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Research farm serves as the site for scientific investigations



At first glance, the farm looks like any of the other famed properties that dot the central Kentucky countryside: stout, three-plank fencing, freshly painted; immaculately mowed pastures; clean-swept barns; and contented horses enjoying a midday siesta. All appears normal.

But when one's faculties are fully engaged, something is decidedly amiss. A distinctive hum and the rhythmic, unmistakable sound of galloping hooves echo across the farm. Grazing muzzles hang from the heads of horses in the one field, but these devices have no holes in the bottom to allow for nipping at bluegrass. A casual stroll into the barn reveals a row of content stall-bound horses wearing harnesslike contraptions.

This is not a breeding farm where wise mares and curious foals laze. Nor it is a training facility where racehorses or sport horses hone their talents. This is Kentucky Equine Research, the most prolific private equine nutrition and exercise physiology research center in the world.

From the time the property on which the research farm currently sits was first purchased, many improvements have occurred. The

original barn was a fixture at the time of purchase and was immediately customized to accommodate equine nutrition research. In addition to traditional box stalls, this barn featured specially built "metabolism stalls."

Modeled after old-fashioned tie-stalls, in which horses stood in narrow though comfortable chutes, metabolism stalls were originally designed for the complete collection of urine and feces. Only geldings were used in these metabolism stalls, so two collection pits were situated below the flooring, one beneath the sheath to trap urine and one under the tail to catch manure. Strong, slatted grates served to cover both pits and rested in notched recessions, so when the grates were placed properly, they were flush with the floor. To maximize comfort, rubber mats lined the floor where hooves rested. Four metabolism stalls were constructed and used in the first barn. Also included in the old barn was one of the first treadmills acquired by the fledgling company and a primitive laboratory. In the company's early years, many of the blood, urine, and fecal samples were sent to outside laboratories for analysis. In time, however, this would change.



Just over a decade after the retrofitting of the old barn, Joe Pagan, PhD, founder and president of KER, decided to completely raze that building and begin anew. With keen vision and foresight, Pagan planned and then oversaw construction of the new barn over the ensuing months. This building was notably larger and considerably more airy than its predecessor. Containing 10 rubber-matted stalls, the barn

has an incredibly light and open feel to it, due in part to the high ceiling and the well-ventilated stall fronts. One notable omission from this new facility is the row of metabolism stalls. Researchers at KER now outfit horses with “nappies” for separate and complete collection of urine and feces during feeding trials. These harnesses must often be worn for long periods of time, so they are made with comfort in mind. Nappies make collection a cleaner and more efficient process.





On the opposite end of the barn, the high-speed treadmill occupies a room large enough to comfortably hold several researchers and support staff during an exercise trial. In the 20 years since KER first opened its doors, the company has upgraded its exercise equipment. KER has kept abreast of changes in treadmill design and has incorporated new treadmills as necessary. The use of up-to-date equipment lends greater accuracy to the results of exercise physiology studies. In addition to the treadmill, the room houses a large fan and opens to the outside by way of a large door, so exercising horses are treated to maximal air flow when weather permits.


Also included in the barn design is a spacious feed room that features the manual and electronic scales necessary to weigh out feed precisely. A second-floor conference room that overlooks the treadmill room rounds out the barn's amenities.

Located just outside of the main barn is an automated horse exerciser. This imposing piece of equipment is similar to an old-style hotwalker, but horses are not tied to the arms of the device when in use. Instead, horses keep their distance from one another by gates that encourage them to walk or trot at the predetermined speed. The exerciser allows horses to be worked

at a set speed for a certain length of time. Precision in work duration and intensity is an important part of research, so the exerciser provides an alternative to the treadmill.

Aside from the main barn, two smaller barns on the premises have been spruced up over the years. A barn situated across the drive houses six refurbished stalls, and another barn that lies deeper into the property contains more stalls. These buildings provide important overflow accommodations for horses when more than one research trial is being staged at the facility.

In recent years, KER has acquired adjoining acreage, which more than triples the total number of acres owned by the company. Improvements on that land are currently underway. Much of it will be used as pasture, so fencing has been placed in some areas. More buildings are in the planning stages as well. One of those currently being considered is an indoor riding arena with an attached stabling area.

The KER research farm has undergone a metamorphosis over the past 20 years. With the addition of well-designed buildings and further acreage, KER is set to continue its goal of providing the industry with scientific research that directly impacts horses. 



**Reprint Courtesy of
Kentucky Equine Research, Inc.**

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