

BVPA spring meeting 2025

**The
Lakes**
Free Range Egg Co

**Sensors, data, AI the golden future
for the layer
industry.**

David Brass - The Lakes Free Range Egg Co Ltd
www.lakesfreerange.co.uk

Steve Jobs

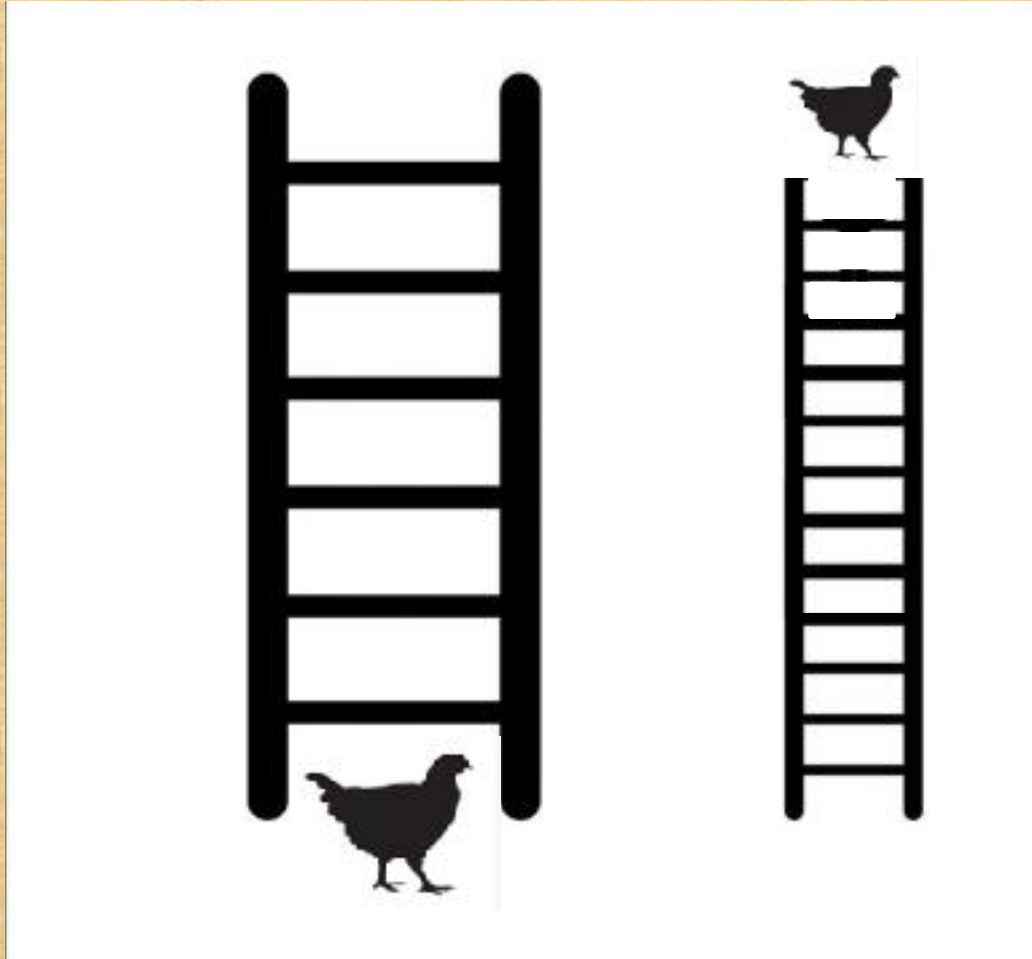
Thoughts that drive performance

“the future is not behind you”

“the best way to predict the future is to invent it”

“the people crazy enough to think they can change the world are the ones that usually do”

What is innovation?- Risk/ Opportunity Where are we now?



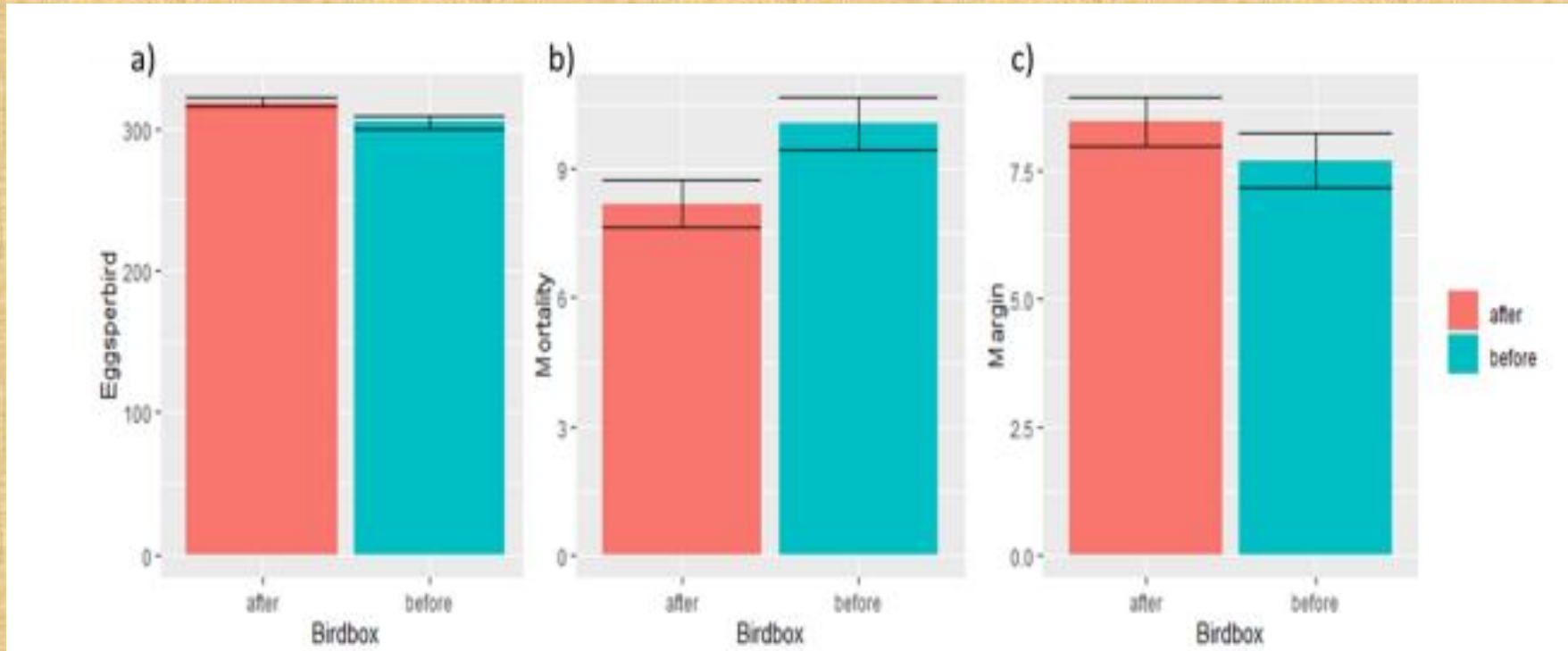
Data systems

Whole life (both laying and rearing)

What do I mean by ' Data Systems' ?

- Production Data
- Image analysis
- Feed Information
- Power
- Lab results and procedures
- Vet info and prescriptions
- Welfare information
- Basic farm data
- Grading data

EIP Agri project 103486 Aug 2017 to Sep 2019



EIP Agri project 103486 Aug 2017 to Sep 2019

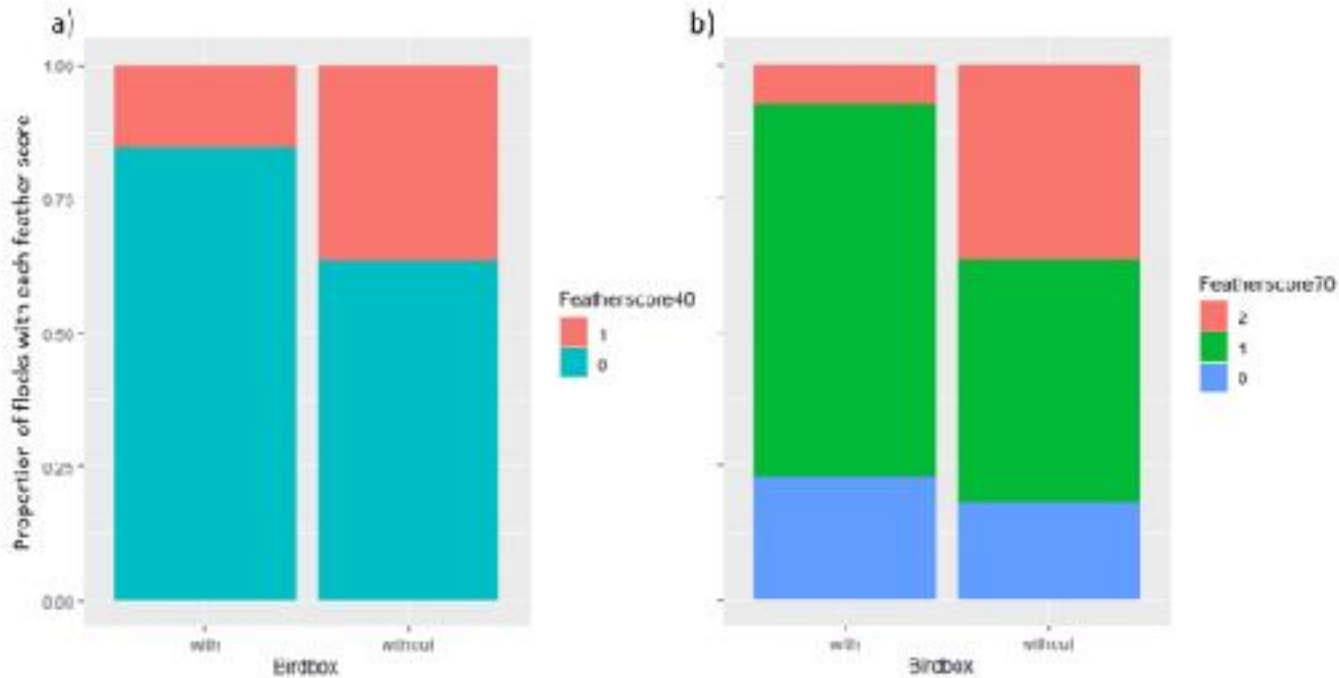


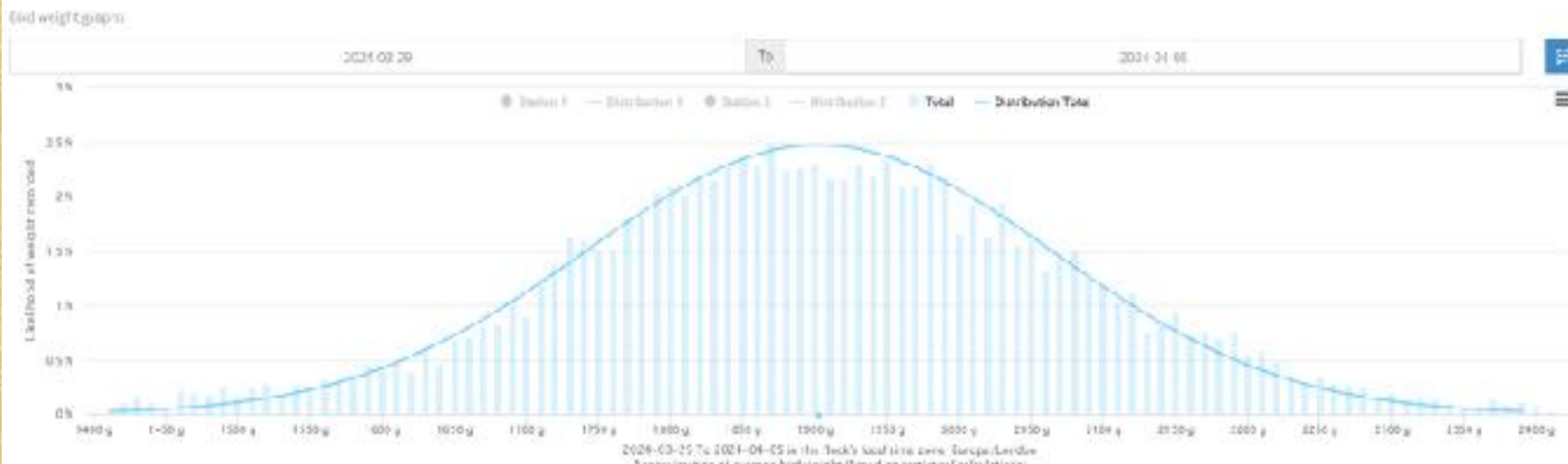
Figure 2. The proportion of flocks with each feather score (0,1,2) in flocks with and without birdbox, scored at: a) 40 weeks; b) 70 weeks.

We are on the cusp of a completely new age

- Data systems
- Acoustics
- Thermal imaging
- Image analysis
- Electro chemical sensors.

- AI, Machine learning

	Average Wt	Std Deviation	Evenness	Sample size
Today	1898	164g	78.0	1085
Yesterday	1903	180g	77.6	1772
Previous 7 days	1904	157g	78.1	10178



And do what with it?

Real time Management

Management reminders salmonella, feather score, vaccinations

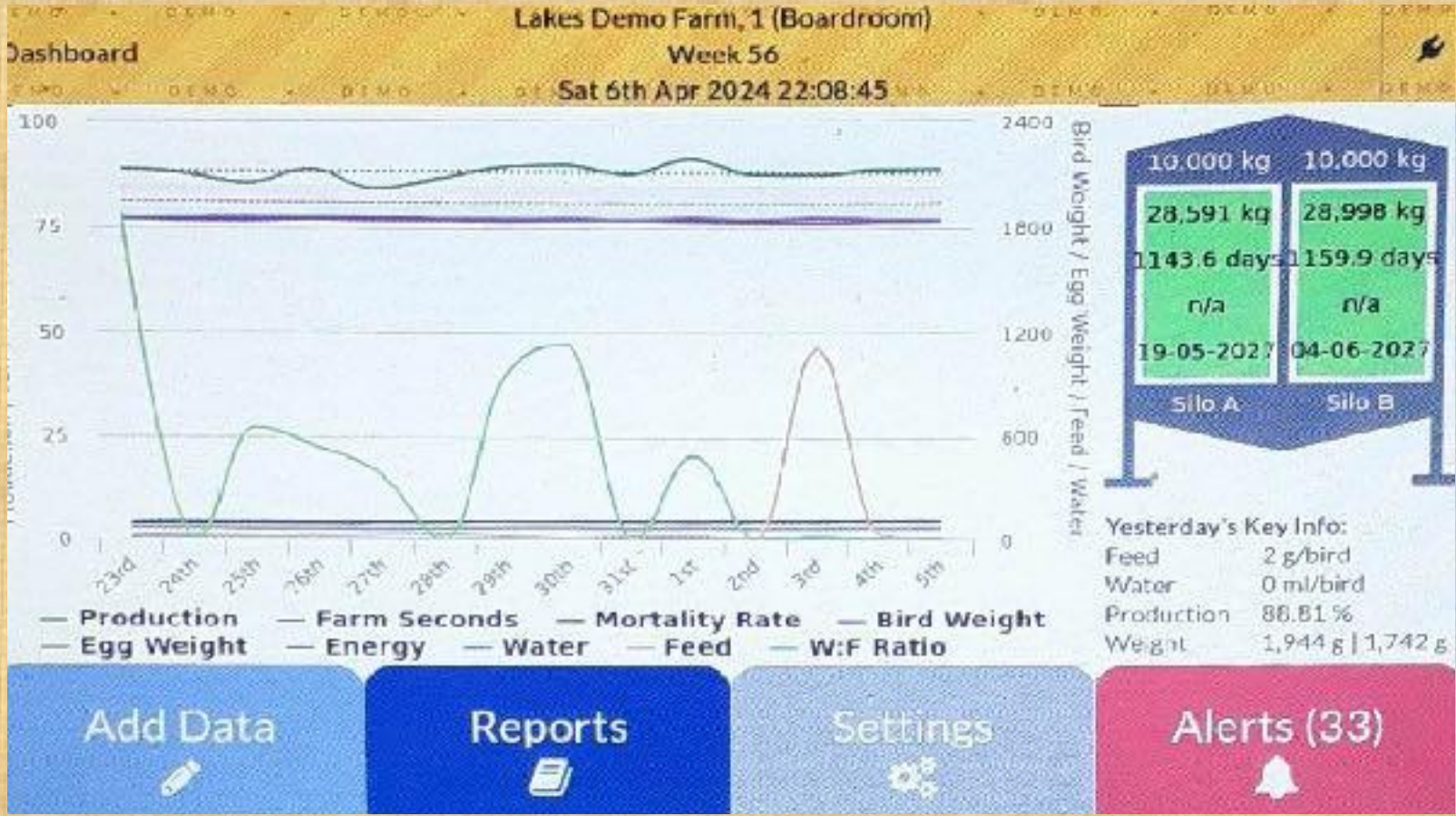
Audit reporting

Big picture management

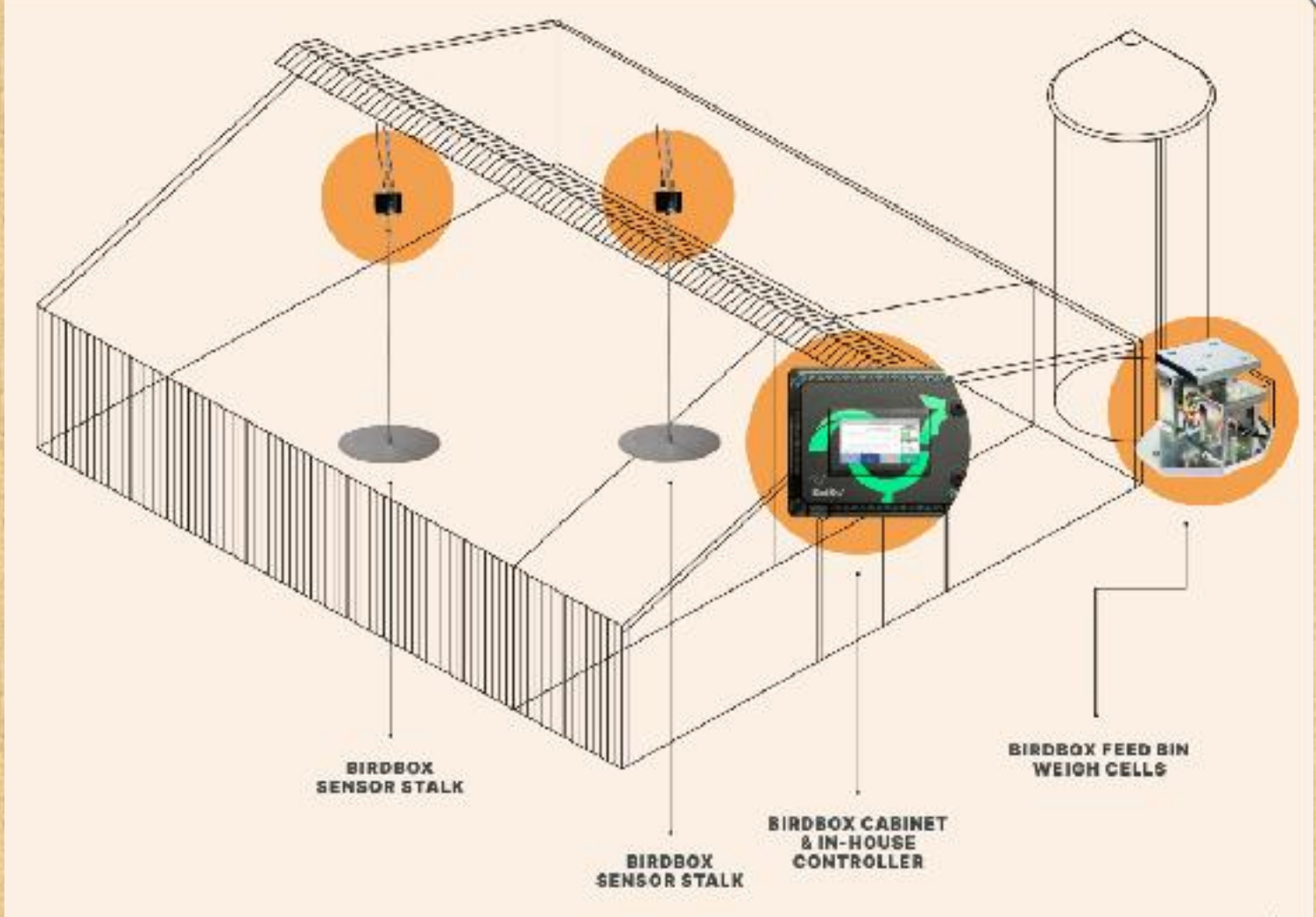
Net Zero reporting

Cost of production

Research









BELL MOUNT, 14

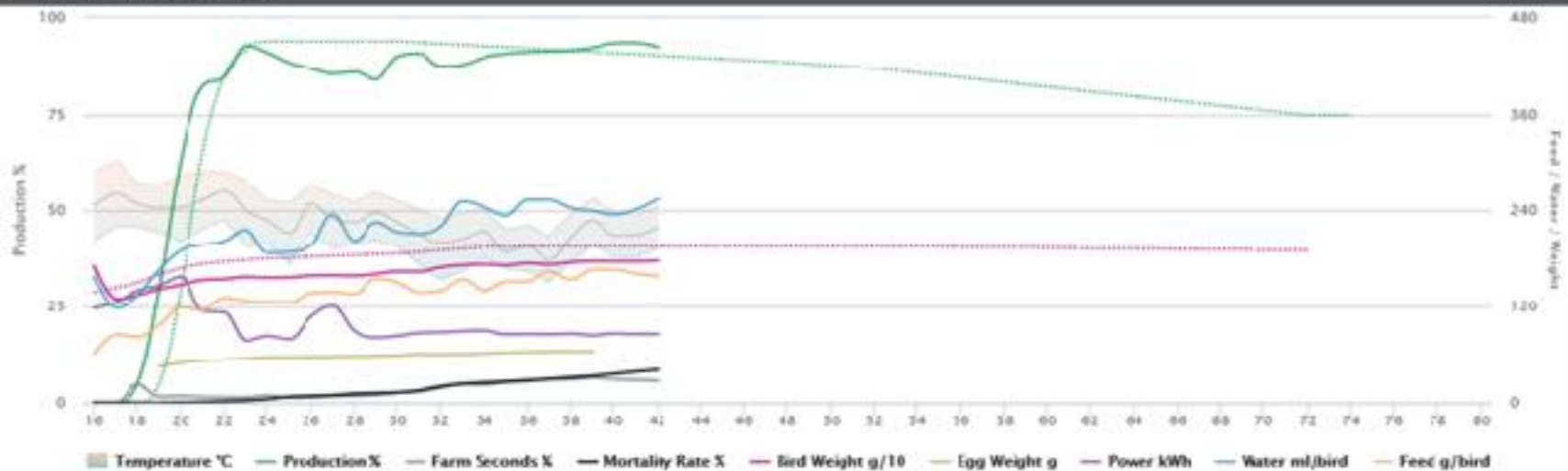
EDEN VIEW, 18

BRASS, 2

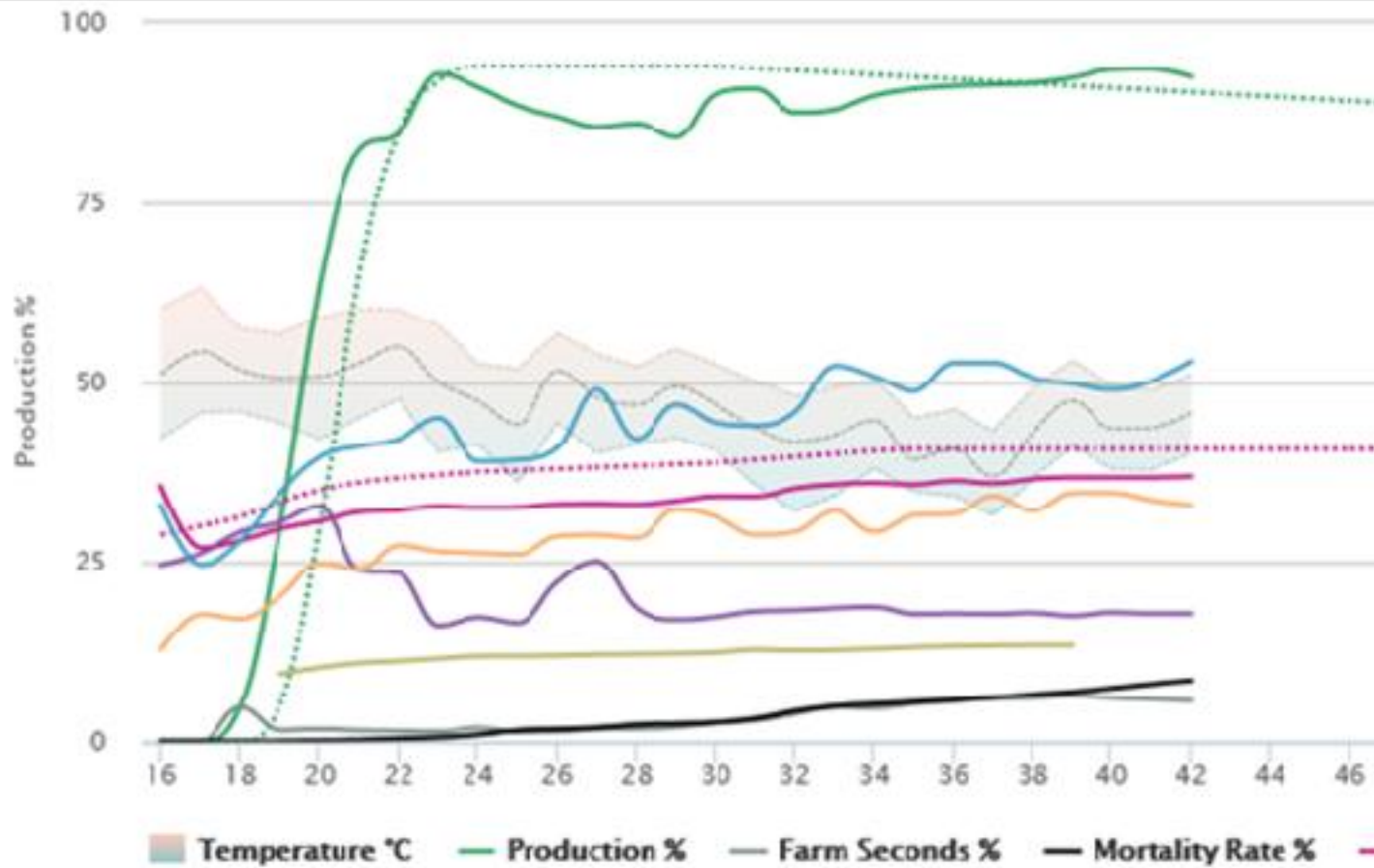


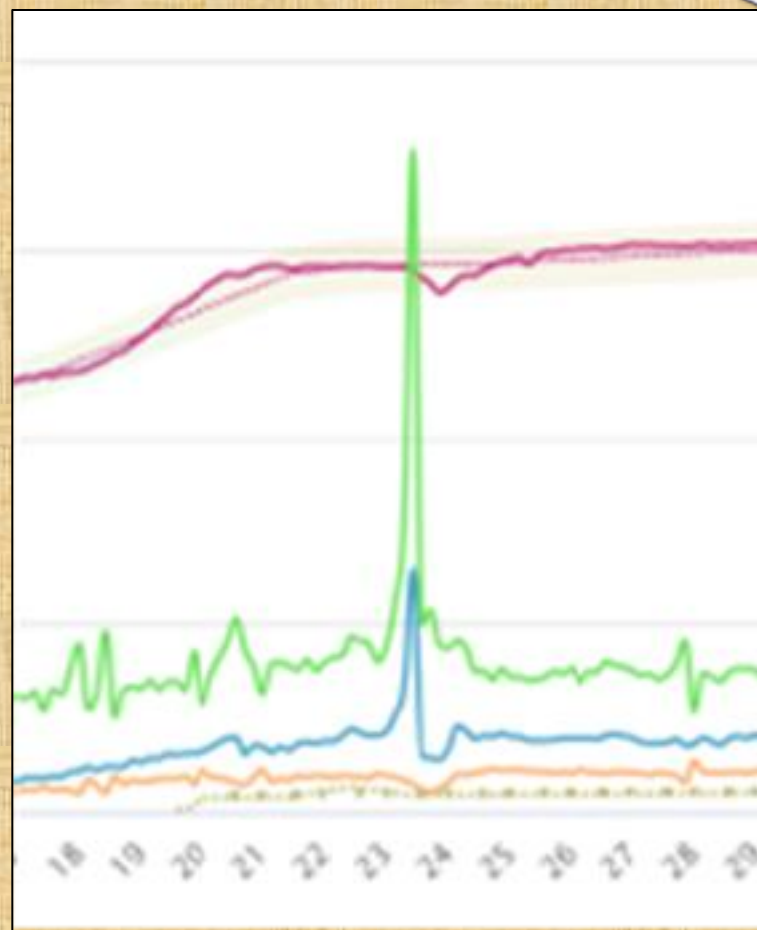
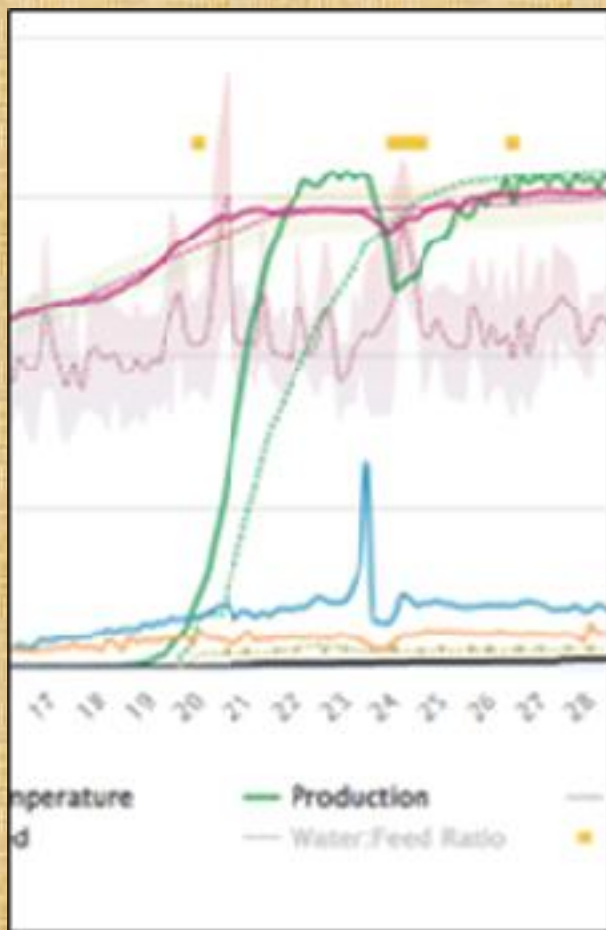
Eden View, 18

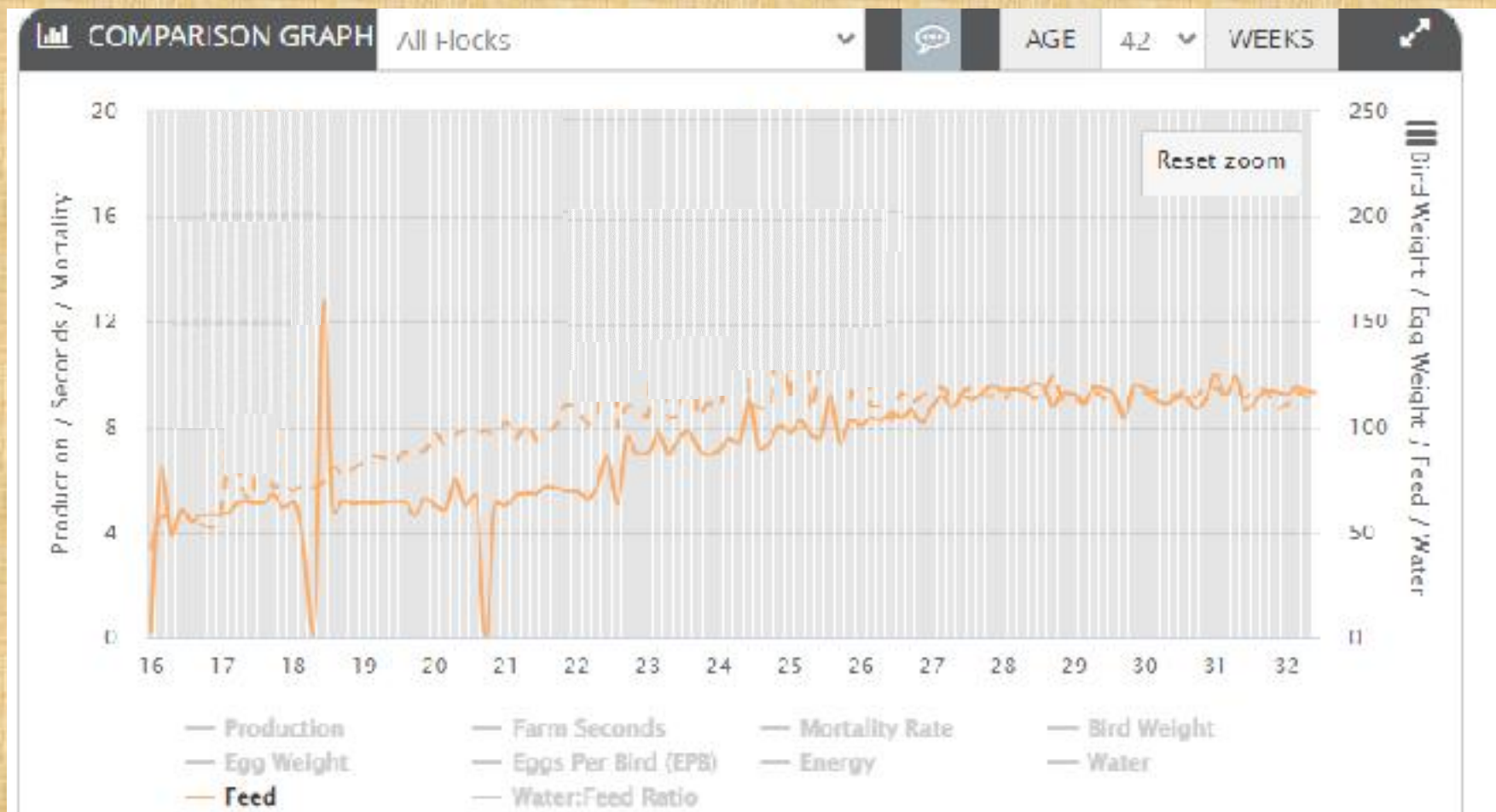
DAILY PRODUCTION GRAPH



DAILY PRODUCTION GRAPH







What is the future

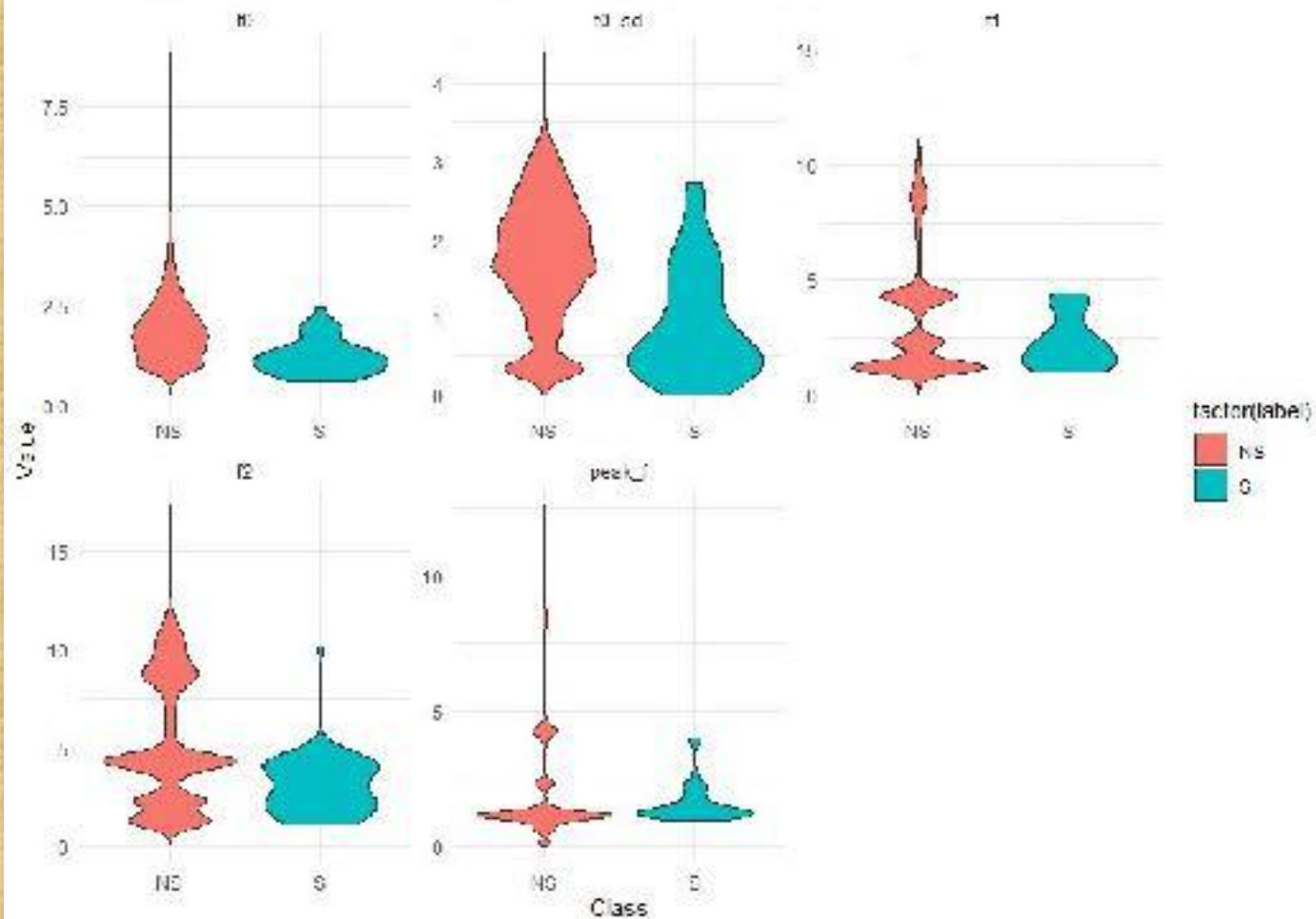
- **Acoustics**
 - Rearing farm feather pecking
 - Laying farm feather pecking
 - Stress indicator
 - Behaviour indicator
- **CCTV interrogation**
- **Future sensors** (Gasses, Pheromones, Biomedical markers)
- **Links to other data sources**
- **Disease diagnosis**
- **Thermal imaging**
- **Tools like ML/ DL/ AI**
- **Reporting tools** (Power BI and others)



2019-05-27 11:37:48 Mon

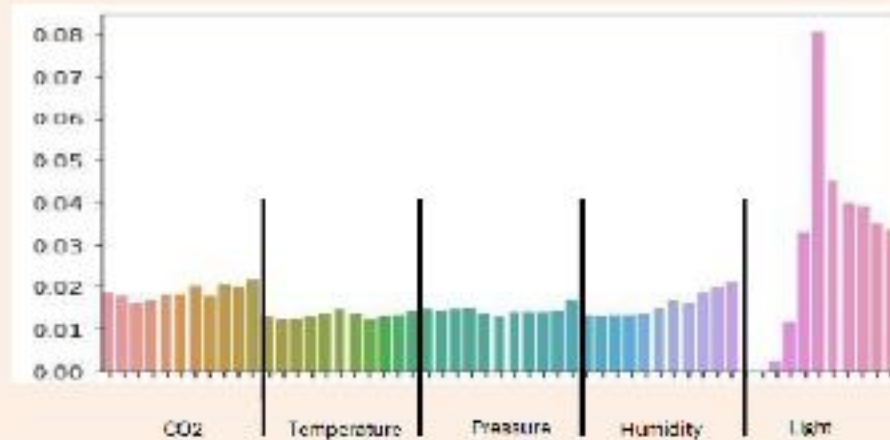


Differences Between Classes Across Features (Violin Plots)



Machine learning (GX Boost)

Variable	% Mortality predicted
Light	75%
CO2	62%
Temp	60%
Humidity	59%
Pressure	51%
Size	81%
Age	69%
All Sensors (+ Age +Size)	82% (92%)



Correlation NOT Causation



The vision

Fully intelligent layer units featuring real time alerts, behavioural and production information

Flockwise



For use by Farmers
Vets
Research scientists
Behavioral researchers

