The power of precision

Active Tags and autonomous weighing for optimal herd management.

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Livestock™

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CASE STUDY
Caulston Farm – Adam Atkinson

BACKGROUND

Caulston Farm, nestled in the UK's South Devon coastal region, is a pasture-based organic dairy farm home to 600 KiwiCross cows, all calving within a condensed 9-week spring block. Its coastal location presents challenges, particularly due to thin, sandy soils that struggle to retain moisture, making the farm prone to drought

The farm layout is linear, with a centrally positioned milking parlour requiring cows to walk up to 3 km in either direction. While pasture is the primary feed source, supplemental feed is provided during periods of increased demand. Given the challenging environmental conditions and tight calving schedule, maintaining optimal cow condition is crucial for a successful breeding season

CHALLENGES

Sandy soils are less fertile and retain less moisture, making the farm prone to droughts and challenging for meeting cows' energy needs. In a pasture-based system, with a tight calving schedule, maintaining optimal cow condition is crucial for a successful breeding season.

Teagasc (2024) states that "missing a single heat costs £44 for the slip in calving date and £81 for the increased likelihood of cows not in calf in a 12 week breeding season".

AT A GLANCE

Location: South Devon, UK.
Farm Size: 365ha
Cows: 600 milking cows
Breed: Kiwi Cross
Seasonal: Spring block calving

Challenges:

- Maintaining optimal cow condition
- Managing supplement costs efficiently
- Accurately detecting cows in heat

System:

- Tru-Test Dairy WoW 4000
- Tru-Test Active Tag Collars

Solution:

- Improved herd health and fertility.
- Reduce straw usage for insemination.
- Heat observation time cut from 3 hours to 10 - 15 minutes.
- 86% of cows in calf in first 6 weeks, condensing calving pattern and increasing days in milk.
- £30,000 Feed savings by targeted feed to "thin cows" by using weight data.
- Improved Cow Condition - Healthier cows experience fewer health issues
- Advanced animal management. decisions by one month.

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Given these stakes, achieving a high level of heat detection is crucial for success.

Identifying heats is just part of the challenge - getting cows back in calf is another. From calving to regaining optimal rumination and body condition, every day counts. Cows in poor condition struggle to conceive, yet daily monitoring of each individual animal is impractical.

Body condition scoring, often performed just once before mating, leaving little opportunity for timely intervention to improve reproductive outcomes. Precision monitoring solutions are essential to bridging this gap, enabling timely and effective management decisions that enhance reproductive performance.

SOLUTIONS

For Adam Atkinson of Caulston Farms, the solution was clear; utilize modern technology to tackle these challenges head-on.

By implementing the powerful combination of Tru-Test Autonomous Weighing (Dairy WoW 4000) and Tru-Test Active Tags, the Caulston Farms team has gained the tools to improve performance and navigate industry challenges more effectively.

Adam uses the WoW data to identify cows with negative ADG, then moving them to a 'thin cow' group where they receive ad-lib silage and shorter walking distances. This targeted feeding improves cow condition without increasing rations for the entire herd, ensuring cost savings and better breeding outcomes. Cows that recover with positive ADG are then returned to the main herd."

1. **Monitors DML WoW Data**
   – for performance insights

2. **Targeted Grouping**
   – based on individual cow needs

3. **Optimised Management**
   – for improved cow health and reproduction

4. **Reintegration**
   – of recovered cows into the main herd

This integration has equipped Adam and his team with **precise, data-driven insights,** enabling **improved herd health management, enhanced reproductive success, and improved overall productivity.**

Adam has reduced a daily 3-hour heat detection task to just 10 minutes with Tru-Test Active Tags. With guesswork gone-precise heat detection and insemination timing have freed up a labour unit, allowing more time away from the dairy parlour, to focus on other areas of the farm like animal nutrition.
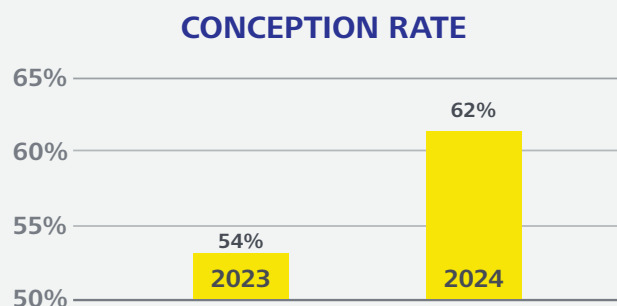
Health detection with Tru-Test Active Tags has delivered significant benefits for Adam. Early alerts enable prompt intervention, reducing antibiotic use and improving overall herd health. The behavioural insights and health index in DML further enhance decision-making by tracking treatment effectiveness and recovery progress in real time.
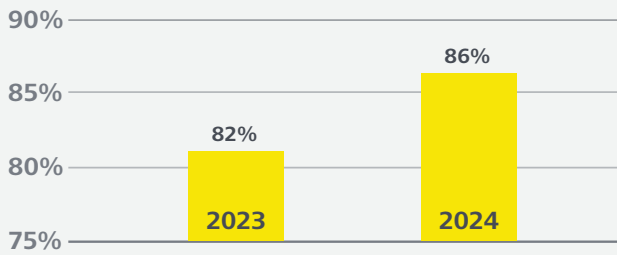
RESULTS

Adam is already seeing the benefits of Tru-Test Active Tags and Autonomous Weighing, including improved reproduction rates and significant savings on supplement feed.
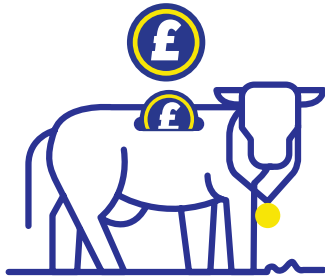
With precise heat detection and optimized insemination timing, Caulston reduced AI straw usage while maintaining pregnancy rates, resulting in a 8% increase in conception.
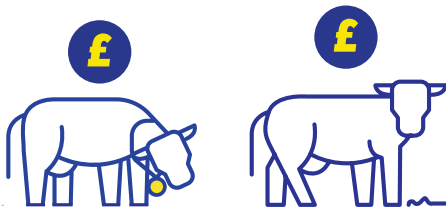
CONCEPTION RATE

	2023	2024
	54%	62%

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6WICR Rate

90%

86%

85%

82%

80%

75%

| 2023 | 2024 |

The **6-week in-calf rate improved** from an already impressive **82% to 86%.**

Supplement cost p/ton: £500
Supplement saved p/cow: 100kg
Saving p/cow p/year: **£50.00**

Savings for 600 cow herd:
£30,000

Previously, achieving optimal average daily gain (ADG) required increasing supplemental feed for the entire herd. Now, by utilizing WoW data, Adam can identify and draft individual cows with suboptimal body condition, providing additional supplementation only to those in need.

This targeted feeding approach has reduced supplement usage by 100 kg per cow, resulting in total savings of 60,000 kg (60 tons) across 600 cows. Despite this reduction in overall feed usage, reproductive performance has improved, demonstrating the effectiveness of precision nutrition. These efficiency gains have allowed the WoW system to achieve a rapid return on investment.

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SOLUTION BENEFITS:

1. Optimized AI Timing and Heat Detection

Automated Heat Detection: Reduce time spent on heat detection tasks

Optimized AI Timing: Improved conception rate by 8% while reducing AI straw usage

Higher 6-Week In-Calf Rate: Increased from 82% to 86%, resulting in a more even calving spread

2. Precision Nutrition & Feed Efficiency

Targeted Supplementation: Utilizes WoW data to identify and support thin cows.

Reduced Feed Costs: Saves 100kg of supplement per cow

Boosts Body Condition Management: Enhances reproductive success while reducing costs.

3. Health Monitoring & Disease Prevention

Early Health Alerts: Identify issues early to reduce antibiotic use and impact on production.

Behavioural Insights & Health Index: Monitors treatment effectiveness and tracks recovery progress.

4. Labour & Operational Efficiency

Reduced Workload: Enables staff to focus on other key aspects of farming.

Optimized Cow Management: Uses real-time data to make informed decisions.

5. Return on Investment & Profitability

Improved Reproductive Performance: Drives enhanced herd productivity

Lower Operational Costs: Precision feeding and animal monitoring reduced overall expenses.

Rapid ROI on Technology: Potential efficiency gains enable for a quick return on investment.