Mare Intrauterine Device (IUD)

WiSys: T200031US02

Inventors: Casie Bass, John Obielodan

WiSys Technology Foundation is seeking a strategic partner for manufacturing, marketing, sales, and distribution of this unique intrauterine device.

Overview

According to the American Horse Council, there are approximately 7.25 million horses living in the United States. The horse industry has a $122 billion annual impact on the U.S. economy and supports up to 1.74 million jobs. Various market reports note that the global equine healthcare market is valued around $2.3 billion and is expected to grow at a compound annual growth rate of 6.8% to 2030. The pharmaceuticals segment dominated the market in 2021, which included various health and reproduction-related treatments. The segment encompassing equine medical devices is predicted to have a notable growth rate from 2022-2030 due to increases in research and development in equine health-related products. When mares reach a certain stage in their reproductive cycle, the estrus stage, they often begin to display unwanted and sometimes dangerous behaviors such as squatting, kicking, and biting. These behaviors can make it difficult to handle the mares and are particularly undesirable in mares participating in competitions or shows, which accounts for around 42% of horses. Currently, the only approved method for preventing estrus in mares is oral administration of hormone regulators, which can be expensive and dangerous for administrators if they contact the artificial hormone. Another popular method for preventing estrus is physical stimulation of the mare uterus by inserting sterile glass balls, as this mimics a conceptus and prolongs the pre-estrus hormone cycle. These glass balls provide some positive results but have been known to break apart or become embedded in the uterine wall leading to pain and inflammation. As such, there is a growing need for safer, more effective methods to prevent unwanted estrus behaviors and to control the mare reproductive cycle.

The Invention

An Assistant Professor of Animal and Food Science at the University of Wisconsin-River Falls, in collaboration with a Professor from the University of Wisconsin-Platteville, has developed a device to be used in the uterus to stimulate a conceptus and therefore prevent the horse from entering the estrus stage of the reproductive cycle. The device is a reversible means of inhibiting unwanted estrus behaviors exhibited in the majority of mares. The intrauterine device is made of safe, biomedical grade materials that can easily be implemented by horse owners. This device is a user friendly, drug-free approach to preventing unwanted estrus-related behaviors. It provides a decreased probability of inflammatory response in the mare, along with a decreased potential for danger to administrators who may come in contact with artificial hormones. Prototypes of the device have been produced and are in the process of being optimized to best mimic a conceptus.

Applications

This novel mare intrauterine device provides a drug-free approach to preventing unwanted estrus-related behaviors.

Key Benefits

- The device is user friendly and provides a decreased risk for administrator to be exposed to potentially harmful hormones.
- This device provides a decreased risk of inflammatory uterine response seen with other intrauterine objects.
- Prototypes have been produced, with further optimization already in progress.

Stage of Development

Prototypes of the intrauterine device have been produced and are in the process of being optimized to best mimic a conceptus.

Tech Fields

- Animals, Agriculture & Food : Animal health

For current licensing status, please contact Margot DeBaker at mdebaker@wisys.org or (608) 729-7378