



A Day in the Life of a Research Horse

The sign says “Kentucky Equine Research.” From the quiet country road, an observer can see several large barns, a mechanical exerciser, and grassy paddocks surrounded by black plank fencing. What happens inside the barn? What sort of research is conducted on these horses? Let’s walk through an average day, following the routine for this somewhat unusual Bluegrass horse operation.

7:00 a.m. The first cars pull up outside the main barn, and three resident stable cats, meowing for their breakfast, meet research interns Jade, Kat, and Sharon and assistant farm manager Johanna in the parking lot. The horses are waiting in their stalls, also anticipating their first meal of the day.

Horses on a feed preference trial are given precisely measured rations of normal sweet feed and hay, as are those enrolled in an exercise trial. For those animals participating in a digestion trial, the first

order of business is the manual collection of fecal and blood samples, which is done before the horses get the same type of breakfast as their stablemates.

7:30 a.m. Each horse in an exercise trial is groomed, fitted with an external heart monitor, and led onto the treadmill. The belt begins at a walking speed for a certain length of time, then moves to a trotting rate, and finally accelerates so the horse is cantering or galloping at a speed that

simulates race training. Heart rate is monitored and blood is drawn for analysis of pH, lactate level, and other metabolic markers. In some trials, horses breathe into a mask that traps exhaled air. Tests of the exhaled gases show the point at which the horses use up readily available glucose and begin to draw energy from stored fat. This point differs somewhat among breeds, and varies by the makeup of the diet. Following treadmill exercise, the horses are bathed and then cooled out on a mechanical exerciser.

8:00 a.m. Horses in digestion trials are checked over, lightly groomed, and then turned out in groups of two to five, depending on paddock size. They survey their surroundings, paying particular attention to anything that may have changed overnight—blowing leaves, an odd sound from the hedge, an upside-down wheelbarrow near the barn door—and then have a good roll in the dirt, sometimes covering themselves with mud if the weather has been rainy. Then it's back on their feet for a race around the field with their buddies, followed by the inevitable bout of "gelding games," the familiar weaving dance that involves snaking heads down to grab a companion's front leg, then up on hind legs to box in the air. Never mind that they are wearing plastic muzzles and can't actually make aggressive contact; the instinct for play-fighting is very strong.



When not part of a scientific trial, research horses are given ample turnout time.

BOYS IN THE BARN

Although they are handled in groups for different study, each KER horse is an individual with a unique personality. The research interns who care of them every day reveal what makes each horse special:

"Izzy loves to splash in the water trough, flinging water all over himself and the other horses. He digs craters in the mud, splashes them full of water, and plays in them."

"Nash helps us muck out the stalls. He frequently tips over a full manure bucket, and if you let go of a shavings fork, he grabs it and carries it around."

"Barney is the impatient one. If the feed is late, he bangs on his stall door."

"Fat Man whinnies at mealtime, Bob squeals with excitement when he runs on the treadmill, and Dixie snorts if he sees something he thinks is scary."

"Silver paws when he sees his meal coming. You have to watch out for his legs when you take the feed into his stall."

"Ollie likes to smell all over your face. He doesn't bite, but you can feel his lips on you, and he wants to nibble your hair."

"Vinnie is a regular Houdini when it comes to getting his tack off. No matter how carefully we put his halter and muzzle on, he can find a way to slip out of them."

"Dixie is really spooky about things that look different. He also has to go onto the scale backwards—won't step onto it going forward at all."

"When Damien sees something strange, he turns into a giraffe! His head goes straight up and his eyes get really big!"

"Wally pins his ears every time you go into his stall—he's just bluffing, though. He's always glad to see you in the field."

10:30 a.m. Eventually everyone settles down to drowse in the sunshine. The muzzles prevent grazing because, in order for digestion trials to yield accurate results, it is necessary to keep track of precisely what horses eat. Though they are not allowed to graze, these research horses have many outdoor hours to exercise, interact, and rest. This extensive turnout time minimizes stable vices, or stereotypies, such as weaving, cribbing, and stall-kicking that are seen in many horses that are confined to barns most of the time.

1:00 p.m. On many days, the horses stay out until the afternoon feeding, but about every six weeks, farriers come to trim hooves and reset front shoes (none of the horses wear hind shoes). Other routine health care procedures (vaccinations, dental exams, and dewormings) are scheduled on a regular basis. Regardless of whether they are participating in a current study or are between trials, all horses are weighed once a week.

3:00 p.m. Dixie, Silver, Willie, Wally, Damien, Clyde, Vinnie, and Fat Man, the horses in the digestion trial, are brought back into the barn. Fecal collection is repeated, after which they receive grain and hay. These Thoroughbred geldings are in their late teens or early twenties. Having spent their younger years as exercise trial horses, most have treadmill experience, but they have been “retired” to studies that don’t require strenuous exercise. In a typical digestion trial, a particular nutrient or element is tested to determine how much of the ingested substance is actually retained by the horse. Suppose, for example, that there are three types or forms of copper that might be mixed into horse feed. Horses

are divided so that each group consumes feed containing a particular form of copper for a certain length of time, switching so that all horses eventually eat all mixtures. A known quantity of copper has been ingested; analyses of urine and feces show how much copper has been excreted in an undigested state. The results indicate which form of copper is best utilized by the horse as well as which forms pass through untouched and are essentially useless for metabolic functions. Feeds can then be formulated to provide copper in its most bioavailable form. In this type of trial, horses wear “nappies,” harnesses that collect urine and feces separately. In the present study, however, complete collection is not necessary because the trial is examining the effect of various diets on pH of blood and feces.

4:00 p.m. The five-year-old geldings—Barney, Nash, Ollie, Izzy, Sam, Larry, Joe, and Bob—come in for their preference trial. In a typical study of this type, the effect of flavoring on sweet feed is being observed. Each horse is offered feed in two identical buckets, one portion with flavoring (orange, cherry, or wintergreen, for instance) and one without. The positions of the buckets are switched every other day to eliminate habitual choice. At the end of five minutes, the amount left uneaten in each bucket is measured. If one flavor is proven particularly appetizing, it might be developed as an additive to tempt picky eaters or those whose appetites are depressed because of illness, travel stress, or fatigue.

5:00 p.m. The horses are tucked in for the evening and are left munching hay. Their stalls measure twelve feet by twelve feet and are bedded with pine shavings over heavy rubber mats. Stall bars and large windows provide plenty of ventilation and allow horses to keep their friends in sight.

10:00 p.m. A final evening visit is made, all horses are checked, and a last measure of hay is given before the lights are turned out.

Clean hay, sweet feed twice a day, a comfortable stall, regular exercise, and plenty of turnout time with a couple of buddies. That, in a nutshell, is a day in the life of a KER research horse. What more could any horse want? ☺☺

Though they must be muzzled to prohibit grazing, the research horses at KER are allowed access to pasture. Time out of their stalls permits them to play enthusiastically with their stablemates.



Catherine Blehkop



Reprint Courtesy of Kentucky Equine Research, Inc.

3910 Delaney Ferry Road
Versailles, KY 40383
Phone: 859-873-1988
Fax: 859-873-3781
Order Department: 888-873-1988
www.ker.com
info@ker.com