



- FOAL GROWTH RESEARCH -

Researchers taking study on foal growth global after intriguing findings

A Kentucky Equine Research study that links foal growth measurements and radiographic findings to sales and racing performance has come up with some very intriguing findings in the pilot phase as well as confirming some common knowledge. The researchers now want to go global with it and are seeking the help of Thoroughbred breeders and their veterinarians worldwide to expand the data pool.

The study's director, Dr. Joe Pagan said that *"One of the things that we're hoping to discover is a way of understanding if foals are high-risk for developing problems. We want to have a way that we can identify at-risk foals earlier in their lives so that we can try and take the necessary precautions to reduce problems from occurring."*

Research Timeline

1990's



Pagan looked at the relationship between the size of foals and the occurrence of OCD. The study found yearlings that had OCD of the hock and stifle were large at birth and grew rapidly from 3 to 8 months. Yearlings with fetlock OCD were smaller foals and had higher growth rates before weaning.

2000's



KER began to correlate growth data to sales and racing performance. Using data collected by Hallway Feeds mobile weighing service and loaded into KER's innovative Gro-Trac® software, this was correlated with sales results and racing performance. It found that size matters at the sales and on the racetrack.

2010's



Most recent study

- 318 foals participated from 12 individual crops born from 2013-2017 on 6 farms.
- Growth variables were converted into population percentiles for analysis using KER's Gro-Trac® growth-monitoring software.
- The average percentile body weight and withers height were calculated for each foal at four ages:
 - Foal - birth to 30 days
 - Suckling - 31 to 180 days
 - Weanling - 181-360 days
 - Yearling - >360 days of age
- The foals were then divided into quartiles based on whether they were in the lowest 25% (1st quartile), the 25-50% (2nd quartile), 50-75% (3rd quartile) or highest 25% (4th quartile) for both body weight and withers height.
- Finally, foals were divided into groups based on their month of birth and data collected at survey and sale radiographs was used to look for associations with growth.

2020's





- FOAL GROWTH RESEARCH -

Researchers taking study on foal growth global after intriguing findings

Pagan stated in his results *"We found that size did have an effect on the incidence of OCD and sesamoiditis. Basically, large foals were more susceptible to get OCD and foals with OCD did not develop sesamoiditis and vice versa. Only 20% of horses with OCD in survey radiographs were found to have sesamoiditis."*

Small foals are less likely to develop OCD than larger foals. This pattern was particularly pronounced with stifle OCD. Heavy foals and tall foals, suckling's and weanlings are at greater risk of stifle OCD. Nearly 10% yearlings had surgery for OCD after survey x-rays, but several sale yearlings developed fetlock OCD which was not evident on surveys.

Unlike OCD, sesamoiditis seemed to happen in foals that were just short of average weight. These are foals that possibly got a little behind after weaning, and in the process of sales-prepping they got heavier, and this was associated with a greater incidence of sesamoiditis at survey and sales radiographs.

The time of birth also impacted the results:

Early Foals

These are smaller foals that grew less rapidly during the first months because they are born when good pasture is limited. Pagan said he knew from a previous study that mares that foaled during this time often lost weight and were known not to produce as much milk, so foals did not grow as fast.

Later in the year, the early born foals tend to grow quite fast after weaning. And they grow fast because they are typically weaned at an older age and that is when there is abundant grass in the autumn. Horses that had sesamoiditis in their survey radiographs tended to be early born foals.

Later Foals

These are big foals at birth that grow rapidly when they are on the mare. But when they are weaned, they tend to grow slower, because a lot of that time is through the following winter, when pastures are again sparse. A lot of the foals that developed OCD were born during this time.

Follow up articles will look at the impact of growth and Xray findings on the results at the sales and on the racetrack. For further information please contact Dr Peter Huntington at KER on 0418108946 or phuntington@ker.com

**Kentucky
Equine
Research®**
World Leaders In Equine Nutrition

