Impact Of Technology On Processes In The Agricultural Industry

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Aim of the Project

The Aim of the project is to research the use of different technologies used in the agricultural industry in Ireland. Focusing on the efficiency, safety and sustainability of implementing an AI technology to improve the farming practice.

Background

Technology has significantly improved the calving and foaling processes, reducing risks and increasing survival rates for both mothers and offspring. Traditional methods relied heavily on manual observation and intervention, often leading to missed signs of labour.



Photo of: Horses and foals grazing

Advancements in wearable monitoring devices, Al-driven surveillance, and automated birthing assistance, farmers and breeders can now track pregnancy stages in real-time, receive early alerts for impending labour, and ensure a timely intervention when necessary. Making livestock management more precise, reliable, and efficient.

Birthing Sensors

Foaling sensors have revolutionized the way breeders monitor and manage the foaling providing increased process, accuracy, safety, and efficiency. The devices, attach to the mare's halter, vulva, or tail, use motion, temperature, or positional changes to detect signs of imminent labour.

The blue light mask features a high-efficiency Surveys and interviews were carried out precision blue LED with a light diffuser, to gather information from farmers who drug-free, hormone-free light use the technology that is already delivering therapy that replicates natural daylight available on the market. These found cycles. that the artificial insemination and scanning equipment were the most used technology.



Photo of: Foaling sensor in use

Calving sensors are wearable, non-invasive devices designed to help farmers monitor pregnant cows and receive alerts when calving is imminent. It attaches to the cow's detects movement patterns tail and associated with labour, sending real-time notifications to the farmer.



Photo of: Moocall calving sensor in use

foals.



Blue Light Mask



Photo of: Blue light mask being used on a horse

Designed to advance the breeding season, it promotes early ovulation in mares and enhances fertility in stallions. Additionally, it supports post-foaling reproductive recovery, helps optimize gestation lengths, and contributes to the birth of stronger, healthier

Radio Frequency Identification

Photo of: RFID collars on cows

Radio frequency identification is used in the dairy industry to identify and record milk yields and animal weights and medicine given to the animal.

Conclusion

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Photo of: A healthy calf

It was also found that calving cameras are the most used technology in the birthing process with them taking away the stress and worry associated with cows calving.

The most common answer when asked "what issues have been experienced with technology in agriculture" was the high implementation costs in the initiation stages.

References

https://doi.org/10.1016/J.THERIOGENO LOGY.2017.06.012. https://doi.org/10.3168/JDS.2013-7518.