



MANAGEMENT OF LARGE DAIRY COMPANIES THROUGH ARTIFICIAL INTELLIGENCE

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INTRODUCTION

The majority of managers in dairy companies hold degrees in veterinary science and animal production. Regrettably, these educational institutions do not provide instruction in leadership or management skills. These abilities can only be acquired through practical experience and hands-on learning.



Summary

- ▶ In this presentation, we will delve deeper into:
 1. The process of establishing our goals.
 2. The methods we employ to attain these objectives.
 3. How we assess our performance.
 4. Our commitment to maintaining a weekly cadence of accountability.

ESTABLISHING OBJECTIVES FOR DAIRY COMPANIES

- **Example 1: The statement "I will increase the Rolling Herd Average of the Farm in order to make it best in production" lacks clarity as a measurable goal.**
- **To make it measurable, it should be stated as follows:**
- **"I will raise the Rolling Herd Average of the Farm from 8000 liters to 9000 liters by the end of 2023."**

Example 2:

- The goal "I want to increase the sales of dairy products in the company" lacks measurability. It should be articulated as follows to make it measurable:
- "I aim to raise sales from Dhs 200,000 to Dhs 250,000 by the end of 2023."

EXAMPLE 3

- The goal "I want to make our company the market leader" lacks measurability. To make it measurable, it should be phrased as follows: "I aim to increase our company's market share from 23% to 27% by June 2023."

Lead and lag measures

Regardless of the strategy you are pursuing, your progress and success will depend on two types of measures: lagging and leading indicators.

Lag Measure

Rock



Predictive



Lead Measure

Lever



Influenceable



Lag measures

- **Lag measures are the tracking measurements of the Goals.**

Lead measures

- **Lead measures is to measure the highest impact things your team must do to reach the goal. The behaviors that will drive success on the lag measures. A lead measure must always be predictive of achieving the goal and it can be influenced by the team members.**

For Example, 1:

“I will increase the Rolling Herd Average of the Farm from 8000ltrs to 9000ltrs by the end of 2023”.

More examples

Lead measures:

- 1. Increase the dry matter intake of the cows from 23kgs to 25kgs by October 31 st .*
- 2. I want to decrease the temperature of the Barns from 48Deg to 28 Deg by 31st of May 2023.*
- 3. I want to divide the herds into 4 groups by June 2023 which must include dry cows, steamers, fresh cows, and high-producing cows.*
- 4. I want to improve the conception rate from 28% to 35% by August 2023.*

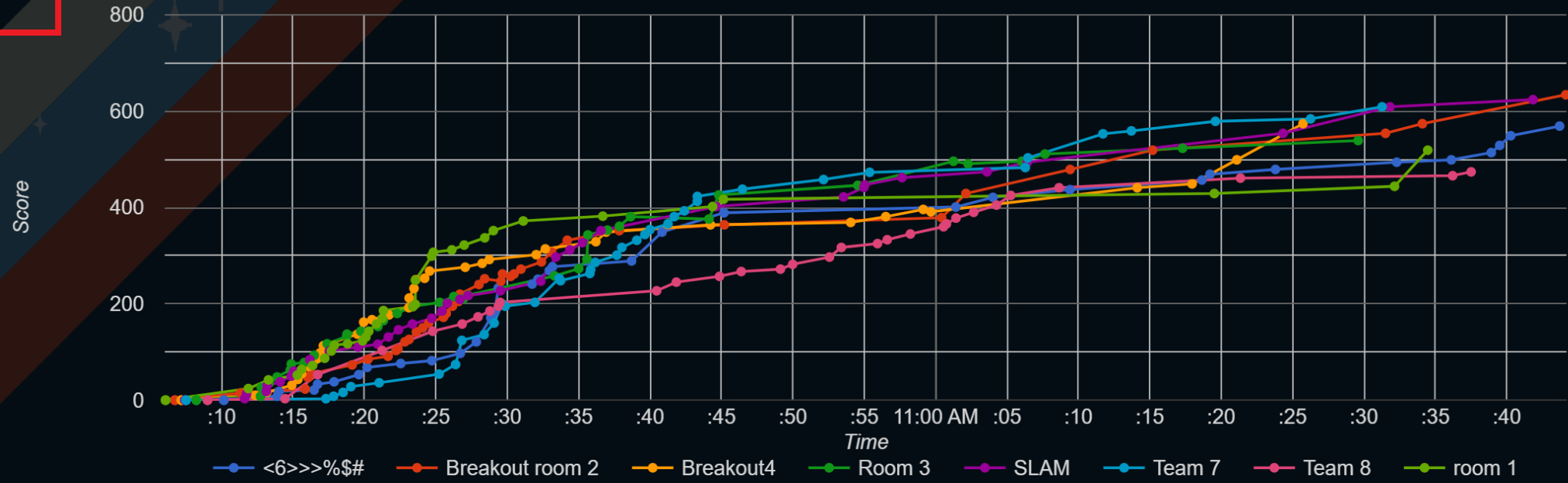


COMPELLING A SCOREBOARD

- ▶ *Each of the Lead Measures must be monitored and measured. It must be simple so that team can determine instantly if they are winning or losing by the end of the year. There will be a scoreboard that will divide the performance by 52 weeks. This scoreboard will specify the Actual compared to Target.*

Scoreboard

1.



2.

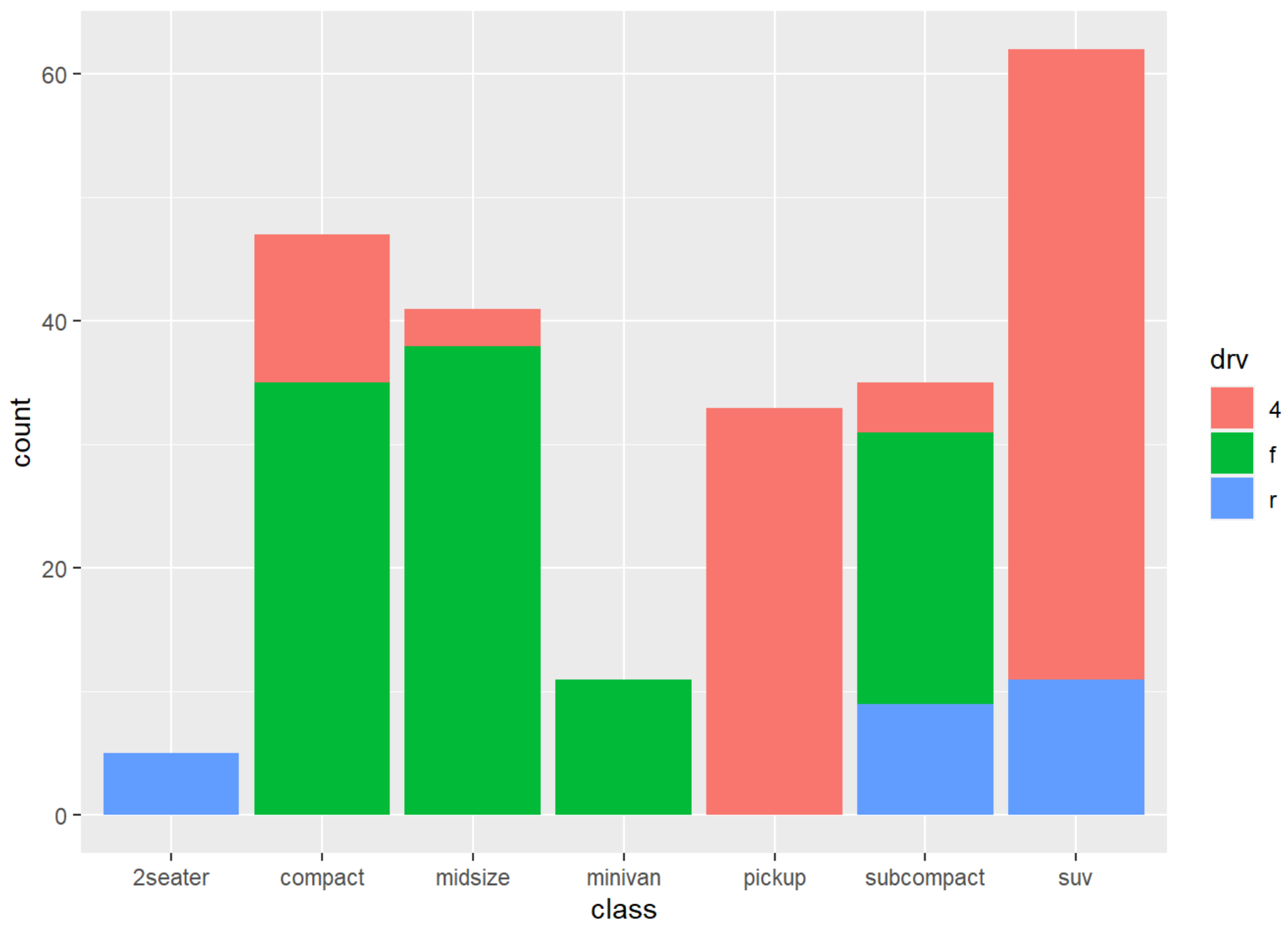
Rank	Team	Scores
1	Breakout room 2	634
2	SLAM	624
3	Team 7	588
4	Breakout4	588
5	Room 3	588
6	room 1	588
7	Team 8	588
8	<6>>>%\$#	588

Lag measures :

Increase of production per week target /52 weeks

Actual versus target 9000/52 weeks







For example:

“I want to increase the conception rate from 28% to 35% by August 2023”.

So, by this, the chart will be divided from 28% to 35% and further divided by comparing it to weekly or monthly performance (actuals) against the target.



CREATE A CADENCE OF ACCOUNTABILITY

For example:



WIGS

The cadence of accountability is a regular meeting with the Managers that own a Wildly Important Goal (WIGs). These meetings happen weekly and ideally last no more than 20 to 30 minutes. In that brief time, the team members hold each other accountable for producing results, despite the Whirlwind.

WIGS

This Weekly meeting is called the Wildly Important Goals (WIGs) session in which the Managers will be attending, and they will present their WIGs report for their department in only 3 mins.

WIGS

- In this meeting only 4 main things are required to be discussed:
 - **1. What did I do last week to move my scoreboard forward?**
 -
 - **2. What will I do this week to move my scoreboard forward?**
- ✓ **Points 1 & 2:** If any of the commitments that were stated and were not fulfilled in the last week, or the next week they are required to be justified by the Managers.

WIGS

3. What are you going to do to clear the path for others?

- ✓ Here it is to work alongside with other departments and to clarify the paths for their goals that are aligned with our goals.

WIGS

4. What are the two or three things that concern you?

✓ This is where an obstacle comes in between your goals and is discussed during the WIGs session for any solutions or suggestions from colleagues.

“Team members must be able to hold each other accountable regularly and rhythmically. Because they make their own commitments, their ownership of them increases.”

EXAMPLE FOR THE FARM MANAGER REPORT 3 MINUTES

- Commitments last week Hold a meeting with Financial controller to secure AED 250,000 to purchase FMD vaccine Done
- Commitments this week : Meet with The CEO to get approval for buying extra 50 Koraal Kool Unites
- Clearing Path for others : Collaberate with Environment department to recycle the water to reduce water consumption
- 2 things bother me
- Increase of prices of alfalafa from\$ 350 t0 \$ 500 per ton and Increase of NH3 and H2 S

Increase Revolving Herd Average with AI Assistance

- Use Chat GPT and Copilot to develop an AI model to analyze the data of your farm.
- Incorporate the AI model into your farm management system to gain insights into your operations.
- Leverage the insights to optimize herd nutrition and health management for a higher average milk yield per cow.



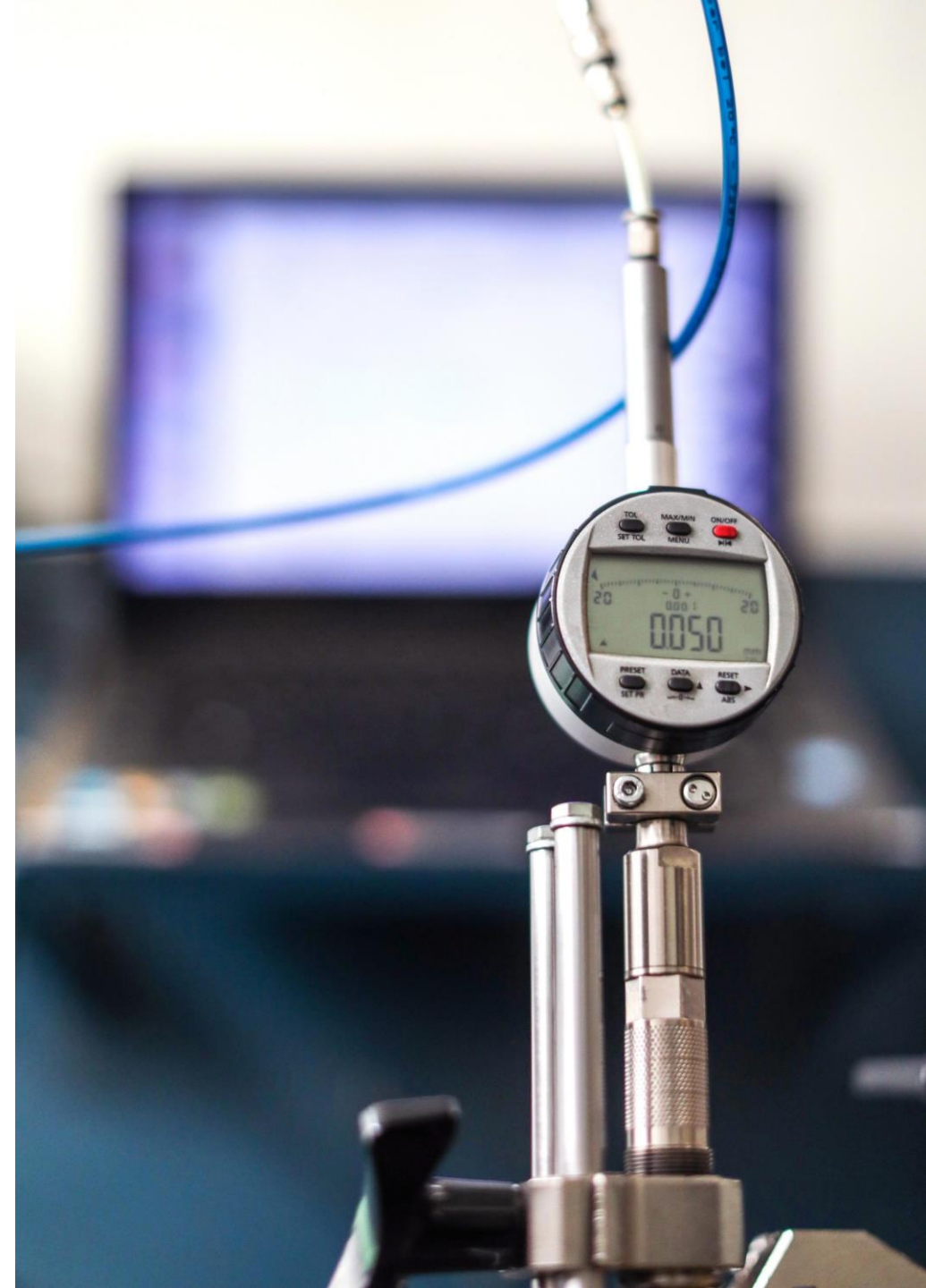


Improve Fertility by Shortening Calving Intervals

- Use Chat GPT and Copilot to develop a model to predict the ideal time for artificial insemination.
- Incorporate the model into your farm management system to keep track of cow reproductive cycles.
- Maximize pregnancy rates by inseminating cows at the optimal time and reducing the interval between calving.

Improve Heat Detection and Conception Rates

- Use Chat GPT and Copilot to develop a model to detect heat and predict the optimal time for insemination.
- Incorporate the model into your farm management system to accurately detect heat and inseminate cows at the right time.
- Maximize conception rates by improving heat detection and inseminating cows at the optimal time.



The background of the slide is a close-up, high-resolution photograph of numerous sesame seed crackers. The crackers are light golden-brown in color and are densely covered with small, white, oval-shaped sesame seeds. They are piled together, creating a textured, repetitive pattern across the entire frame. A white rectangular box with a blue vertical bar on its left edge is overlaid on the left side of the image, containing the title and list.

Decrease Feed Cost with AI Assistance

- Use Chat GPT and Copilot to develop an AI model to optimize feed rations.
- Incorporate the AI model into your farm management system to gain insights into feed usage and optimization.
- Reduce feed costs by using data-driven decisions to optimize feed rations while maintaining herd health and productivity.

Formulation of Ration for Steamers, Dry Cows, Fresh Cows, High Cows

- Use Chat GPT and Copilot to develop an AI model to formulate the optimal feed ration for each type of cow.
- Incorporate the AI model into your farm management system to optimize feed usage and reduce feed waste.
- Maximize herd health and productivity by using data-driven decisions to provide the optimal feed ration for each type of cow.





Reduce Cost per Liter with AI Assistance

- Use Chat GPT and Copilot to develop an AI model to optimize farm operations and reduce costs.
- Incorporate the AI model into your farm management system to gain insights into farm operations and optimization.
- Reduce cost per liter by using data-driven decisions to optimize farm operations and reduce waste.

PROMPTS

According to the presentation: You can use Chat GPT and Copilot to develop AI models to optimize farm operations. These models can be incorporated into your farm management system to gain insights into your operations and make data-driven decisions. Here are the prompts to be used to achieve the goals mentioned in the presentation:

- Increase Revolving Herd Average with AI Assistance
- Improve Fertility by Shortening Calving Intervals
- Improve Heat Detection and Conception Rates
- Decrease Feed Cost with AI Assistance
- Formulation of Ration for Steamers, Dry Cows, Fresh Cows, High Cows
- Reduce Cost per Liter with AI Assistance



1. INCREASE REVOLVING HERD AVERAGE

- To achieve the outlined objectives in your dairy farming operations with the assistance of AI, we'll break down each goal and consider the application of AI technology to meet these targets effectively. Here's a detailed plan for each objective:
- **1. Increase Revolving Herd Average with AI Assistance**
- **Strategies:**
 - **Automated Health Monitoring:** Implement AI-driven health monitoring systems to detect early signs of illness and ensure timely intervention.
 - **Genetic Selection:** Use AI to analyze genetic data and select the best cows for breeding, focusing on traits like milk production, longevity, and disease resistance.
 - **Feed Optimization:** Utilize AI to tailor feed rations to individual cows' needs, enhancing overall herd health and productivity.



2. Improve Fertility by Shortening Calving Intervals

➤ Strategies:

- **Estrus Detection:** Deploy AI-powered estrus detection systems to accurately identify the optimal breeding times, reducing the calving interval.
- **Reproductive Health Monitoring:** Use AI to monitor reproductive health and predict potential issues, enabling proactive management.
- **Data Analytics:** Leverage AI to analyze historical breeding data and optimize breeding schedules.



3. Improve Heat Detection and Conception Rates



Strategies:

- **Wearable Sensors:** Equip cows with AI-integrated wearable sensors to monitor activity levels and physiological changes indicative of heat.
- **Machine Learning Models:** Apply machine learning models to predict heat cycles more accurately and improve timing for insemination.
- **Behavioral Analysis:** Use AI to analyze cow behavior and identify subtle signs of heat that might be missed by human observation.

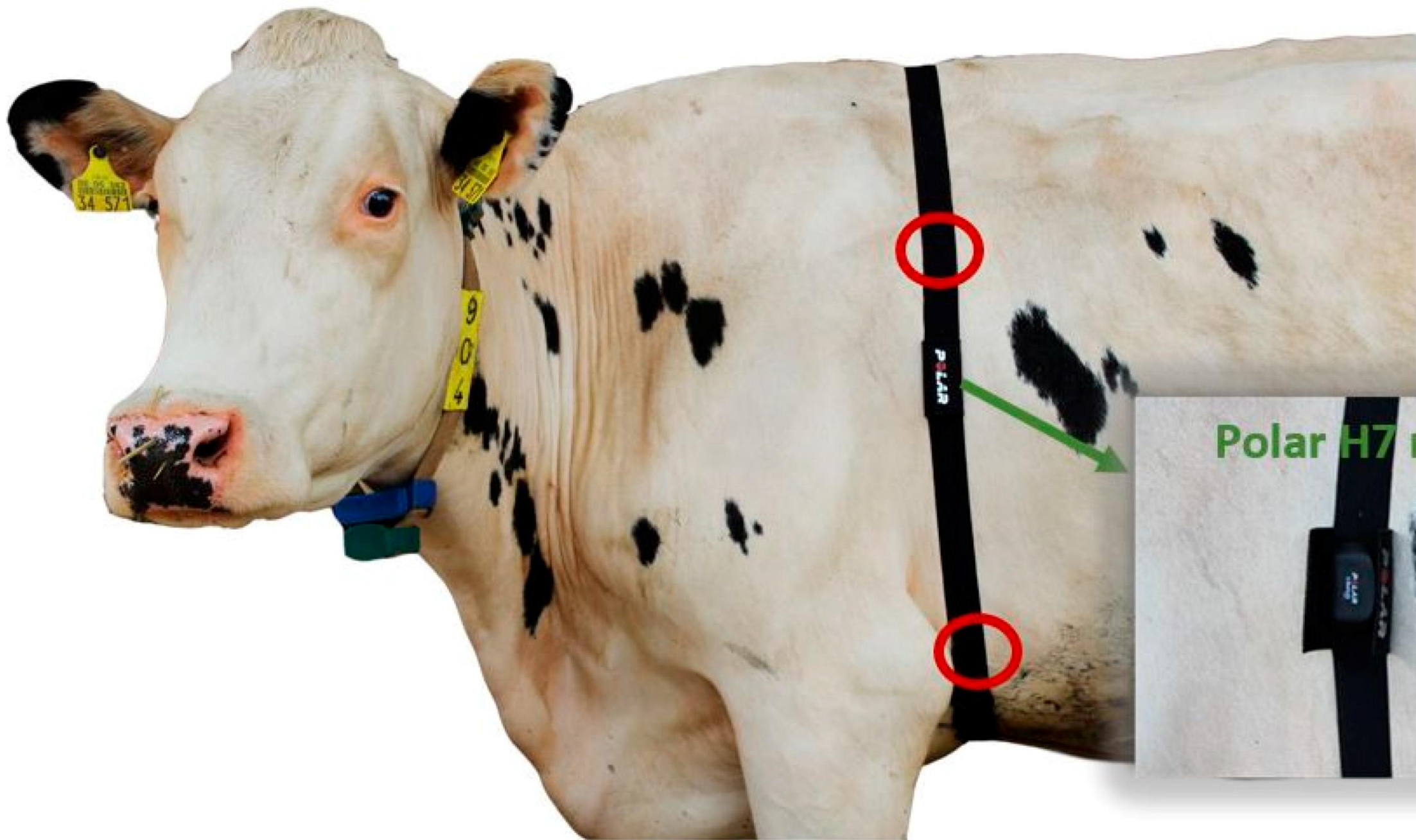


Adjustable halter

Pressure tube

Data logger and
power supply

Pressure sensor



Polar H7 receiver

“Thank You”

