider that some equine diseases cause high mortality rates, while others rarely
are fatal but may cause the loss of a show season or breeding season.

A closed herd typically needs only minimal disease protection; however, very few herds are truly closed. Diseases can be introduced through human clothing or through an occasional trail ride with a neighbor. Minimal disease protection consists of vaccinations against tetanus, eastern equine encephalomyelitis, western equine encephalomyelitis (sleeping sickness), West Nile virus, and rabies. Every horse should be protected against these diseases because transmission does not require contact with another horse, and the mortality and loss of use rates from these diseases are high. Vaccination against these diseases is highly effective and inexpensive. Tetanus and rabies require one yearly booster vaccination for effective protection. Two booster vaccinations, one in the spring and one in the fall, are recommended for eastern and western equine encephalomyelitis and West Nile virus because the mosquitoes that carry these diseases are year-round pests in Alabama.

Because rabies is endemic to Alabama, vaccination of horses not only protects the horse, but also provides an additional barrier between the human population and the natural carriers of this disease (wildlife). Again, the vaccination for rabies is highly effective and inexpensive.

Most veterinarians also recommend vaccinations against rhinopneumonitis and influenza for the average horse herd. Rhinopneumonitis is a respiratory disease caused by the equine herpes virus. Two different equine herpes viruses (EHV-1 and EHV-4) cause respiratory disease in the horse. In addition, EHV-1 causes a paralytic neurological disease. It also causes contagious abortions in pregnant mares. Respiratory infections from rhinopneumonitis are most common in weanlings, yearlings, and young horses entering training. Most mature horses develop some immunity to the respiratory disease and do not become seriously ill when infected. However, horses do not develop immunity to the form that causes abortion and neurological disorders nor do vaccines against the respiratory disease adequately protect the horse from these problems. A separate vaccination, Pneumabort K, is needed to protect the mare against abortions. Rhinopneumonitis vaccines protect the horse for a relatively short time period; therefore, pregnant mares should be vaccinated at 5, 7, and 9 months of pregnancy. Horses with repeated exposure, such as foals, young horses, and show horses, should be revaccinated every 3 months. Currently, no vaccine protects the horse from the neurological form of rhinopneumonitis.

Influenza in horses is highly contagious. Horses with a high risk of exposure and pregnant mares should be revaccinated for influenza every 6 months. Mature horses on farms that have low exposure risks should be revaccinated yearly.

Foals obtain immunity to influenza and other diseases from the mare's first milk (colostrum). This immunity lasts for several months with most diseases. However, recent research has shown that immunity to influenza persists until the foal is 6 to 8 months old. This immunity blocks the foal's response to influenza vaccinations administered before 6 months of age; therefore, foals from mares that received influenza vaccines 30 to 40 days before foaling do not need to be vaccinated for influenza until they are 6 months old. If the vaccination status of the mare is unknown or the foal is in a high-risk situation, influenza vaccinations can be given at 2 to 4 months of age, with a booster vaccination every 4 to 6 weeks until the foal is 7 months old.

Vaccinations against other diseases such as Streptococcus equi (strangles or distemper) depend on individual conditions. A heavy show schedule, a disease outbreak in the surrounding community, or simply the desire for more protection would warrant vaccination against additional diseases. Vaccinations against other diseases that are not normally considered problems in Alabama, such as Potomac horse fever or botulism, may be considerations if horses are traveling out of the region. Equine viral arteritis vaccination may be a consideration for herds that might be exposed to this disease during the breeding process. Vaccination against equine protozoal myelitis may be a consideration if this disease previously has been a problem in the herd or in the surrounding area. Consulting the herd's regular veterinarian can help a horse owner make informed decisions about protecting against these diseases and revaccinating horses that are repeatedly exposed to disease.

Scheduling of vaccinations is important to ensure year-round protection and continued use of the horse. Although vaccines do not cause the disease they protect against, some vaccines may cause a slight fever or localized soreness or stiffness around the injection site. Therefore, vaccination immediately before a big show or event is not recommended. In addition, vaccines usually take several weeks to fully stimulate the animal's immune system. Therefore, horse owners should vaccinate approximately 1 month before shipping a horse to a new environment, such as a horse show or breeding farm, and should give a broodmare booster vaccinations approximately 1 month before foaling so that she can pass a high level of antibodies to her foal through the colostrum. Pregnant mares that will be shipped to another farm for rebreeding should be shipped 6 to 8 weeks before foaling so that the mares can develop immunity to the new surroundings that can be passed on to their foals through antibodies in the colostrum.

Booster vaccinations are often required for animals being vaccinated for the first time. Boosters usually are given within a specific time after the initial vaccination. Failure to give the booster at the recommended time could result in incomplete protection of the animal even if it receives a yearly booster in the following years. Horse producers should follow label directions carefully when administering vaccines and should consult their veterinarians if they have any questions or concerns. Detailed vaccination guidelines and schedules from the American Association of Equine Practitioners can be found online.
Parasite Control

Both internal and external parasites can have a negative influence on a horse's health. External parasite control is discussed in "Managing Insect Pests of Horses" (Extension publication ANR-0464) and should be an essential part of a horse health–management program.

Biting insects and ticks not only make horses uncomfortable but also spread disease and result in unthriftiness in horses. Controlling external parasites is a continuous process and cannot be outlined specifically in a herd health calendar, because insect populations fluctuate with changing weather conditions and management practices. Horse managers should monitor insect populations, adopt management practices to reduce them, and use topical insecticides when necessary. Always read and follow label directions, observe proper safety precautions, and avoid contaminating feed, water, and equipment when using an insecticide.

Controlling internal parasites can reduce colic risks and feed costs and result in a healthier herd. Many horse owners initially think of using deworming compounds (anthelmintics) to control internal parasites. Many management practices, however, can reduce internal parasite levels on the farm. One way is to keep weanling and yearling horses in separate pastures from older horses. Older horses develop some immunity to parasites and may harbor parasites in their bodies, even though they have no visible signs of infestation. Therefore, separating younger horses from older ones and grazing younger horses on pastures with low parasite burdens can reduce parasite exposure in young animals that have not yet developed immunity.

Maintain a clean water supply, clean up manure and debris daily, and compost manure thoroughly to kill parasite eggs and larvae before spreading it on horse pastures. Avoid overcrowding horses. The amount of manure increases as the number of horses in a given area increases. This exposes horses to a greater number of parasite eggs and larvae. Rotate pastures if possible. A rotational grazing system moves horses to new pastures at regular intervals, giving old pastures a rest period before horses are introduced again. This rest period allows viable parasite eggs and larvae to decrease (especially in hot, dry conditions), and also allows forage to regrow. Rotating horses with cattle, sheep, or goats is also an effective parasite control measure. Parasites that are specific to horses do not affect cattle, sheep, or goats, and are destroyed when ingested by them. If new horses are coming into the herd, they should have a fecal egg count and parasite treatment, if needed, before being turned out with the herd.

Most horse owners consider deworming as a way to protect their horse's health by killing internal parasites. The real reason for deworming, however, is to decrease the number of parasites in the environment. Deworming basically kills parasites after they already have damaged the horse's internal systems. Horse owners should, therefore, think of internal parasite control as a means to interrupt the life cycle of the parasites, resulting in less parasitic larvae in the environment for the horse to ingest. Reducing parasites in the environment prevents damage to the horse's health in the long run.

Previous recommendations for effective internal parasite control in horses were to deworm all horses on the farm every two months (every three months if using a moxidectin compound). Advances in deworming compounds and a better understanding of parasite life cycles have changed these recommendations for parasite control.

Parasites of the most concern to an adult horse's health are small strongyles (bloodworms). They can elude many deworming compounds by encysting in the horse's gut, and horses cannot develop total immunity to them. Strongyle eggs evacuate through the horse's manure and develop into an infective larval stage in the environment. The larvae live off stored energy reserves. The rate of their development into the infective
Stage is controlled by temperature and moisture in the environment. Colder ambient temperatures slow down larval development, while warmer temperatures speed up development. Extremely hot, dry conditions cause the larvae to rapidly deplete their internal energy reserves and die. This means that typical Alabama weather conditions are more favorable for infective larvae development and survival in the spring, fall, and winter. The hot weather conditions that Alabamians typically face in the summer (above 85 degrees F) are not favorable for parasites. Horses kept in well-maintained stalls have very little chance of parasite infection because the stall environment is too dry for parasite development into infective larvae. It is, therefore, safe for most horses to skip one or two of the traditional bimonthly dewormings during the summer months.

Some horses have more natural resistance to parasites than others. A good parasite control program should identify resistant horses, which need deworming less often. This reduces the amount of dewormer needed, as well as labor, and decreases parasite resistance to dewormers. Classifying horses as resistant or susceptible is done through a quantitative fecal egg count in which the actual numbers of eggs-per-unit-weight of feces is determined. This procedure requires a microscope, so most horse owners will need to enlist their veterinarian’s help.

The time between deworming and the appearance of parasite eggs in the horse’s feces is important in determining how often to deworm susceptible horses. Craig R. Reinemeyer (2004) reported that piperazine, benzimidazole, and tetrahydropyrimidine (pyrantel) have an egg reappearance period of four weeks. The egg reappearance period is six to eight weeks for ivermectin and about twelve weeks for moxidectin. To clean up pastures contaminated with parasite eggs or to maintain low egg counts, horses must be retreated with dewormer before eggs reappear in the feces after the preceding dose.

Fecal egg counts also can be used to determine the effectiveness of the deworming compound used on the farm. The effectiveness of the dewormer can be evaluated by comparing fecal egg counts prior to and approximately two weeks after deworming, and calculating the percent reduction in egg counts [(pre-count–post-count)/pre-count x 100]. If the dewormer is less than 80 percent effective, then it is time to change deworming compounds. There is no reason to frequently change dewormers if the one being used is effective.

When a change in dewormers is needed, it is important to change chemical classes of deworming drugs, not just change drug names within the same class. For example, fenbendazole, oxendazole, and oxibendazole are all in the benzimidazole class of drugs. If parasites are resistant to fenbendazole, they also are resistant to oxendazole and oxibendazole, because they are in the same chemical class. In this case the horse owner should switch to another class of dewormer (such as pyrantel, piperazine, ivermectin, or moxidectin) when he or she rotates dewormers.

The new steps in internal parasite control are as follows:

1. Determine which deworming compounds are effective on the farm. The effective dewormers will result in a greater than 80 percent reduction in egg count. Compounds that are not effective (i.e., parasites have developed resistance to the drug) should not be used again on that particular farm.

2. Identify which horses are susceptible and which are resistant to worms, and treat them accordingly. Horses that have low resistance should be routinely treated for parasites so that they do not contaminate pastures with parasites. Horses with high resistance can be treated less frequently (possibly spring and fall), while those with moderate resistance may need one additional treatment in the summer. Foals, yearlings, and two-year-olds should be treated as horses with low resistance and receive routine dewormings.

3. Utilize the egg reappearance period of the particular deworming compound to determine how often susceptible horses should be dewormed to keep pasture parasite numbers at a low level.

Owners who deworm all the horses on their farms at regular intervals may be a little skeptical of these practices at first. These practices will save owners money, however, and reduce parasite resistance to deworming compounds while effectively protecting horses.

For more information on using parasite control measures:
www.ker.com/library/Proceedings/04/ParasiteControl_p64.pdf
American Association of Equine Practitioners, Parasite Control Guidelines

Dental Care

Dental problems in the horse may cause a variety of problems. Sloppy eating habits, weight loss, holding the head tilted to one side, head-tossing, foul breath odor, excessive salivation, fighting the bit, tongue-lolling, and tail-wringing are just a few of the possible indicators of dental problems in the horse. Because the horse’s top jaw is wider than its lower jaw, the grinding side-to-side action of the jaws causes sharp, rough edges (“points”) to form on the outside of the horse’s upper cheek teeth (molars) and the inside of the lower cheek teeth. These sharp points can cut the horse’s cheek and tongue. This problem can be corrected by filing the points smooth, using a “dental float.” Other problems caused by misaligned teeth, missing teeth, and infected teeth are usually corrected at the same time.

All horses should have their teeth checked on a yearly basis for the presence of sharp edges and any other dental problems. Older horses and horses with known dental problems may need to have their teeth checked more frequently. As with many other health concerns, preventing severe dental problems is easier than correcting them.
Hoof Care

Problems with a horse’s feet can limit its usefulness as either a performance animal or as a breeding animal. Ideally, horse’s hooves should be inspected and cleaned daily. However, with large horse herds, it may be more practical to visually scan the herd for obvious foot or lameness problems on a daily basis and perform a thorough foot inspection less frequently. Horse hooves should be trimmed or reshoed at least every 8 weeks, although 6 weeks is the more common length of time between trimming or resetting shoes. When trimming or reshoeing, ensure that the hoof is balanced so that the horse’s body weight is evenly distributed over the hoof.

Newborn foals do not need to have their hooves trimmed for the first month of age unless a problem is evident. Monthly trims thereafter usually keep the feet in balance.

Health Management Calendar

The timing of specific health management practices may vary according to individual situations and herds. Therefore, the following management calendar uses general time periods rather than specific months of the year. Vaccination schedules presented in this calendar assume that mature horses have been previously vaccinated so that they only require booster vaccinations and that foals are from dams properly vaccinated prior to foaling. Consulting veterinarians can help horse herd managers adjust the following calendar to their individual needs.

Broodmares

*Late summer/early fall*

- Vaccinate for eastern and western equine encephalomyelitis, West Nile virus, and equine influenza.
- Vaccinate for rhinopneumonitis at 5 and 7 months of pregnancy (use Pneumabort K for strain EHV-1.)
- Deworm if needed, depending on level of horse immunity to parasites.
- Check teeth.
- Trim feet or reset shoes every 6 to 8 weeks.

*Early winter*

- Deworm with a product that kills bots (Gasterophilus species) and tapeworms.

**60 to 90 days before expected foaling date**

- Feed a balanced ration formulated for broodmares as needed to maintain mare’s body condition.
- Vaccinate for rhinopneumonitis at 9 months of pregnancy (use Pneumabort K for strain EHV-1).
- Deworm if needed, depending on level of horse immunity to parasites.
- Remove mare from fungus-infected fescue pasture and hay to prevent foaling problems. Early removal is recommended; however, remove by at least 30 days prior to foaling.
- Continue to trim feet or reset shoes every 6 to 8 weeks.

**30 to 40 days before expected foaling date**

- Vaccinate for tetanus, eastern equine encephalomyelitis, western equine encephalomyelitis, West Nile virus, equine influenza, rhinopneumonitis (killed vaccine for respiratory form, strains EHV-1 and EHV-4), and rabies.
- Perform Coggins test.
- Deworm.

*After foaling*

- Continue feeding balanced ration formulated for lactating mares as needed to maintain mare’s body condition.
- Keep mare off fungus-infected fescue for at least 30 days after foaling—longer if possible.
- Vaccinate for equine influenza and rhinopneumonitis (strains EHV-1 and EHV-4) as recommended by veterinarian.
- Deworm if needed, depending on level of horse immunity to parasites.
- Continue to trim feet or reset shoes every 6 to 8 weeks.

*At weaning*

- Decrease or omit concentrate feeds until milk production stops.
- Deworm if needed, depending on level of horse immunity to parasites.
- Continue to trim feet or reset shoes every 6 to 8 weeks.
- Vaccinate for eastern and western equine encephalomyelitis and West Nile virus.

Foals

*1 month of age*

- Trim feet if needed to maintain hoof balance.

*2 months of age*

- Offer a creep ration balanced for nursing foals (offer at 1 month if foal is sampling the mare’s concentrate feed at this age).
- Trim feet if needed to maintain hoof balance.
- Deworm with a dewormer labeled safe for young foals.
3 to 4 months of age

- Vaccinate for tetanus, eastern and western equine encephalomyelitis, West Nile virus, rabies, and rhinopneumonitis (strains EHV-1 and EHV-4). Remember booster vaccinations 4 to 6 weeks later. Foals shown as weanlings may need vaccinations against strangles and revaccination for rhinopneumonitis at 2- to 3-month intervals and may need a Coggins test.
- Trim feet as needed to maintain hoof balance.
- Continue feeding a balanced creep ration.
- Deworm with a dewormer labeled safe for young foals.

6 to 12 months of age

- Vaccinate for equine influenza and rabies at 6 months; remember booster vaccination 4 to 8 weeks later.
- Vaccinate for eastern and western equine encephalomyelitis, West Nile virus, and tetanus if 5 to 6 months have passed since initial vaccination. Foals born later in the summer may not need this booster vaccination.
- Trim feet as needed to maintain hoof balance.
- Continue feeding a balanced creep ration until the foal is approximately 1 year old.
- Continue deworming at 12-week intervals; deworm with a product that kills bots and tapeworms in early winter.

Yearlings and Mature Horses

Early spring

- Administer booster vaccinations for tetanus, eastern and western equine encephalomyelitis, West Nile virus, rhinopneumonitis (strains EHV-1 and EHV-4), rabies, and equine influenza. Vaccinate for strangles if horses have high exposure to strangles.
- Perform Coggins test.
- Perform breeding soundness evaluation on breeding stallions.
- Deworm mature horses if needed, depending on level of horse immunity to parasites.
- Deworm yearlings and two-year-olds.
- Trim feet or reset shoes every 6 to 8 weeks.

Summer

- Continue deworming mature horses if needed depending on level of horse immunity to parasites.
- Deworm yearlings and two-year-olds.
- Continue to trim feet or reset shoes every 6 to 8 weeks.

Early fall

- Revaccinate horses with high exposure to equine influenza and rhinopneumonitis (strains EHV-1 and EHV-4).
- Vaccinate for eastern and western equine encephalomyelitis and West Nile virus.
- Check teeth.
- Continue deworming mature horses if needed, depending on level of horse immunity to parasites.
- Deworm yearlings and two-year-olds.
- Continue to trim feet or reset shoes every 6 to 8 weeks.

Early winter

- Deworm with a product that kills bots and tapeworms.
- Continue to trim feet or reset shoes every 6 to 8 weeks.