

Poultry Innovations Forge Ahead for Welfare, Food Chain & the Environment



Presented by
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Owner/ Farmer Applied Poultry

The Start 2004

- Old site bought was built in 1964 - 4 months empty, had planning to extend from 110,000 to 155,000
- Low investment – low returns – high running costs
- Variable income subject to chick quality
- Mid table performer

What used to be



Cold and windy, 1,000 ft up



Customer Driven Investment

- Customer require more bird places
- Customer offers a financial incentive for new building programme
- Improved bird welfare
- Improved bird quality/ uniformity/ consistency
- Improved environmental controls

Site Development

- Comprehensive business plan drawn up
- Peak Park Planners dealt with directly
- Numerous banks decline plan initially
- 15% Budget overspend due to unknowns
- Project delivered on time with the banks support throughout (subject to comprehensive management reports being submitted)

Half Way There?



Finished



Our Production System

- Standard Broilers Average Live weight at kill 2.25 Kg
- Breed = Ross 308, placed as hatched 50/50 male/female (no segregation)
- Stock at target maximum 36- 38kg/ mtr²
- Thin 30-35% at 32-35 days - Depopulate at 36-39 days
- Chick to chick cycle 49 days (10 days cleaning) - 7.44 crops per annum

Technology in Place

Underfloor Heating



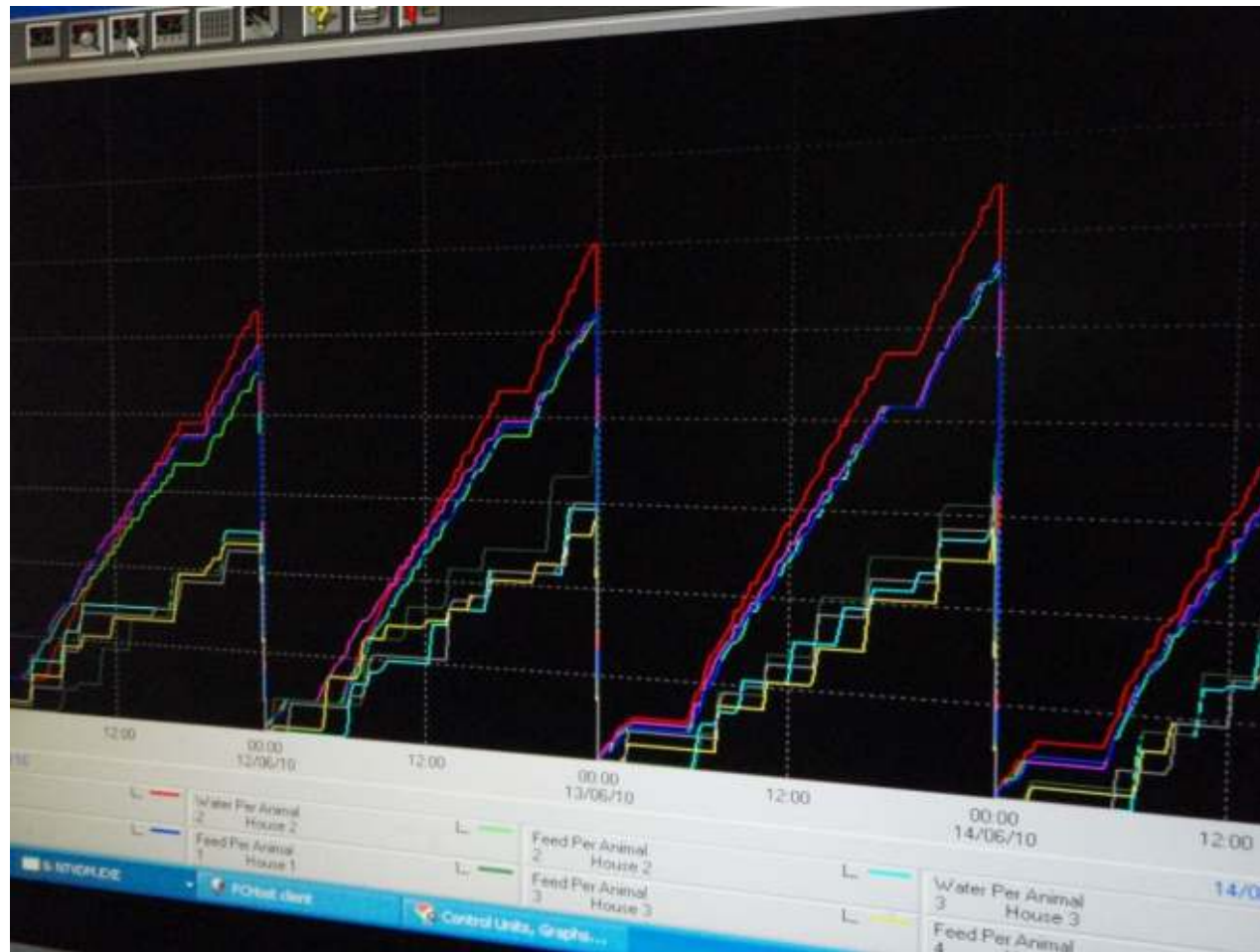
Centralised PC for monitoring & recording data



Summary Overview

	House 1		House 2		House 3	
House Avg Temp	25.8		25.9		26.6	
House Target Temp	25.4		25.6		26.1	
Floor Temp	30.7		29.7		30.6	
Humidity	62		61		64	
Pressure	45		25		27	
Daily Water	3264.0		2845.0		2887.0	
Daily Feed	1800.0		1540.0		1300.0	
Mortality %	1.3		1.4		1.3	
Weight	509	522	432	439	426	439
Growth per day	45	52	30	36	35	36
Growth std.	445		397		397	
Expected weight	534	539	443	439	434	439
Mortality nr of animals	23		30		36	
Previous 24hr Water	5595.0		4802.0		4813.0	
CO2			1811		PPM	

Feed & water monitoring



Automatic Bird Weighing

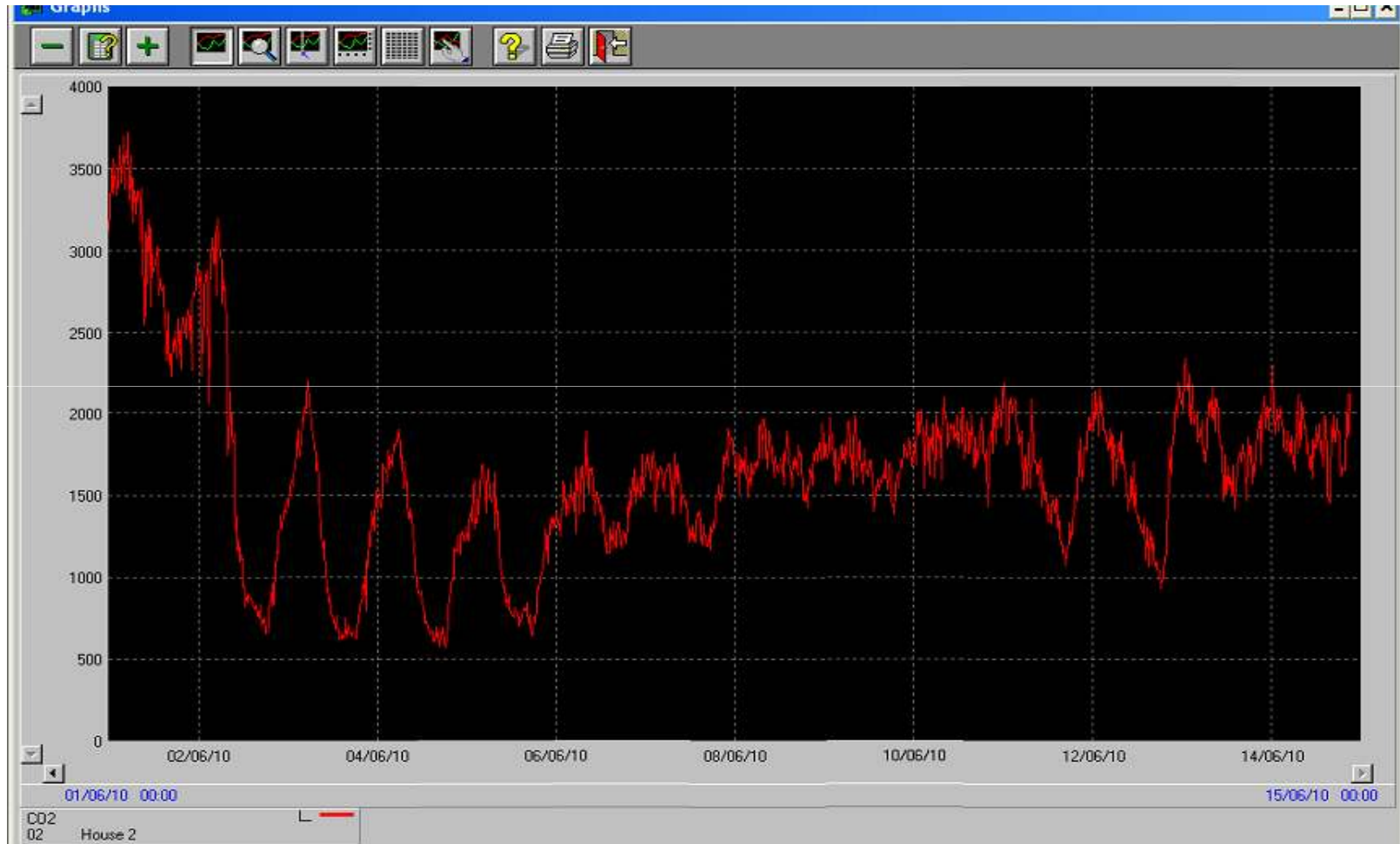
MyFarm\Shed 1\Weight 1a (F747B2 5.1)

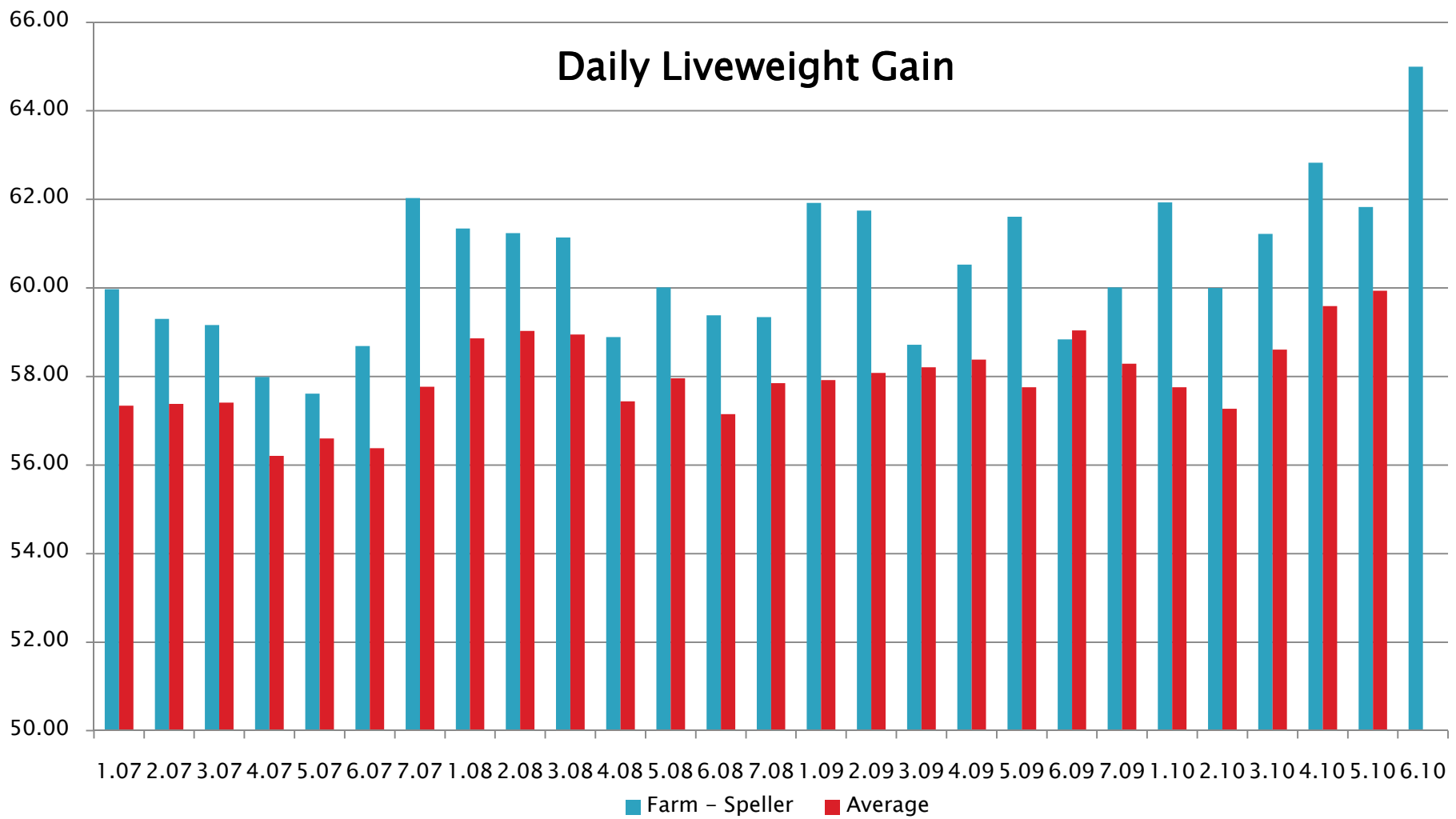
Expected weight	Expected weight		
Time correct weight			
Average weight			
Last weight	92	92	92
Scale readout	94	76	71
Nr of measurements			
Uniformity	69	68	
Growth per day			
History weight			
History uniformity/grow			
Weight spread			
Setup flock			
Growth standard			
Complete printer listing			
Short printer listing			
Date / Time			
Time clock			
Acceptation setting			
Scale data			
Scale description			
Calibration scales			
Alarm			
Avg weight			
Avg Uniformity			
Avg Measurements			

Security cameras

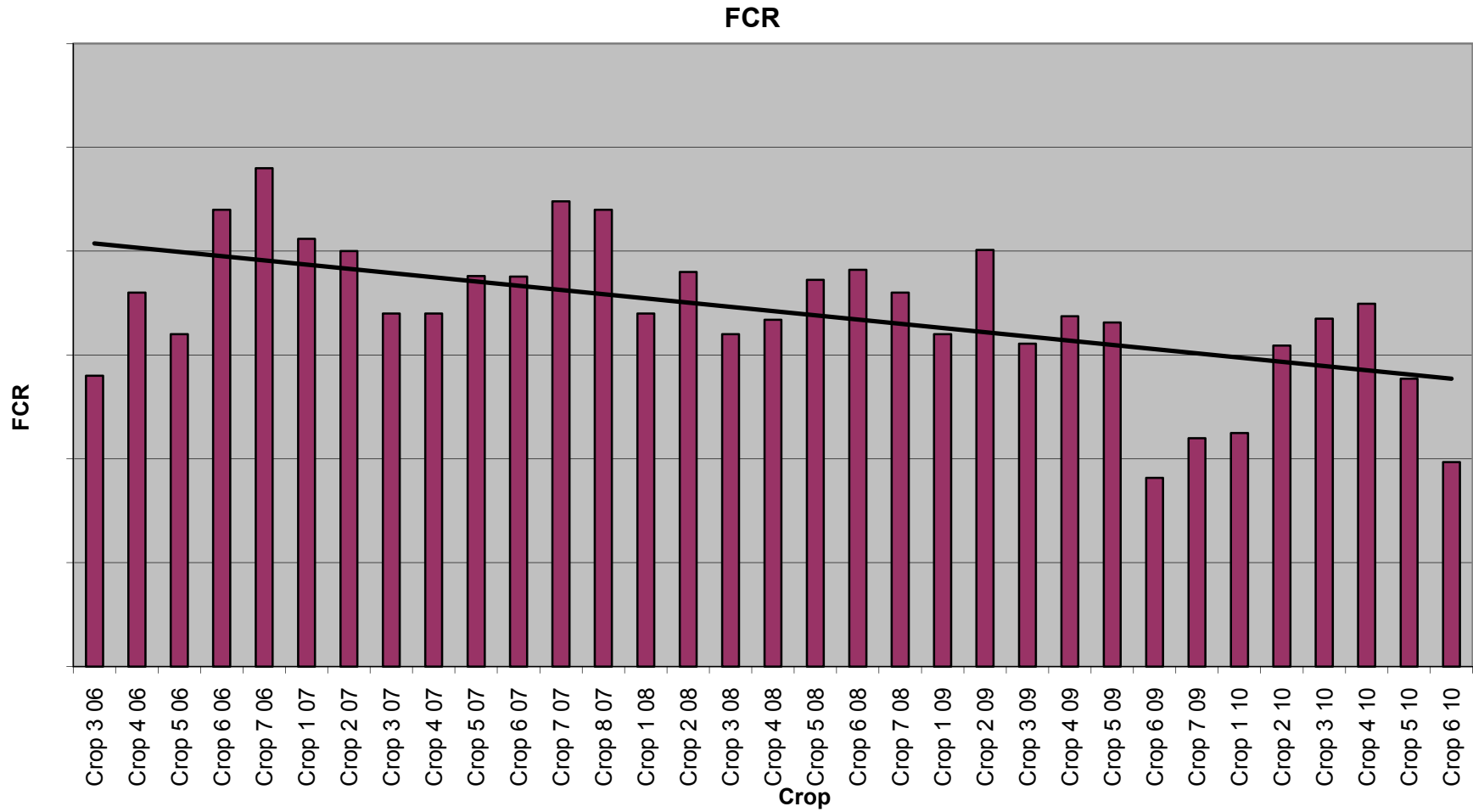


CO2 monitoring





Food Conversion

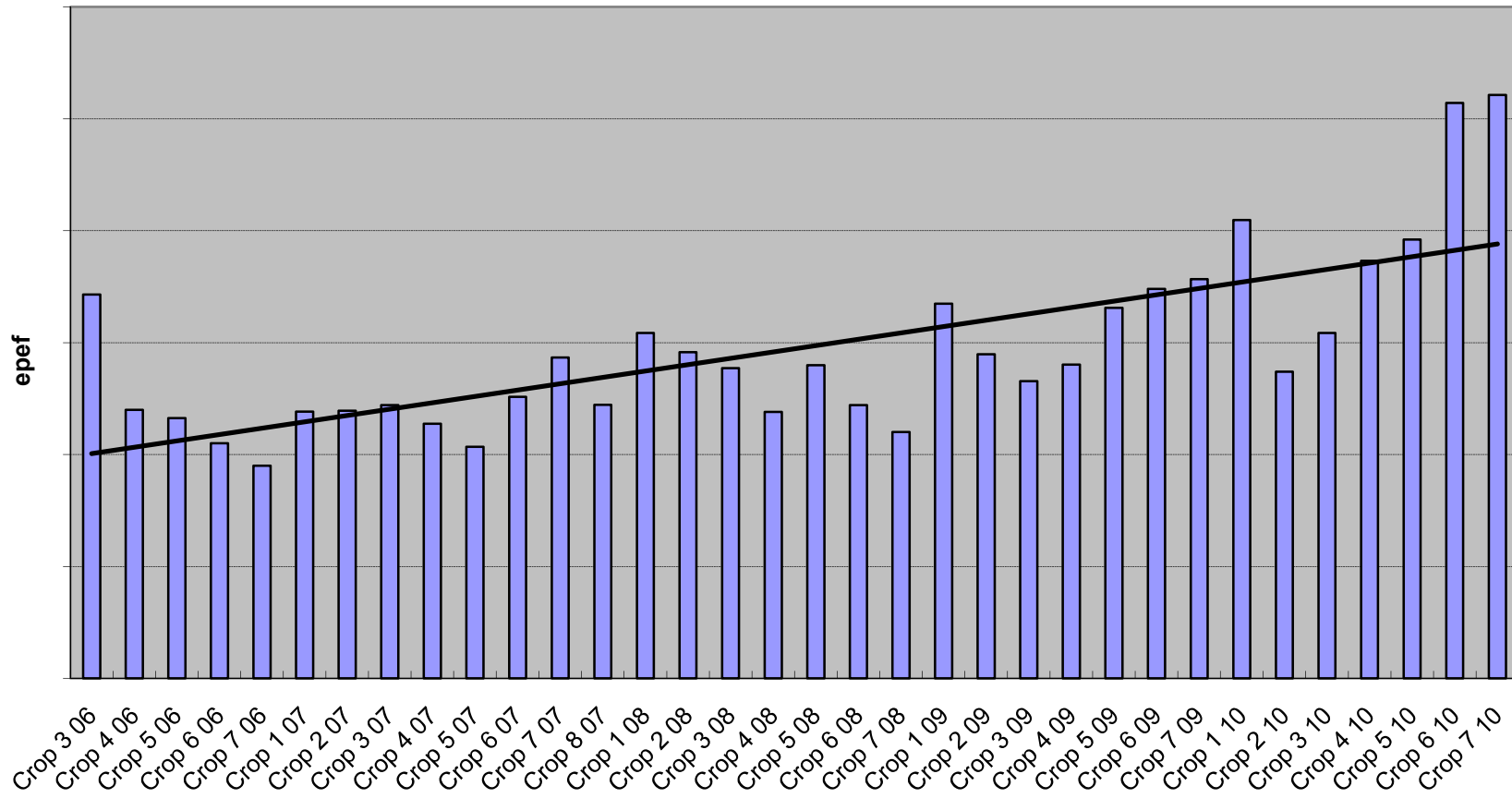


Performance 4 year averages

- Food Conversion Ratio – 1.62 (Best 1.54)
- Daily LW Gain – 60.62 g/day (Best 65.78)
- Average Kill Age – 36.6 Days
- Average LW @ Kill – 2.22 Kg (As hatched)
- EPEF – 359 (Best 404)
- Top efficiency performer into our customers factory 3 years out of 4

EPEF (European Efficiency)

Lower Farm epef



Key Performance Indicators

- Water & Feed consumption
- Bird live weight & daily live weight gain
- Every day of growth is 2.7% of a birds life with average kill age of 36.6 day
- Accounts show approximately 7% turnover as net profit $36.6 \times 7\% = \underline{2.56}$ growing days per crop / 18.96 growing days per year

Environmental Matters

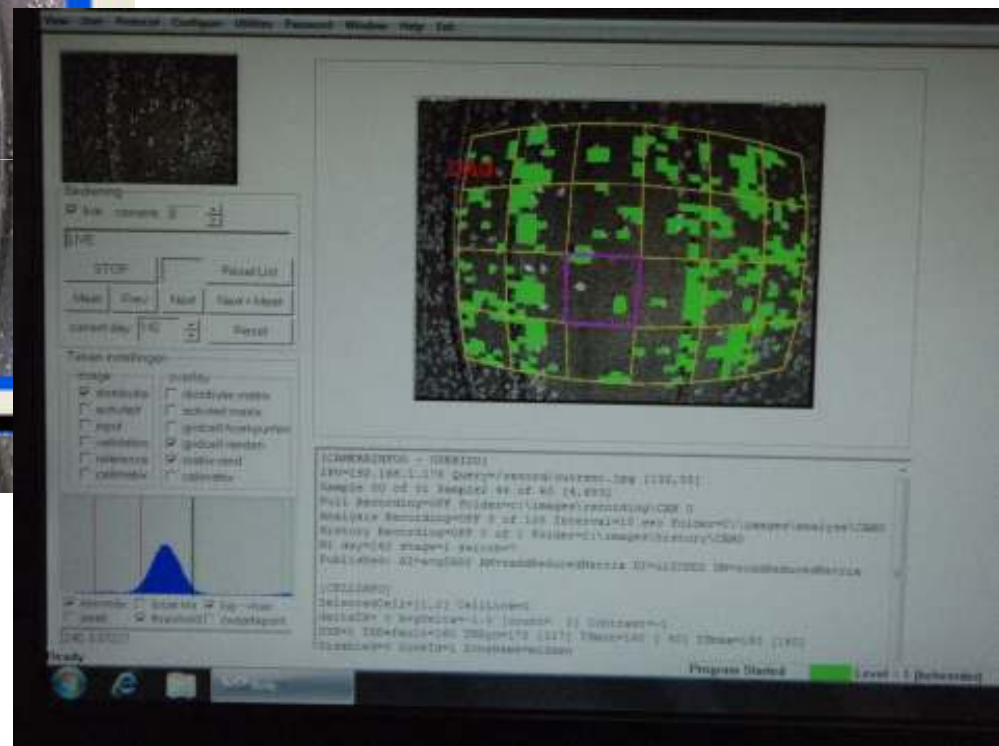
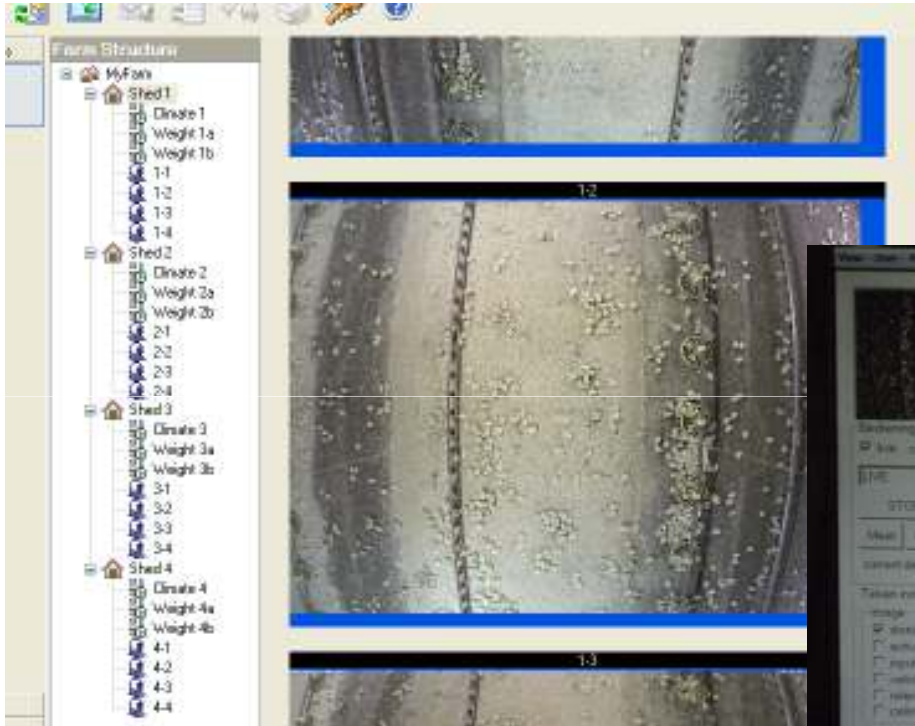
- Dirty water catchment tanks for all internal drains, wash water and external water drains as required
- Dust catchment canopies
- Odour Abatement trials
- All plastics are recycled
- Office waste recycled
- 3,500 trees planted

Misting of chemicals to neutralise odours

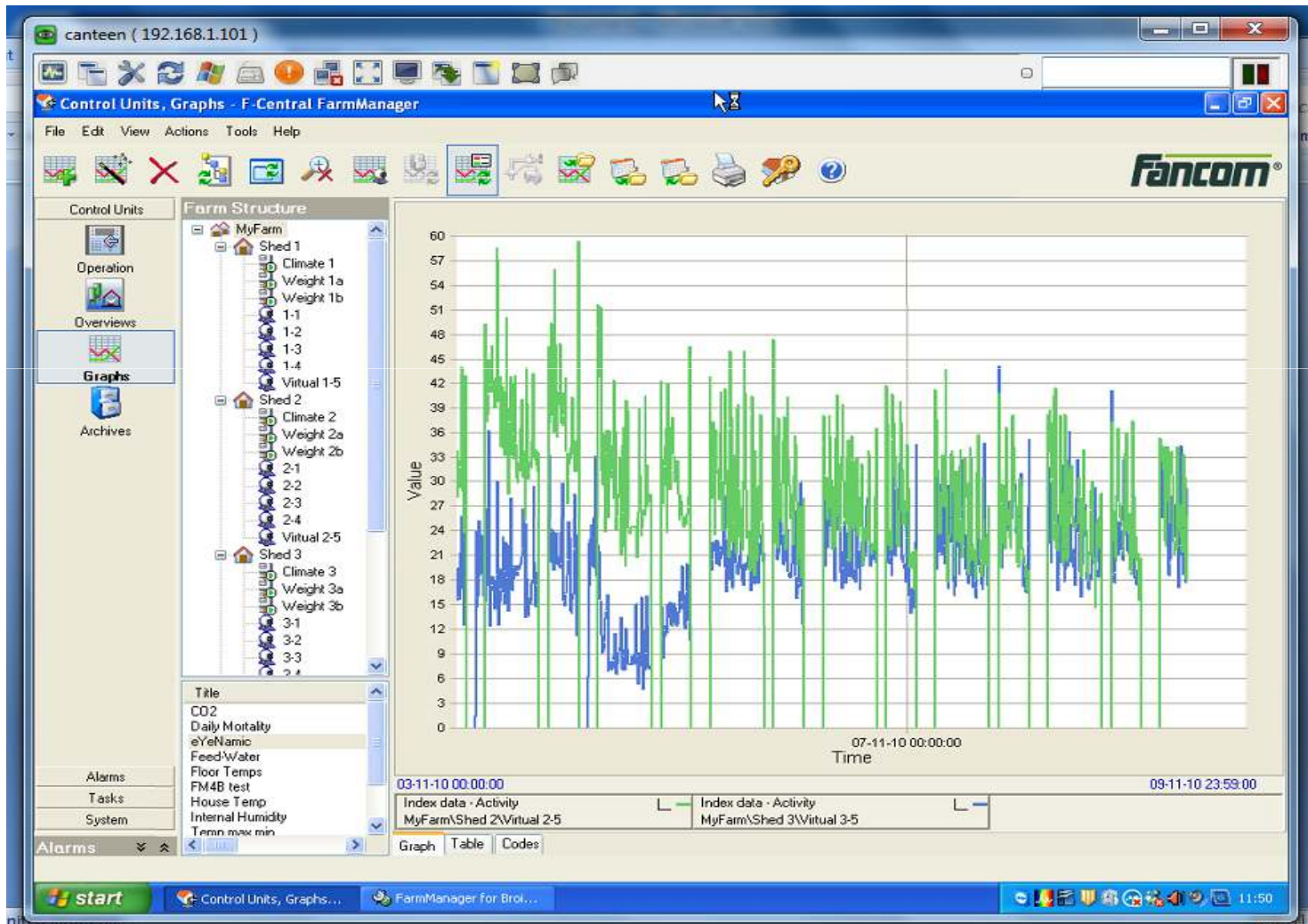


The Immediate Future

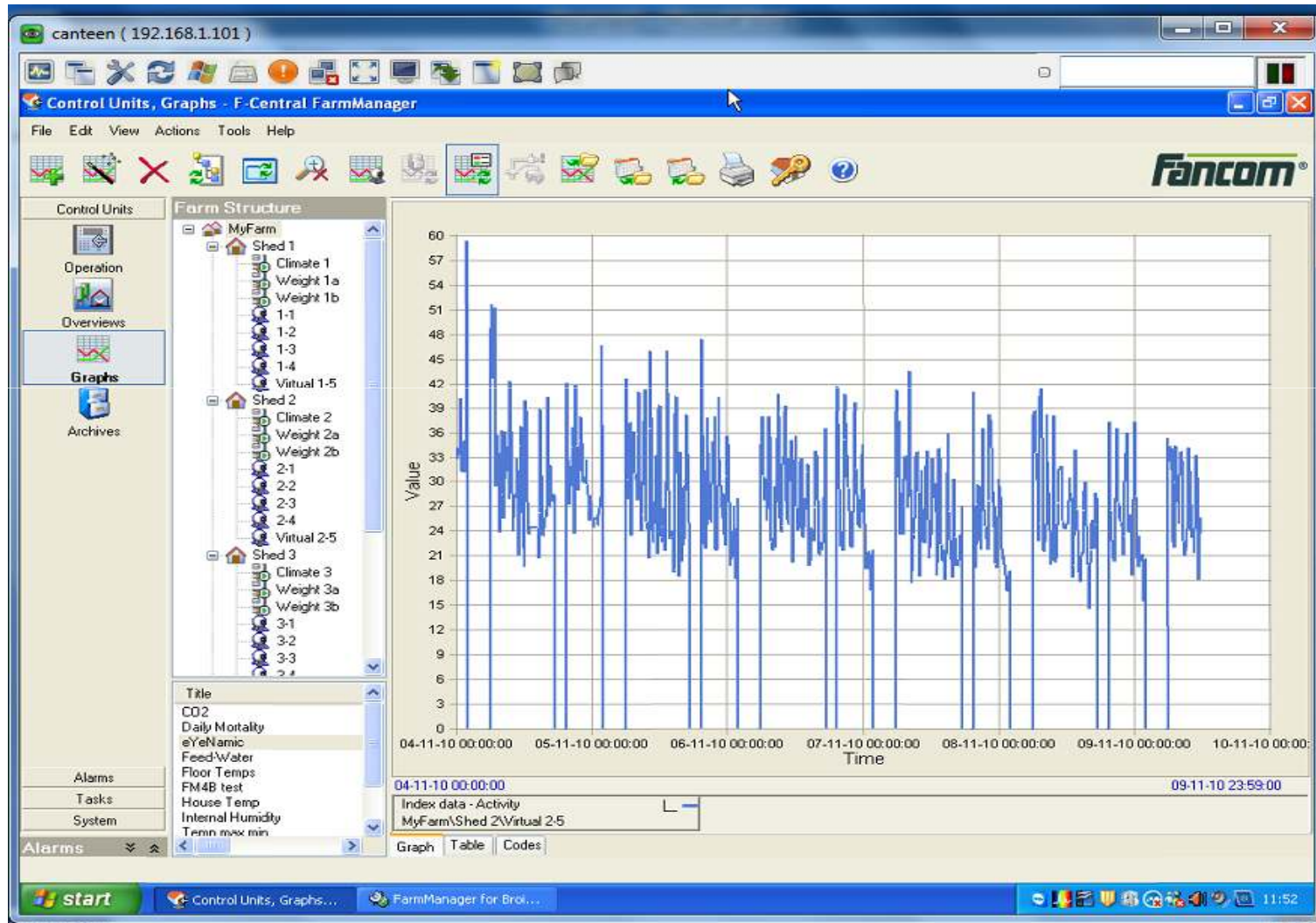
Eyenameic Cameras



Eyemonic Data



Daily Activity Levels



Monitoring Technology

- Monitor distribution of birds around the sheds and ensure even access to food, water, etc
- Link behaviour trends with performance to ensure consistent good performance
- Look for activity trends and adjust food and water access to meet demands
- Monitor consistently and in a quantitative way that can be recorded and monitored

Future data analysis takes a lot of computer processing



The Vision for Technology

- Find a way of accurately and constantly assessing the health and welfare of my animals
- Learn what the animal really demands not the human perception of what it demands
- Good health and welfare leads to good performance and is not a separate issue
- Technology allows real time assessment leading to real time decision making

What Next?

In the coming 5 years I hope to have addressed and fully implemented at least the following 3 main projects:

- Renewable energy/ recycling of heat energy
- Rain water harvesting
- Windows in the sheds

Conclusions

- Numerous innovations can be used to optimise bird welfare
- Good bird welfare leads to good performance
- Technology & innovation will enable me to meet consumer demands today & tomorrow.
- Inappropriate policing of environmental permitting poses one of the most significant risks to my business (Beware NIMBY's)
- My business will change to meet consumer demands as they change

Thank you for Listening

