



Innovation **Breeds** Success

Save Energy and Increase Production with



Comparing Minimum Ventilation

Combi-Tunnel

V

Pure Tunnel

Indonesian Trials 2014



Big Dutchman.



Big Dutchman®

Pure Tunnel Closed House

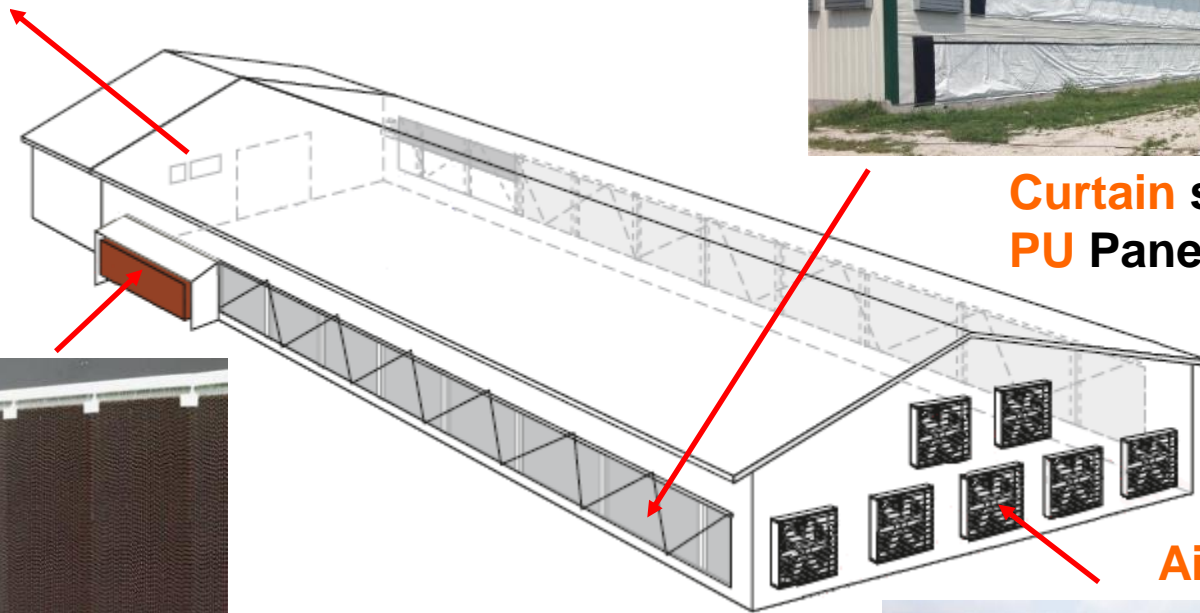


Big Dutchman.

Closed House – Tunnel



ViperTouch
control unit



Curtain system/
PU Panel



RainMaker pad-cooling system

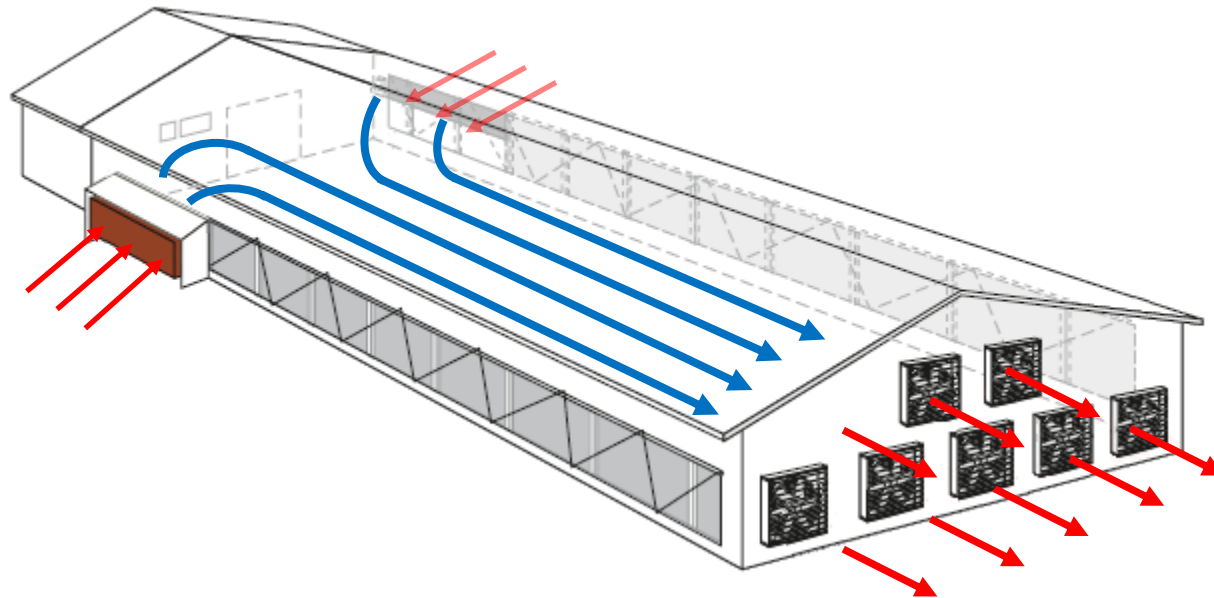


AirMaster Fans



Big Dutchman.

Tunnel ventilation system





Big Dutchman.

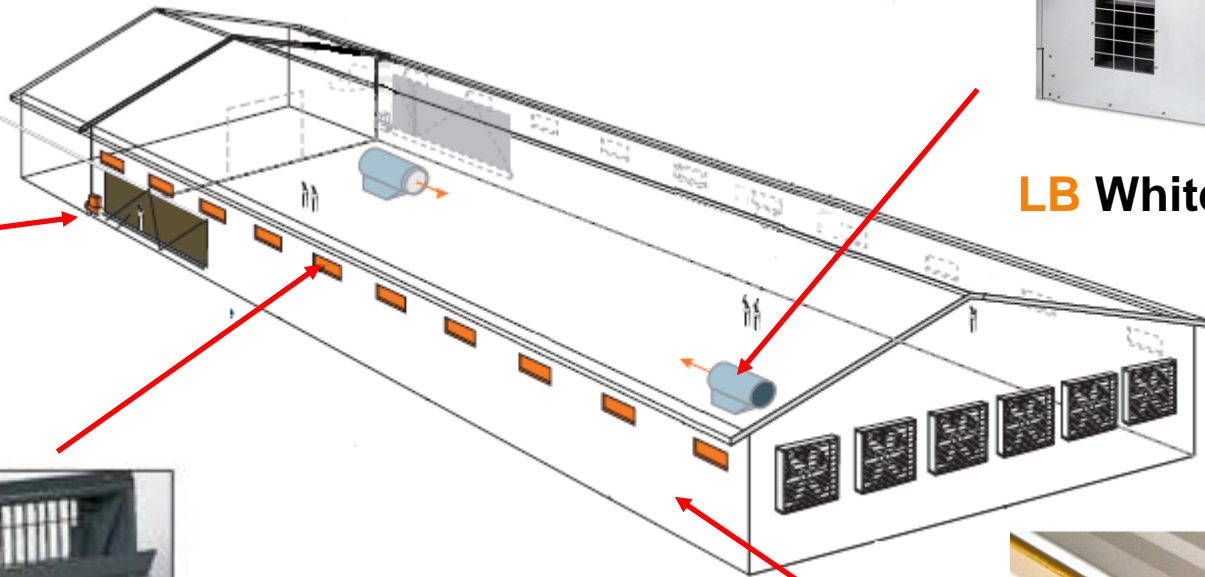
Closed House – Minimum Ventilation



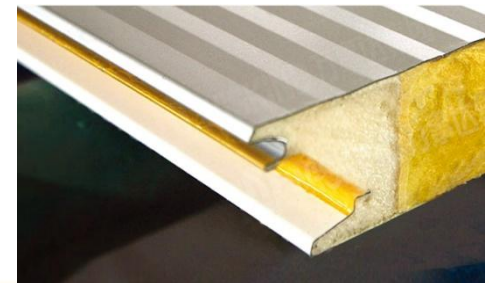
Winch Motor



Wall Inlets

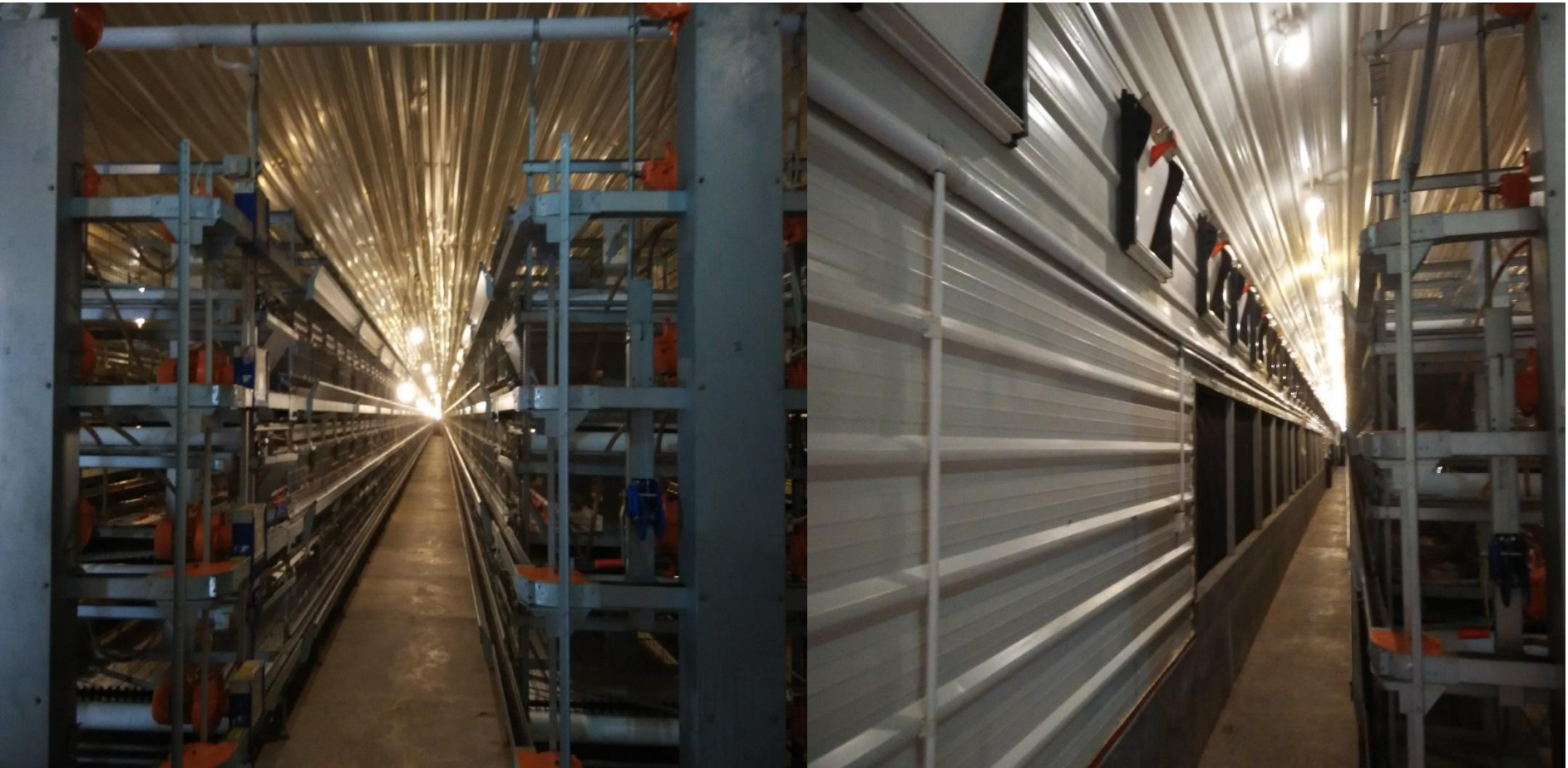


LB White Heater



PU Panel Wall

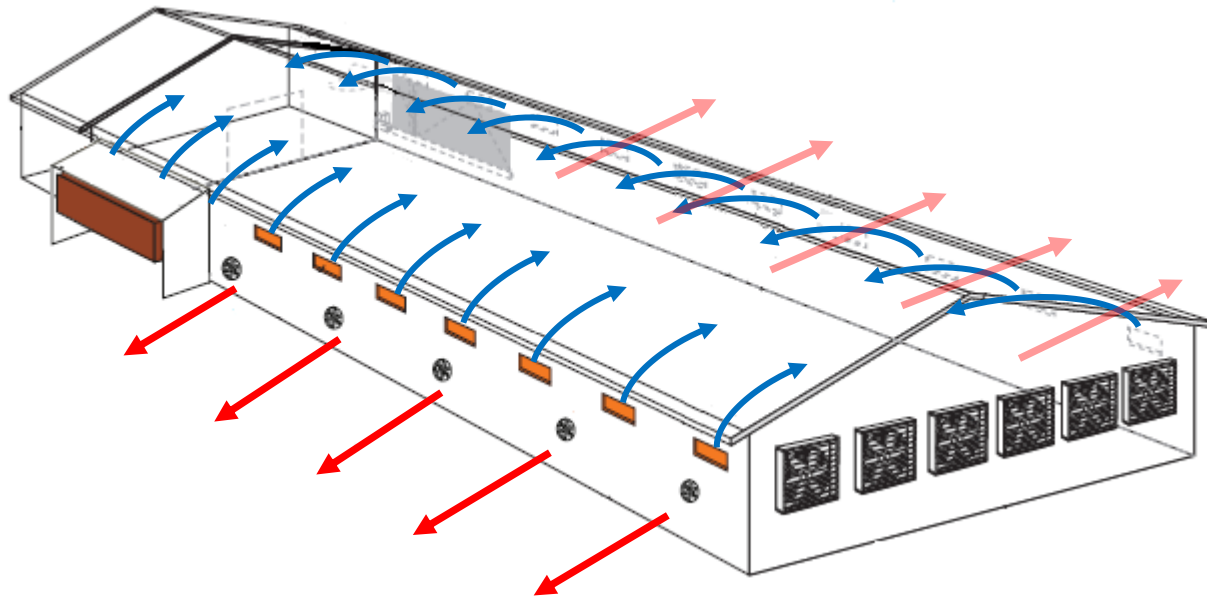
Layer starter with Minimum Ventilation.





Big Dutchman.

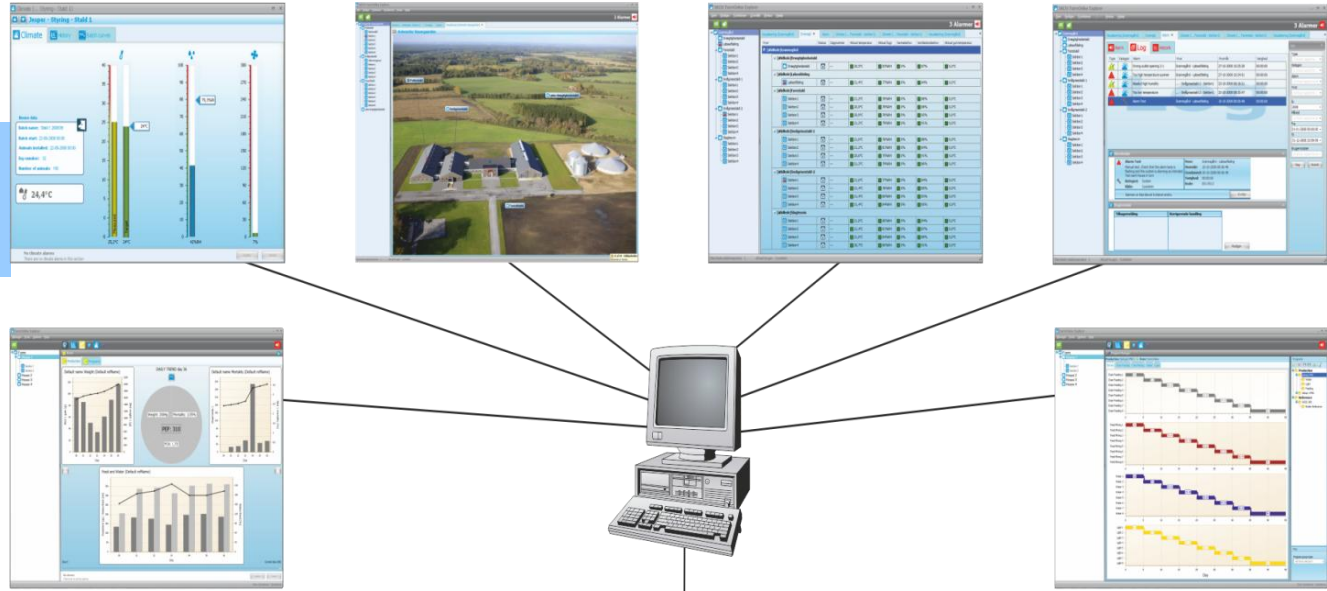
Minimum Ventilation



Trial Objectives

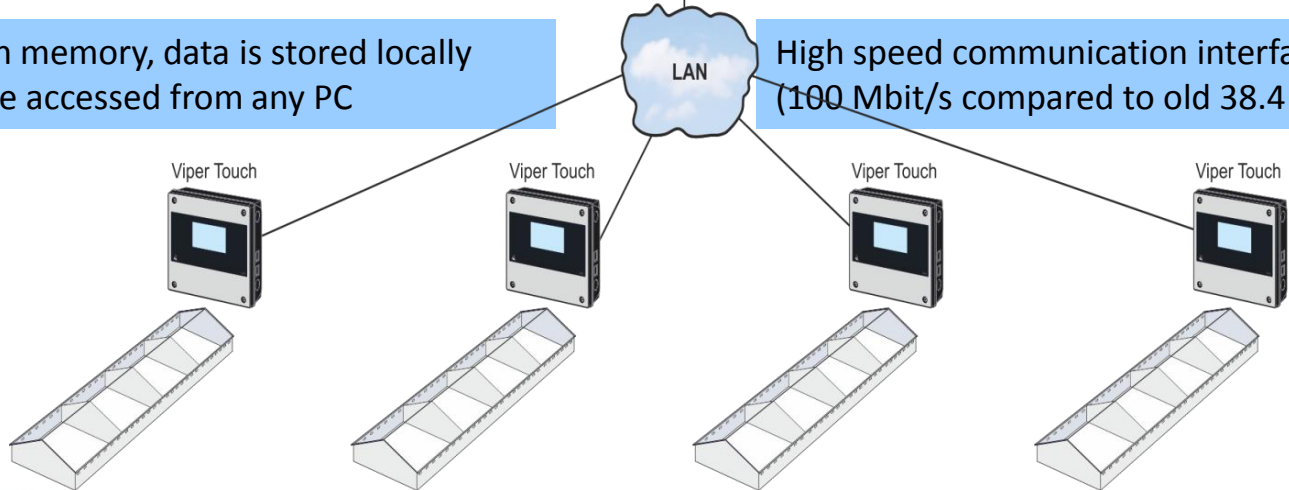
- Comparing gas usage.
- Bird uniformity/Migration.
- Bird Weights & FCR
- Power Consumption

Gives BigFarmNet Manager a highway of communication



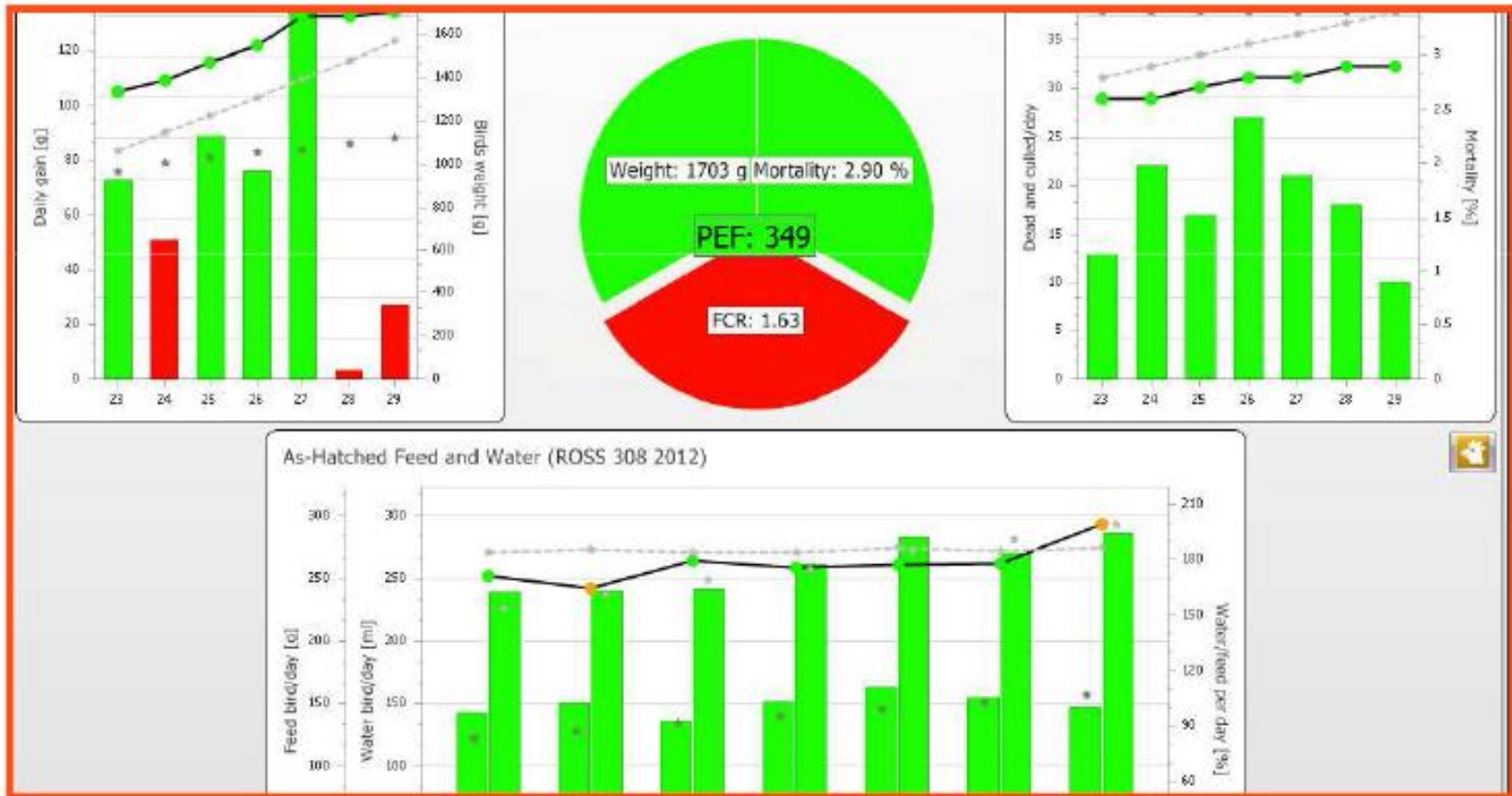
Huge flash memory, data is stored locally and can be accessed from any PC

High speed communication interface (100 Mbit/s compared to old 38.4 kbit/s)





Your flock vs. reference





Performance Efficiency Factor **PEF**: FCR 2.0



Bird scale



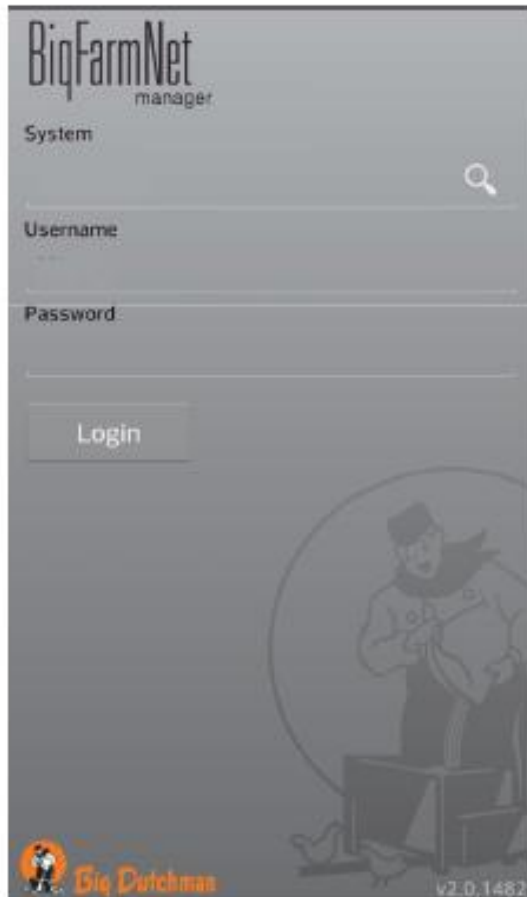
Mortality



FCR

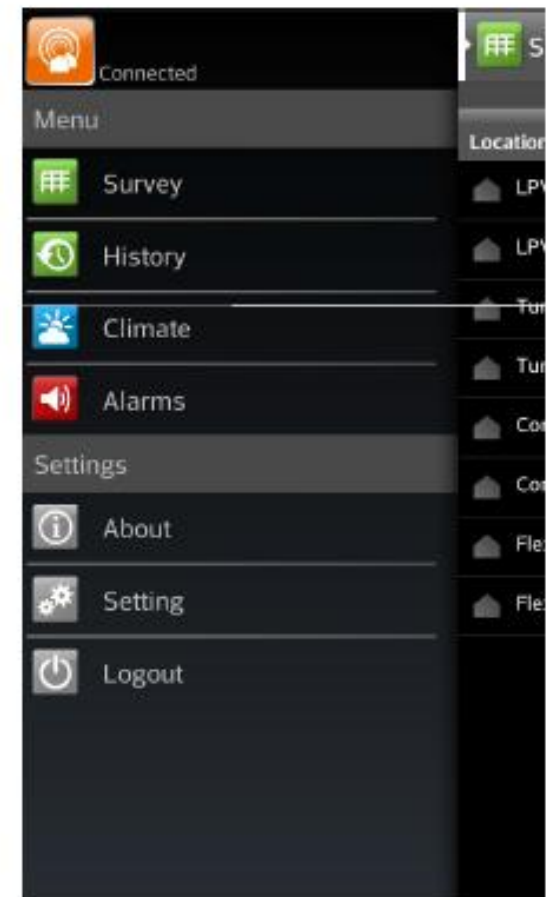
$$\frac{\text{KG} \times (100 - \% \text{ Mortality})}{\text{Age in Days} \times \text{FCR}} \times 100$$

- App for Smartphones by using WebAccess
 - For Android, Windows mobile and iPhone



Location	Status	Day	Temp
LPV 1		29	22.1 °C
LPV 2		29	22.3 °C
Tunnel 1		29	22.1 °C
Tunnel 2		29	21.4 °C
Combi Tunnel 1		29	22.3 °C
Combi Tunnel 2		29	21.3 °C
Flex 1		29	22.3 °C
Flex 2		29	21.3 °C

Last Updated: 11/11/2013 08:49



Minimum Ventilation VS Tunnel

Minimum Ventilation

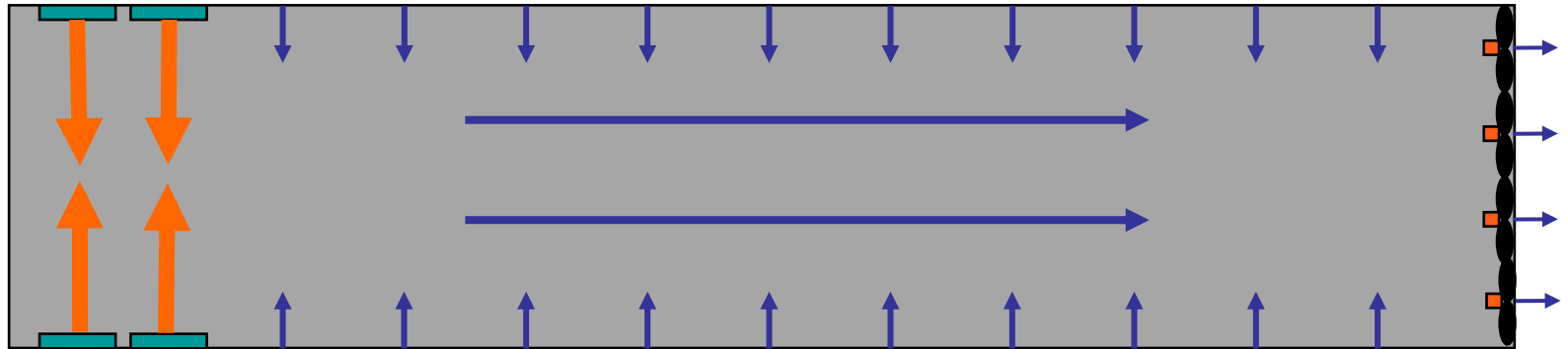
- Small Fans .
- Air inlets.
- Controller and winches.
- Even temperature.
- Less bird migration.
- Flock uniformity.

Pure Tunnel

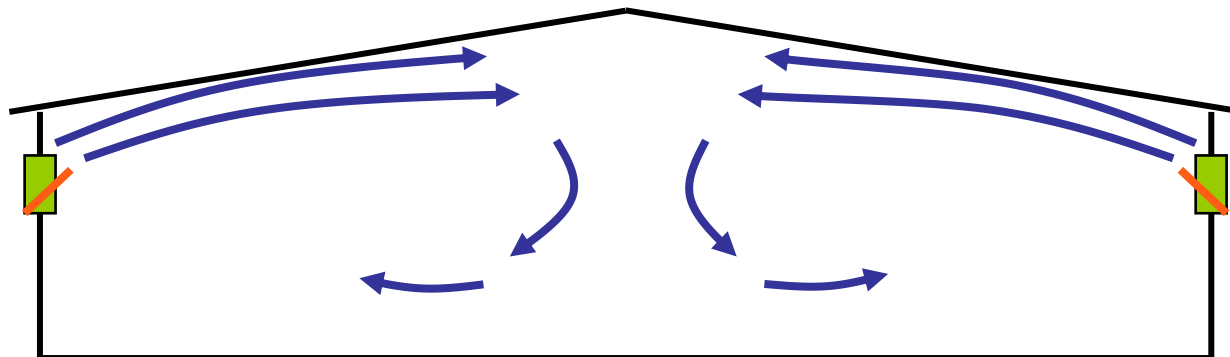
- Large Fan.
- Heat removal by running one tunnel fan.
- House must be reheated.
- Wear and tear of cycling tunnel fans.
- Temperature Differential



Combi-Tunnel House



The minimum amount of air exchange required to **maintain the environment** in the poultry house for **optimum health, well being** and **production efficiency**.





Big Dutchman.

**House 2, Day 1, Combi-Tunnel
House
5:30am**



**House 3, Day 1, Tunnel House
5:30am**



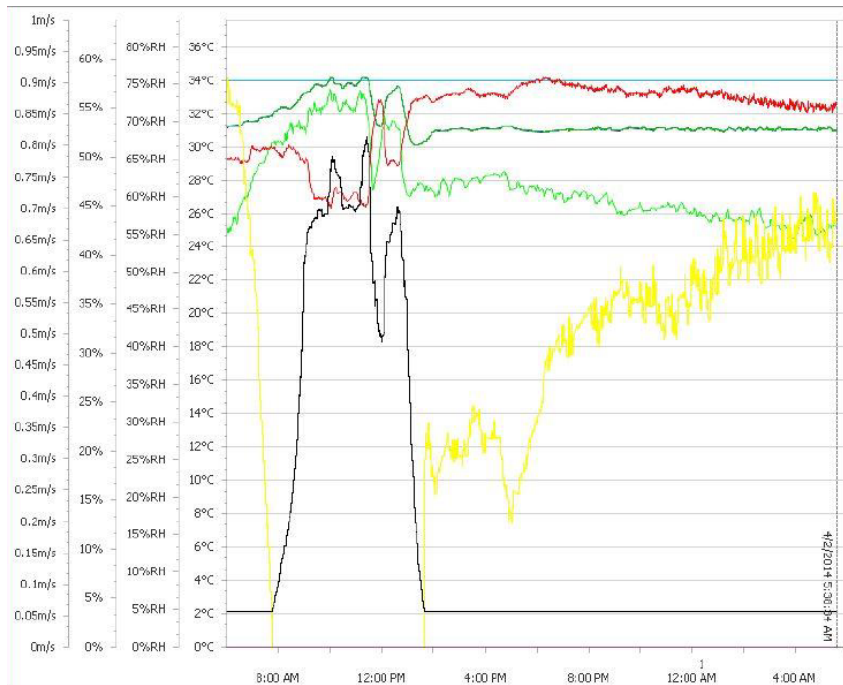


Big Dutchman.

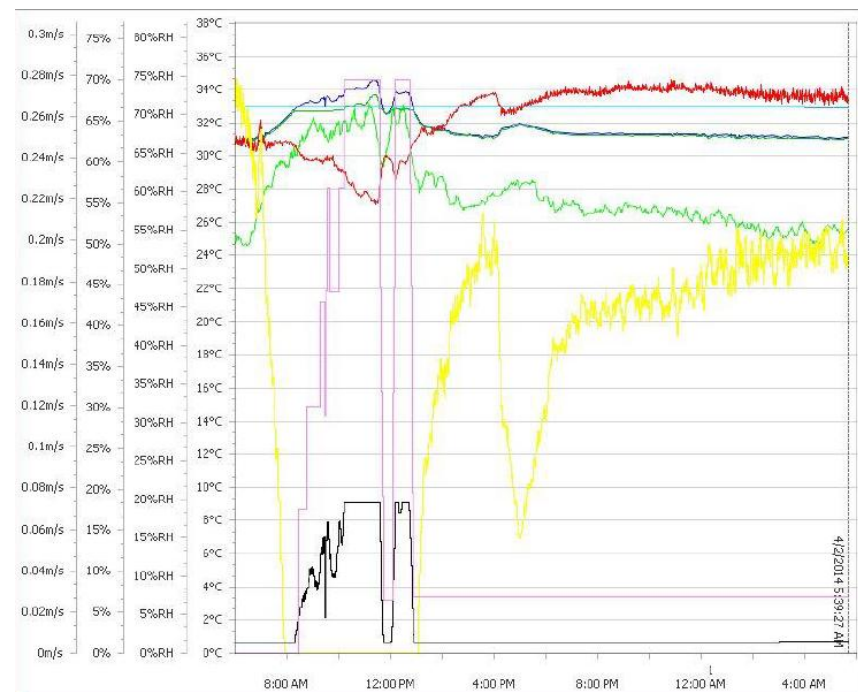
Comparing Gas Consumption

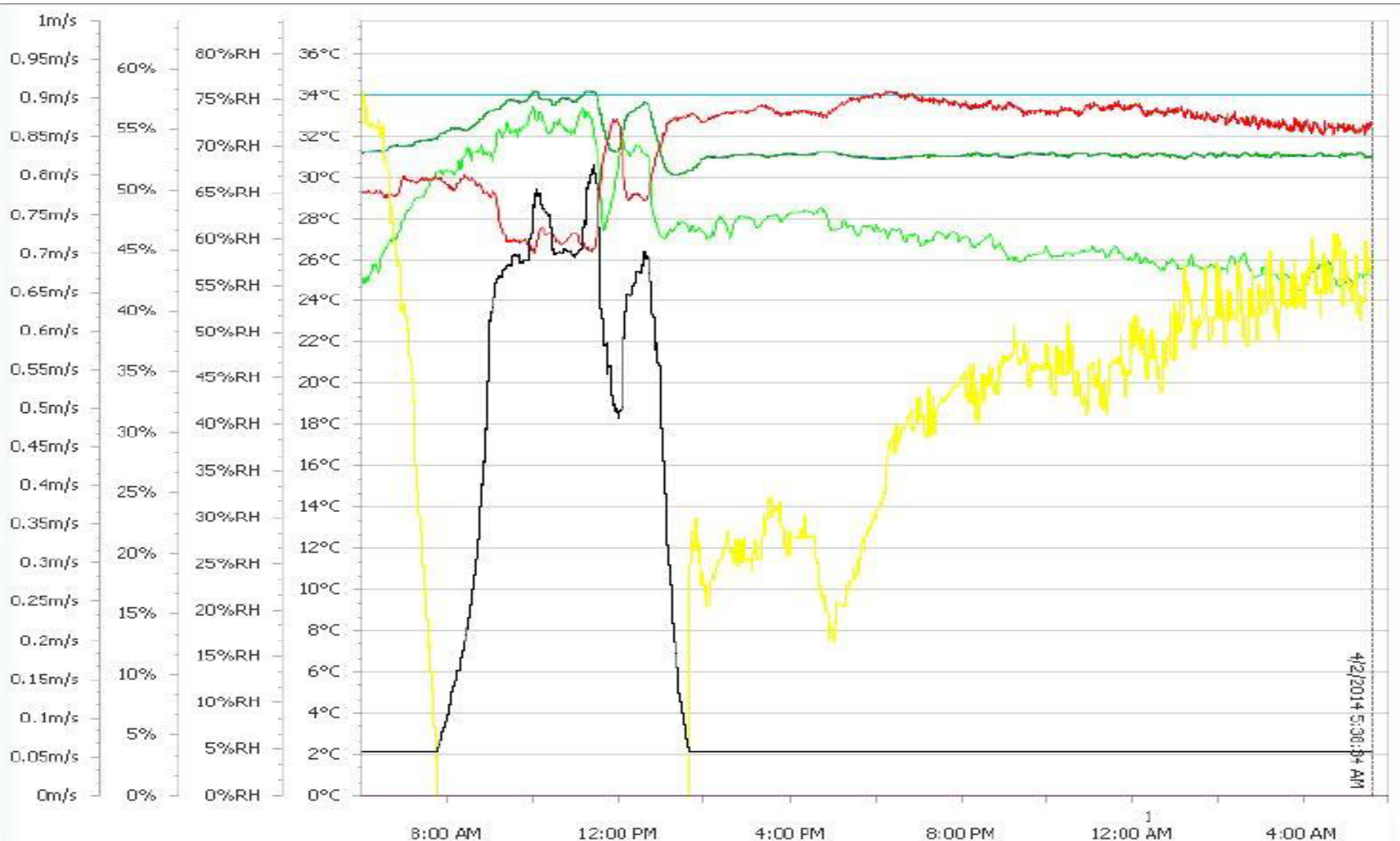
YELLOW

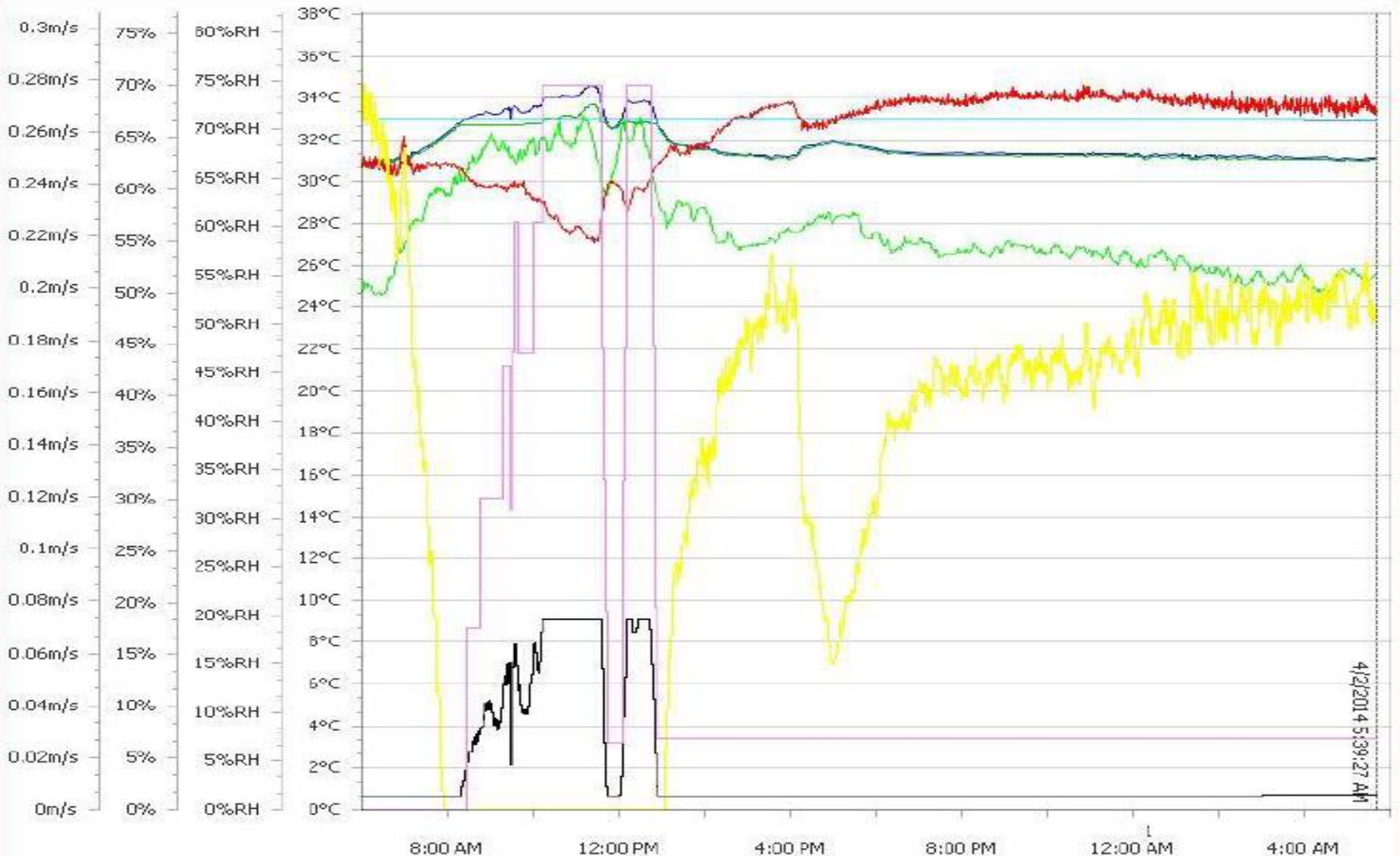
House 2 Day 1 Combi-Tunnel House



House 3 Day 1 Tunnel House







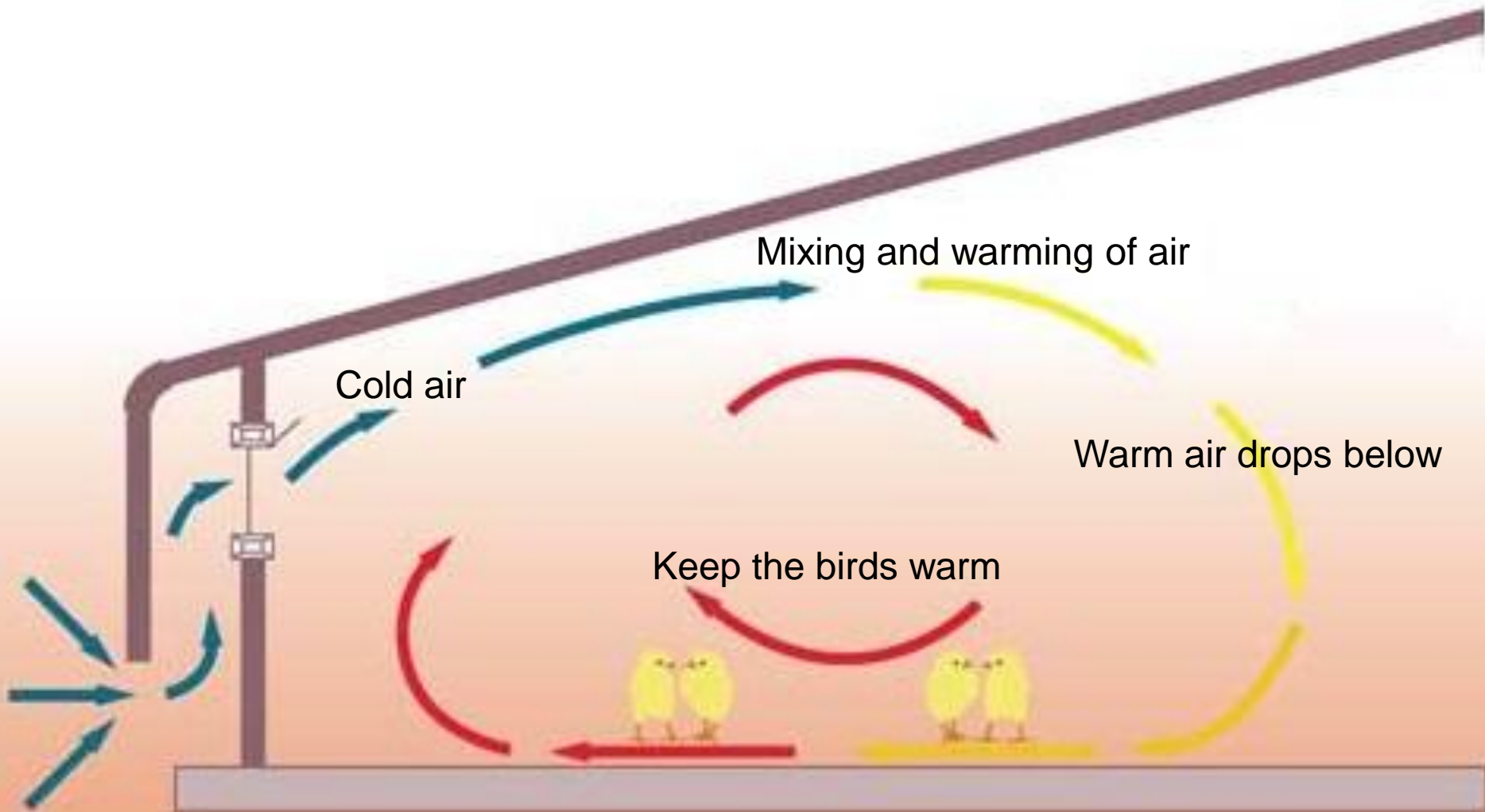
28.09.2015

Pure Tunnel

20



Big Dutchman.



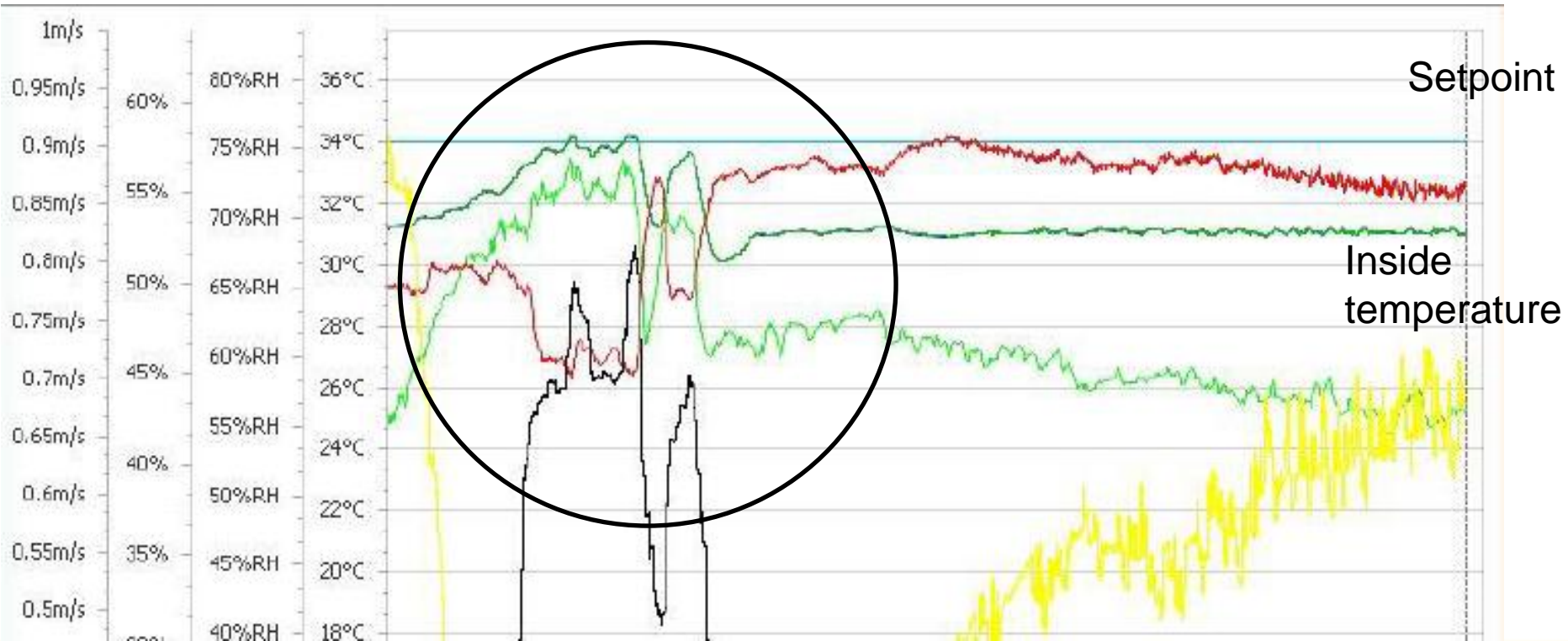


Big Dutchman.

House 2, Day 1, Combi-Tunnel House

No Tunnel, maintained Setpoint in side mode

Light Green- Outside Temperature
Dark Green- Inside Temperature
Red- Humidity
Yellow- Heat Required
Purple- Air Speed Tunnel
Black- Ventilation required



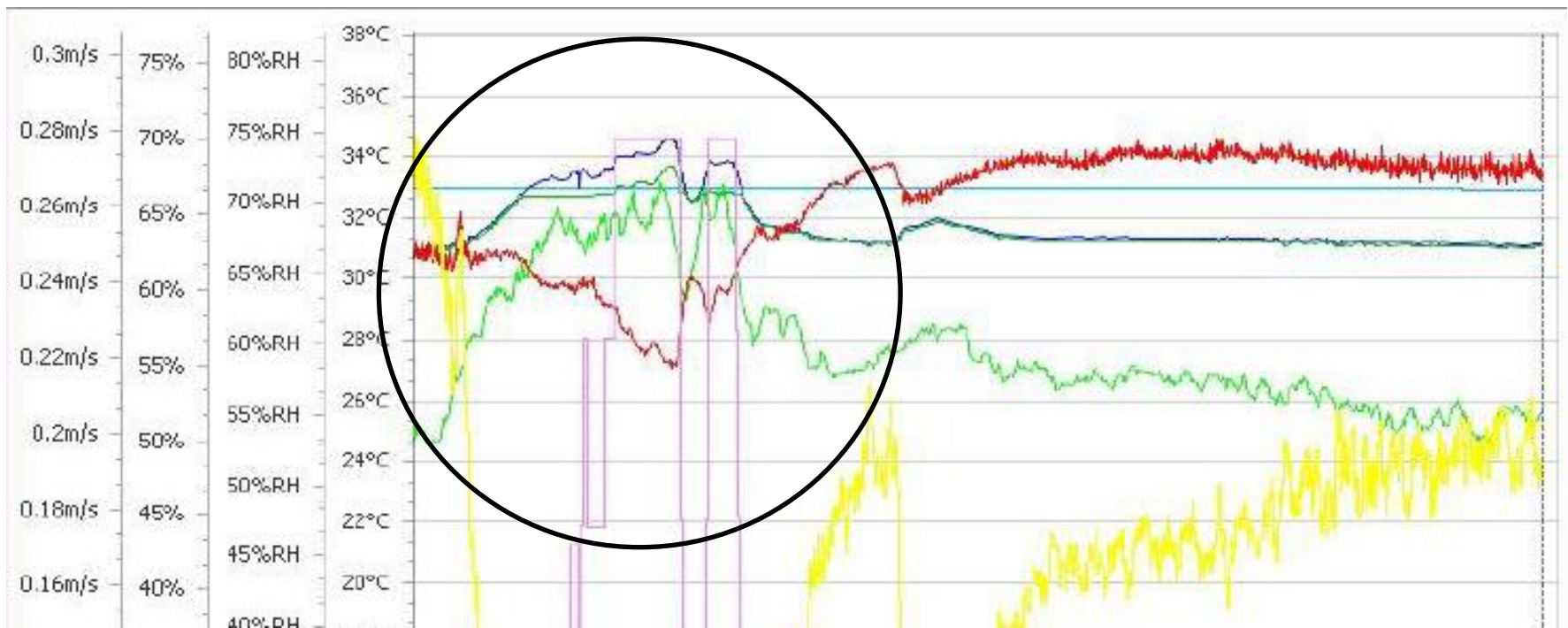


Big Dutchman.

House 3, Day 1, Tunnel House

**Temp above setpoint, increased
air speed to maintain
temperature**

Light Green- Outside Temperature
Dark Green- Inside Temperature
Red- Humidity
Yellow- Heat Required
Purple- Air Speed Tunnel
Black- Ventilation required





Big Dutchman.

**House 2, Day 2, Combi-Tunnel
House
5:30am**

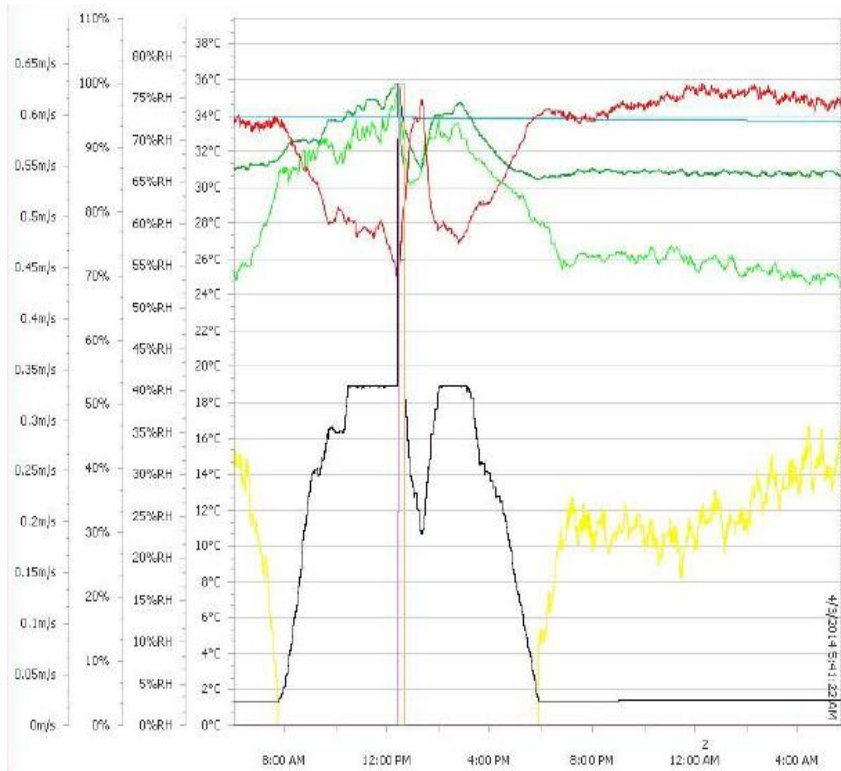


**House 3, Day 2, Tunnel House
5:30am**

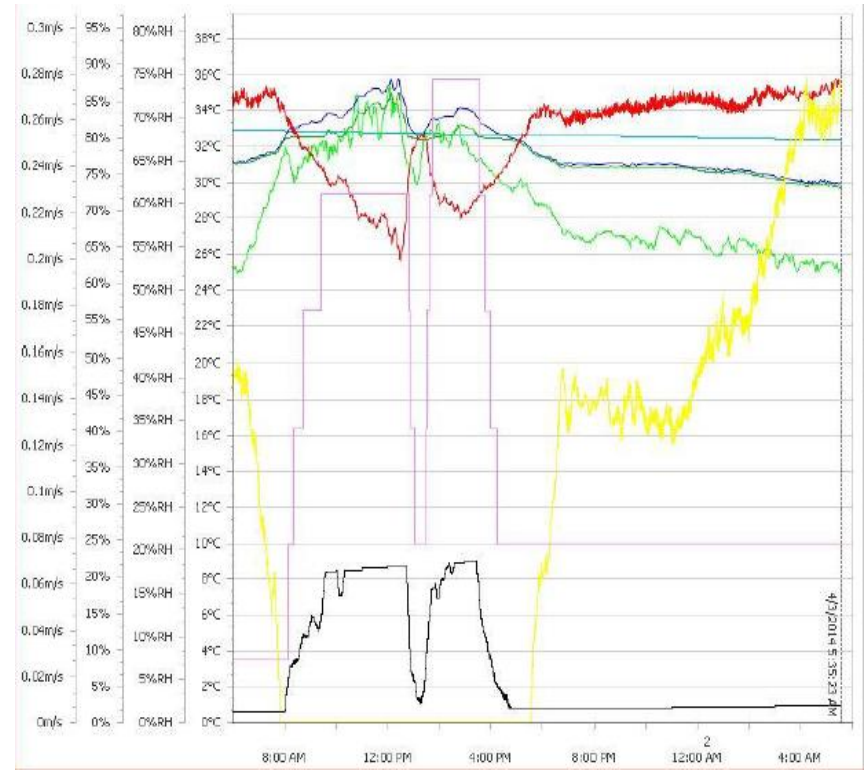




House 2, Day 2, Combi-Tunnel



House 3, Day 2, Tunnel House





Big Dutchman.

**House 2, Day 5, Combi-Tunnel
House
5:30am**

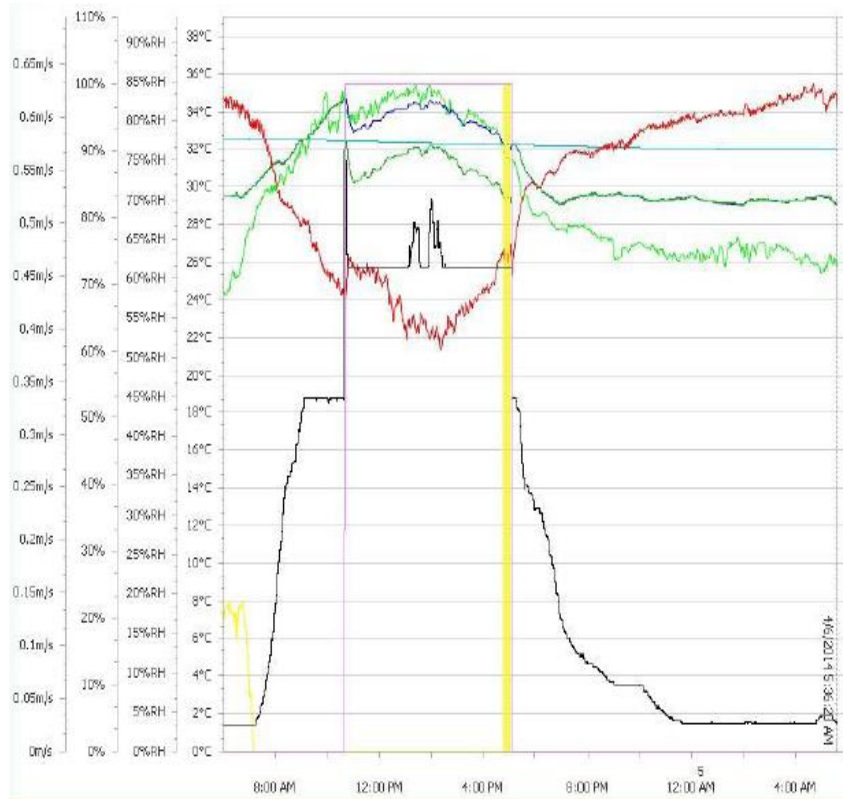


**House 3, Day 5, Tunnel House
5:30am**

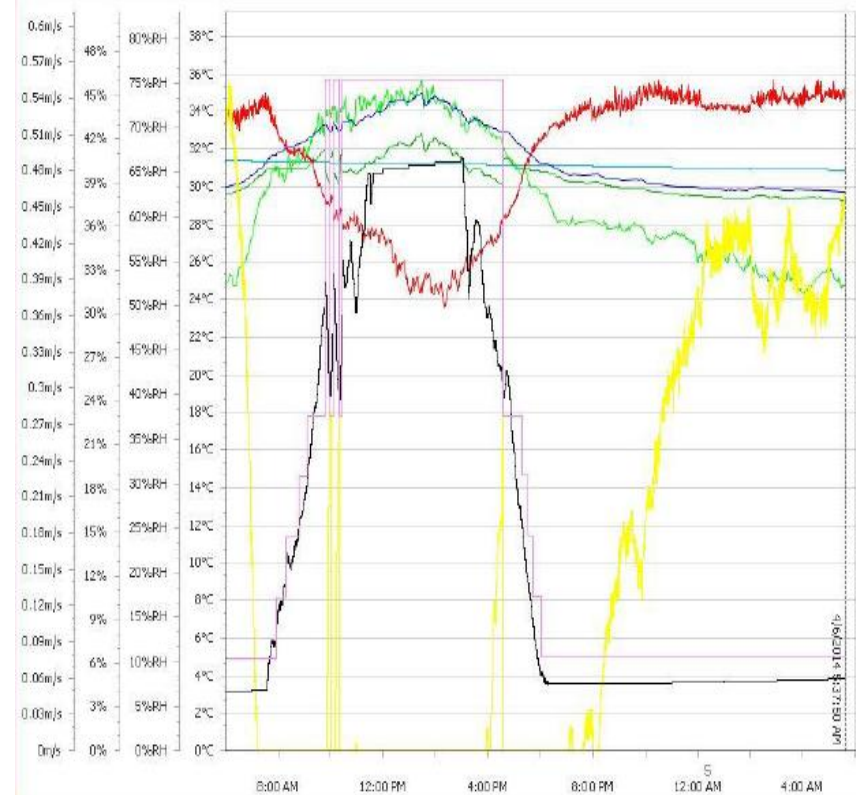




House 2, Day 5, Combi-Tunnel House

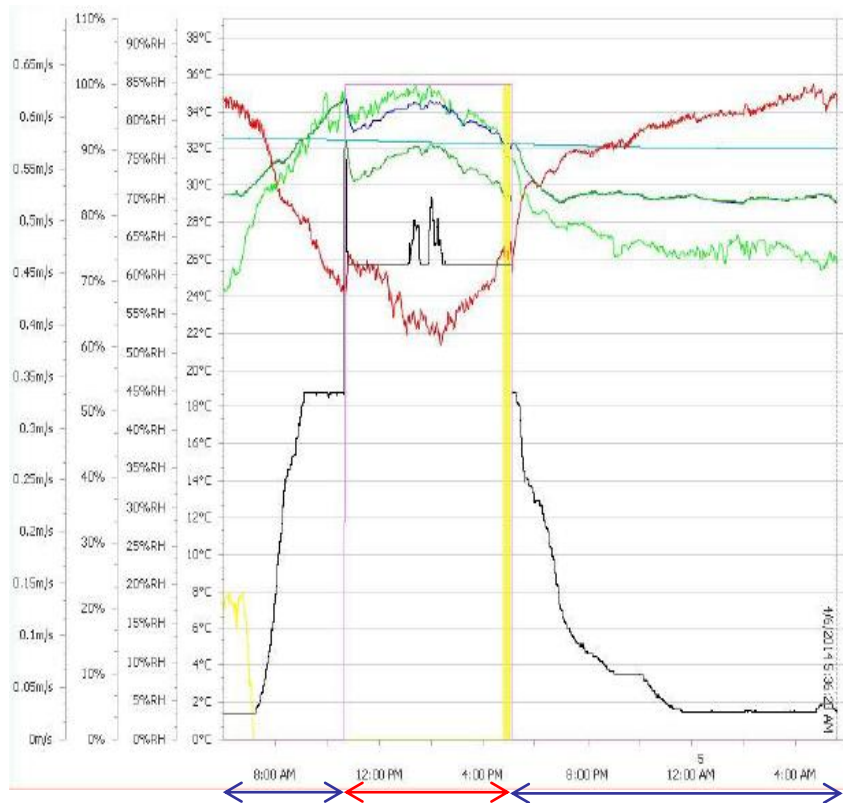


House 3, Day 5, Tunnel House



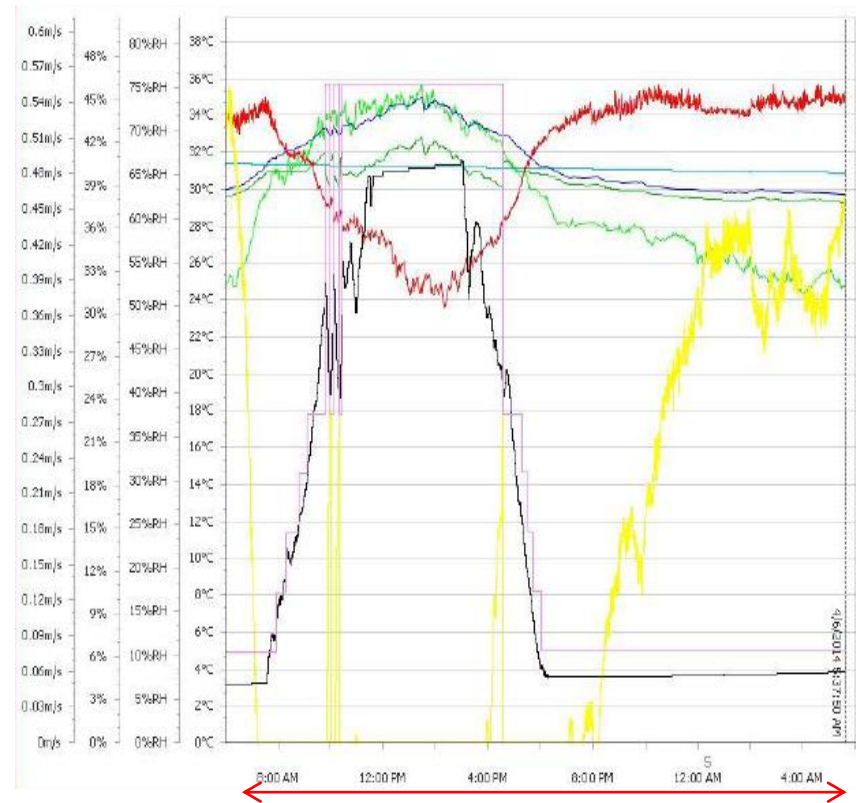


House 2, Day 5, Combi-Tunnel House



Tunnel

House 3, Day 5, Tunnel House



Tunnel



Big Dutchman.

**House 2, Day 6, Combi-Tunnel
House
5:30am**



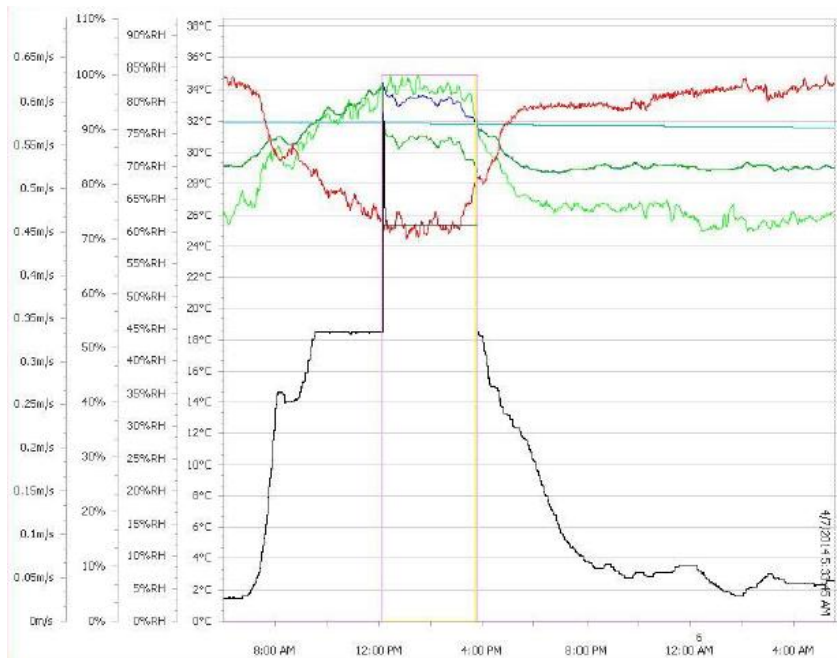
**House 3, Day 6, Tunnel House
5:30am**



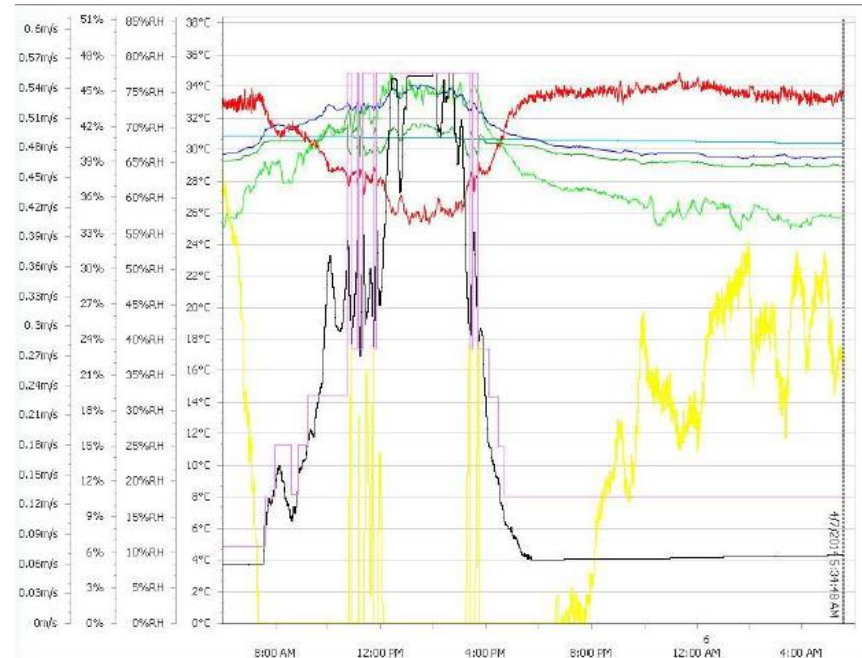


Big Dutchman.

House 2, Day 6, Combi-Tunnel House Little Gas Use



House 3, Day 6, Tunnel House High Gas Use





Big Dutchman.

**House 2, Day 7, Combi-Tunnel
House
5:30am**



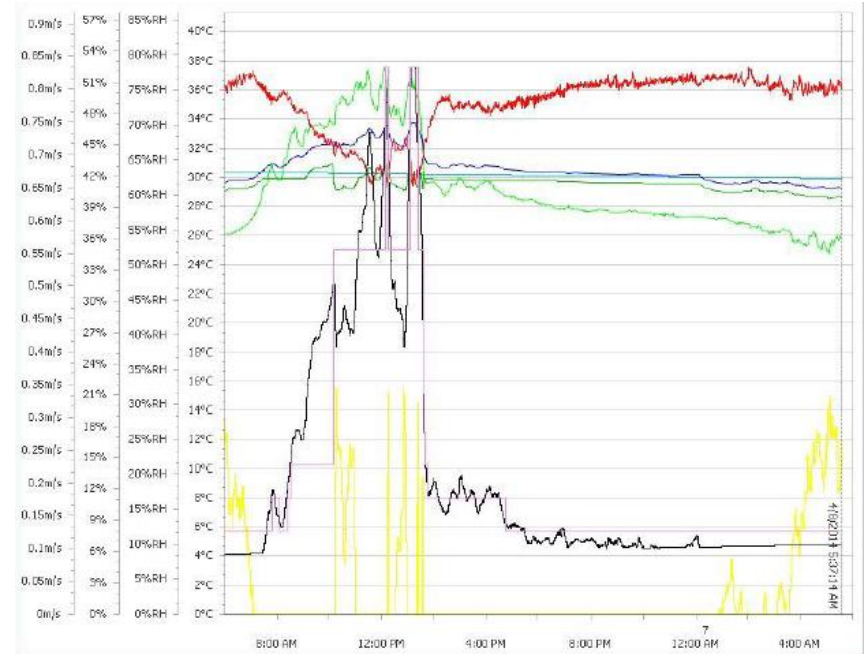
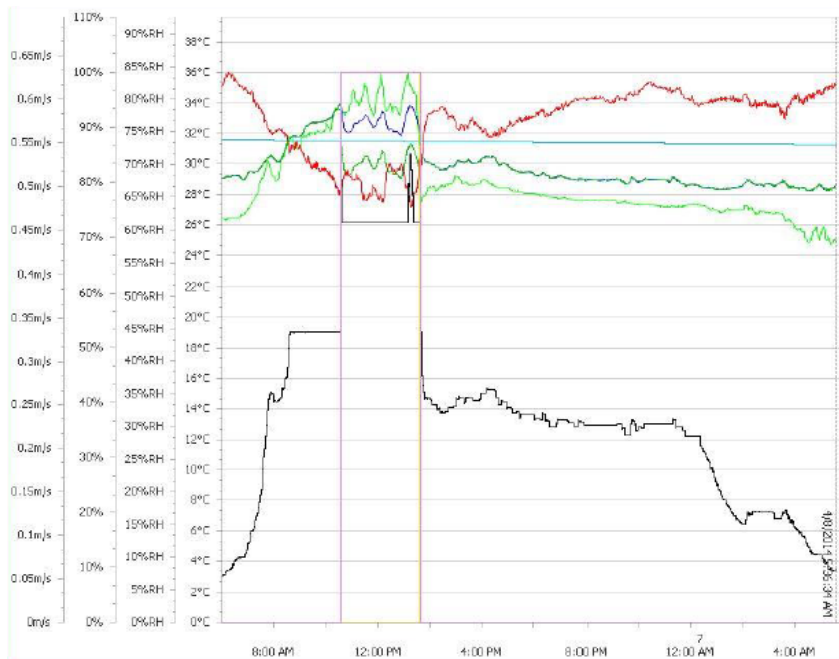
**House 3, Day 7, Tunnel House
5:30am**





House 2, Day 7, Combi-Tunnel House

House 3, Day 7, Tunnel House





Big Dutchman.

**House 2, Day 14, Combi-Tunnel
House
5:30am**



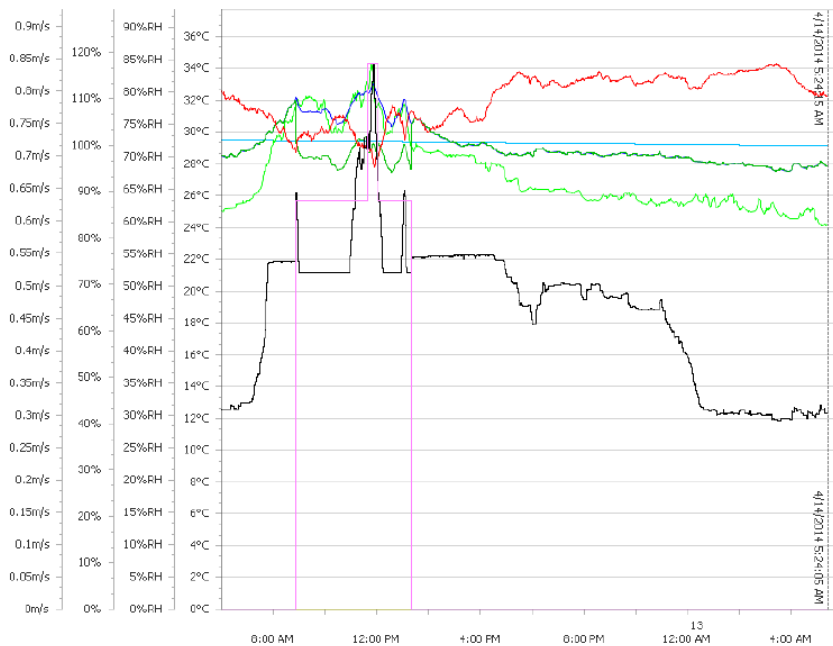
**House 3, Day 14, Tunnel House
5:30am**



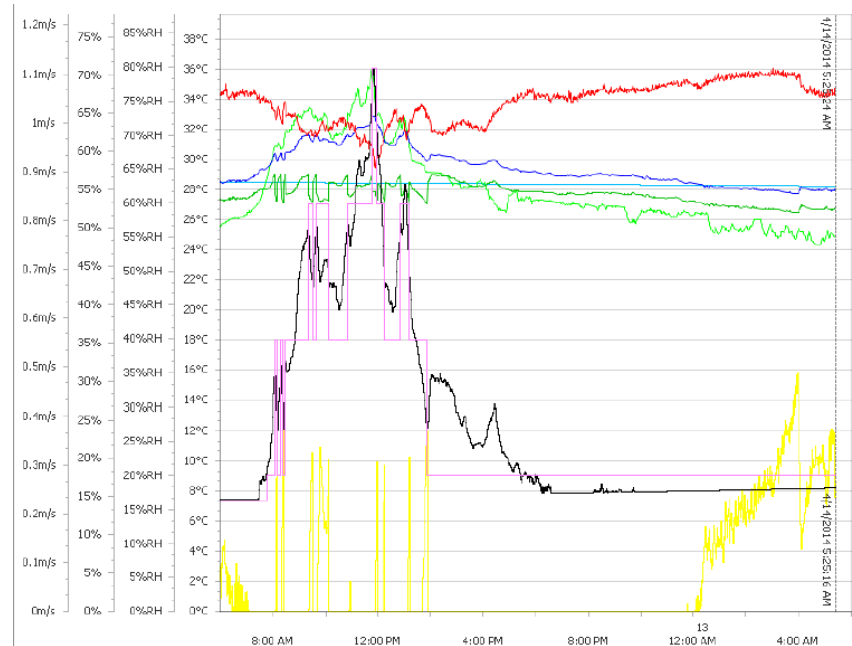


Big Dutchman.

House 2, Day 14, Combi-Tunnel House No Gas used



House 3, Day 14, Tunnel House Gas still required





Big Dutchman.

**House 2, Day 18, Combi-Tunnel
House
5:30am**



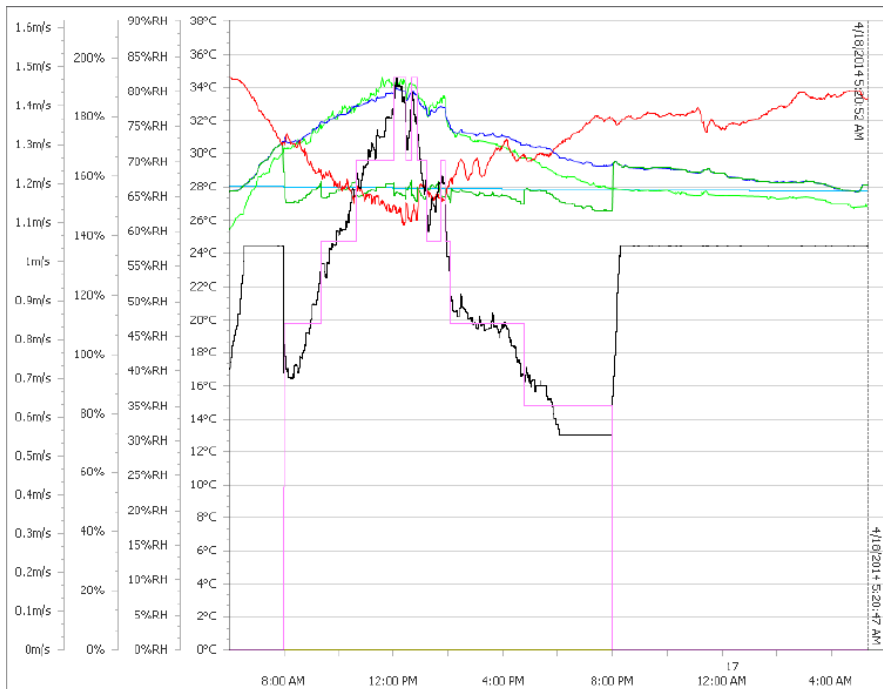
**House 3, Day 18, Tunnel House
5:30am**



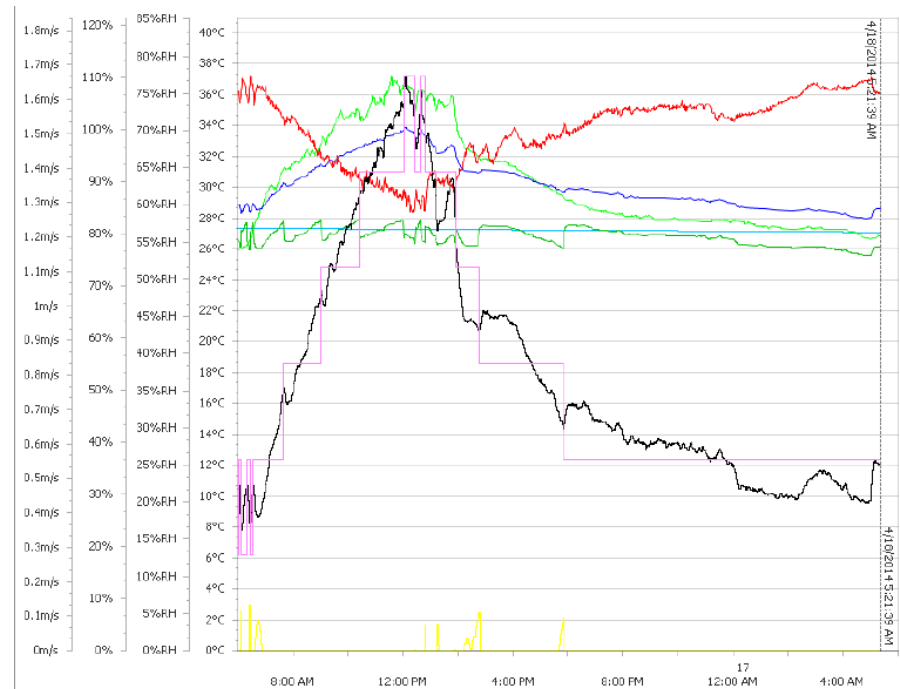


Big Dutchman.

House 2, Day 18, Combi-Tunnel House No Gas used



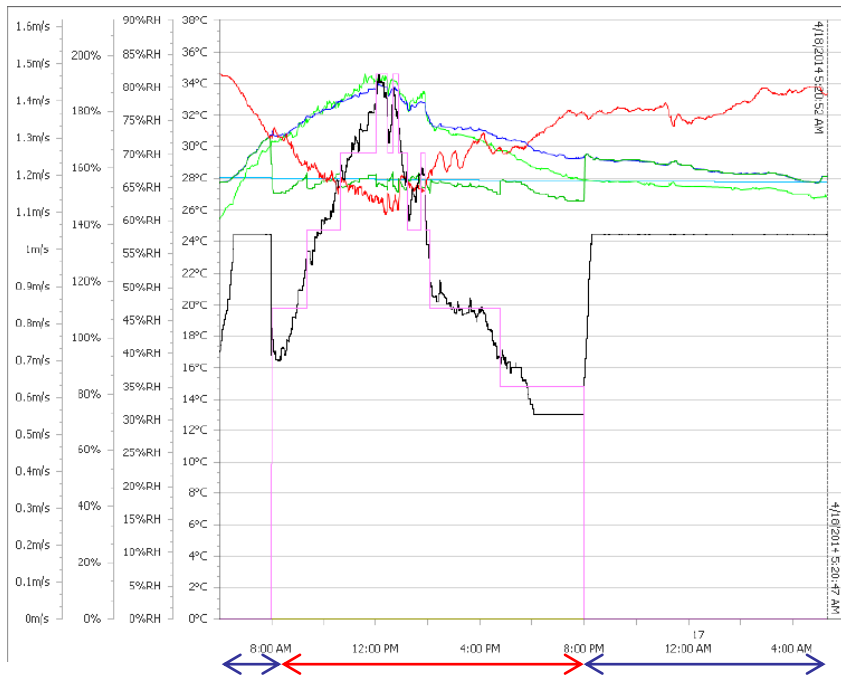
House 3, Day 18, Tunnel House Still required some Gas



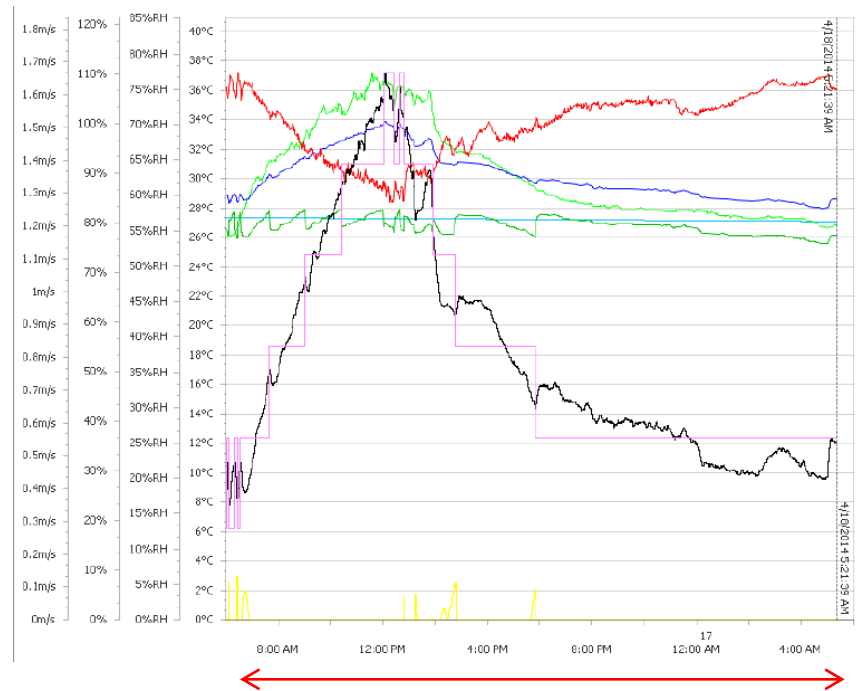


Big Dutchman.

House 2, Day 18, Combi-Tunnel House No Gas used



House 3, Day 18, Tunnel House Still required some Gas





Big Dutchman.

**House 2, Day 24, Combi-Tunnel
House
5:30am**

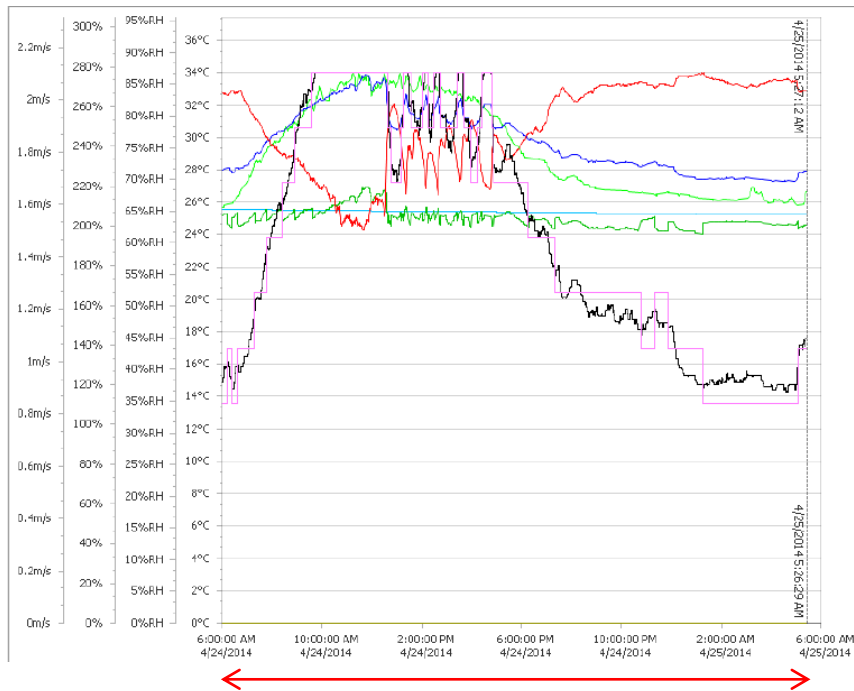


**House 3, Day 24, Tunnel House
5:30am**



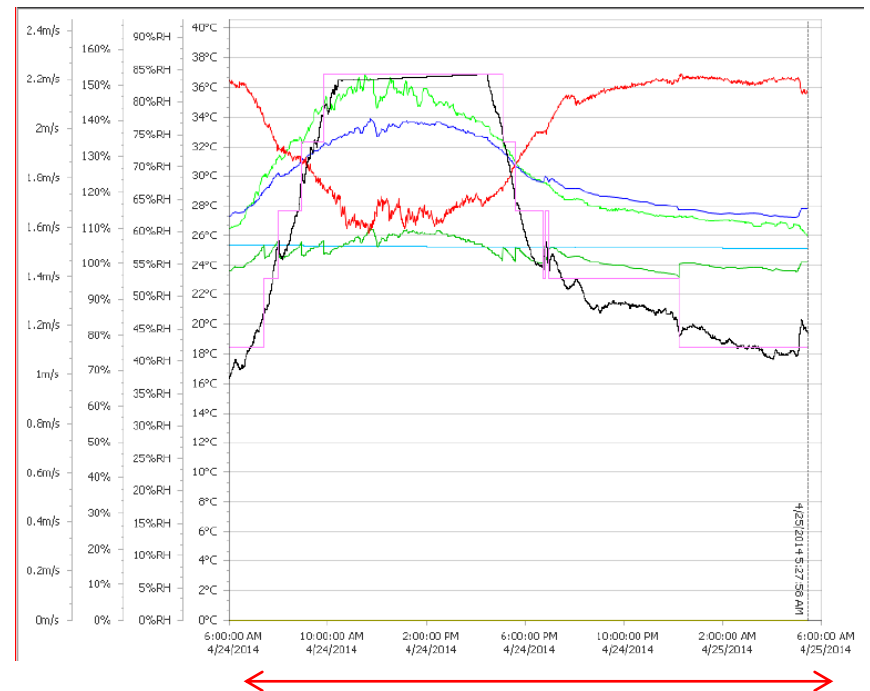


House 2, Day 24, Combi-Tunnel House



Tunnel

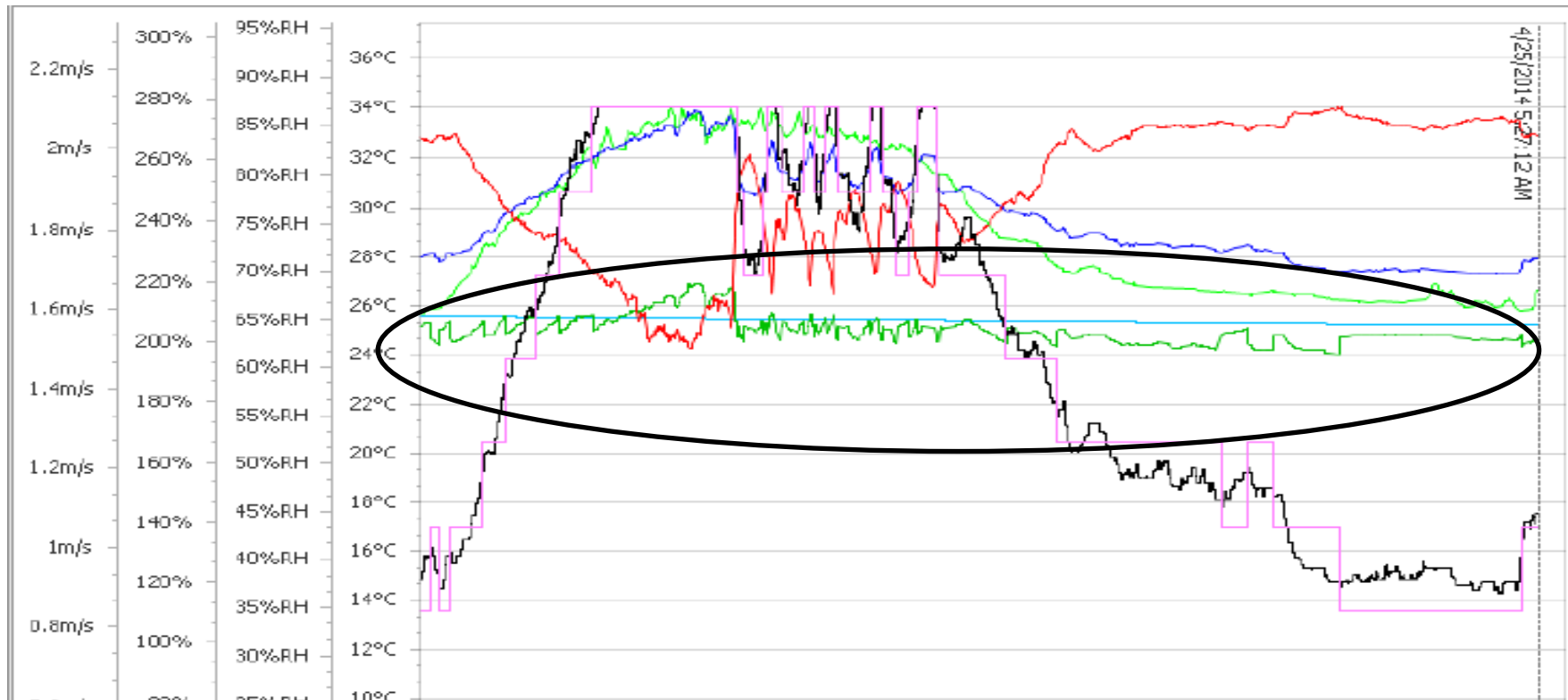
House 3, Day 24, Tunnel House



Tunnel

House 2, Day 24, Combi-Tunnel House

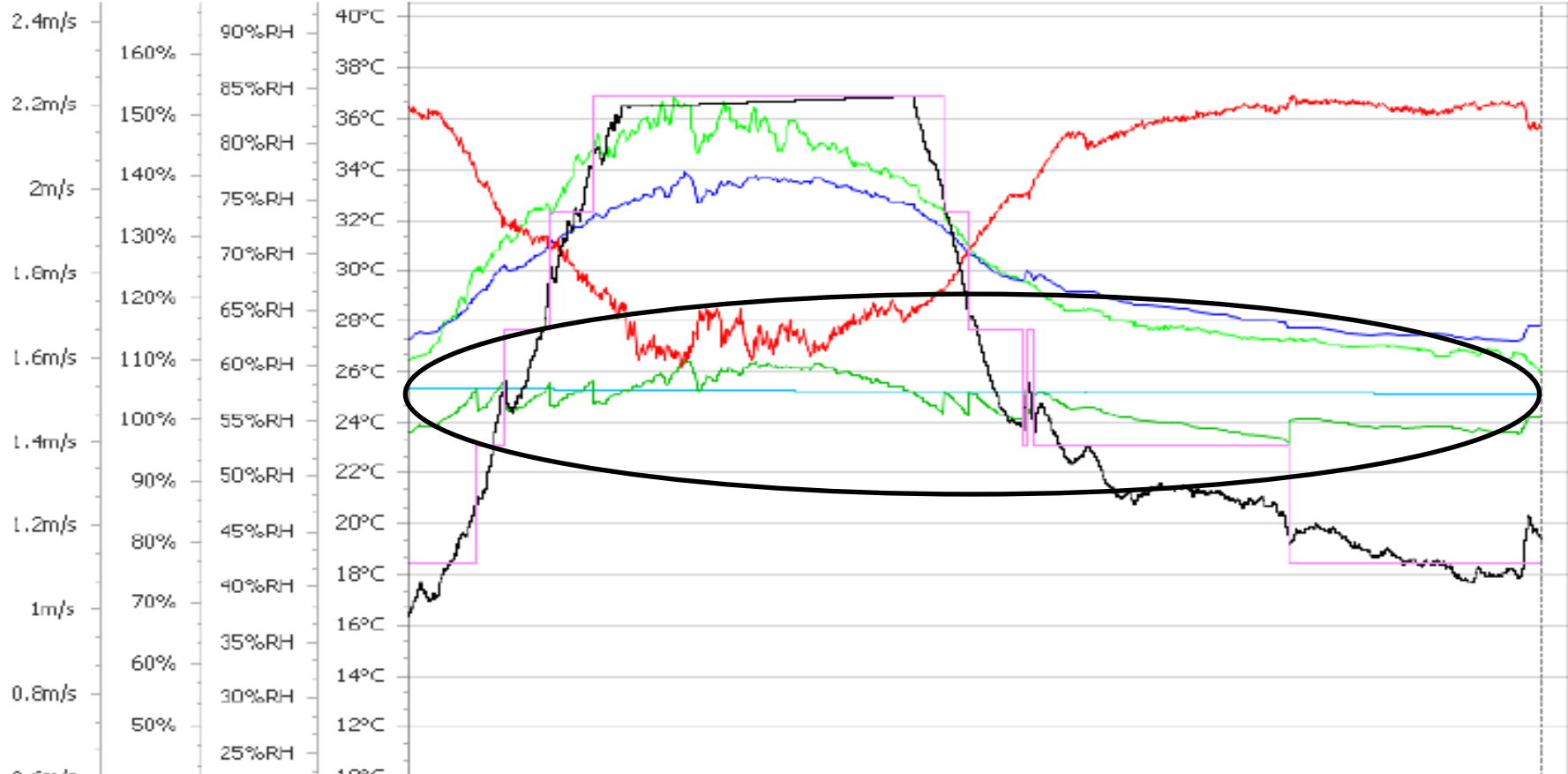
Maintained Setpoint by +/- 1.0°C





House 3, Day 24, Tunnel House

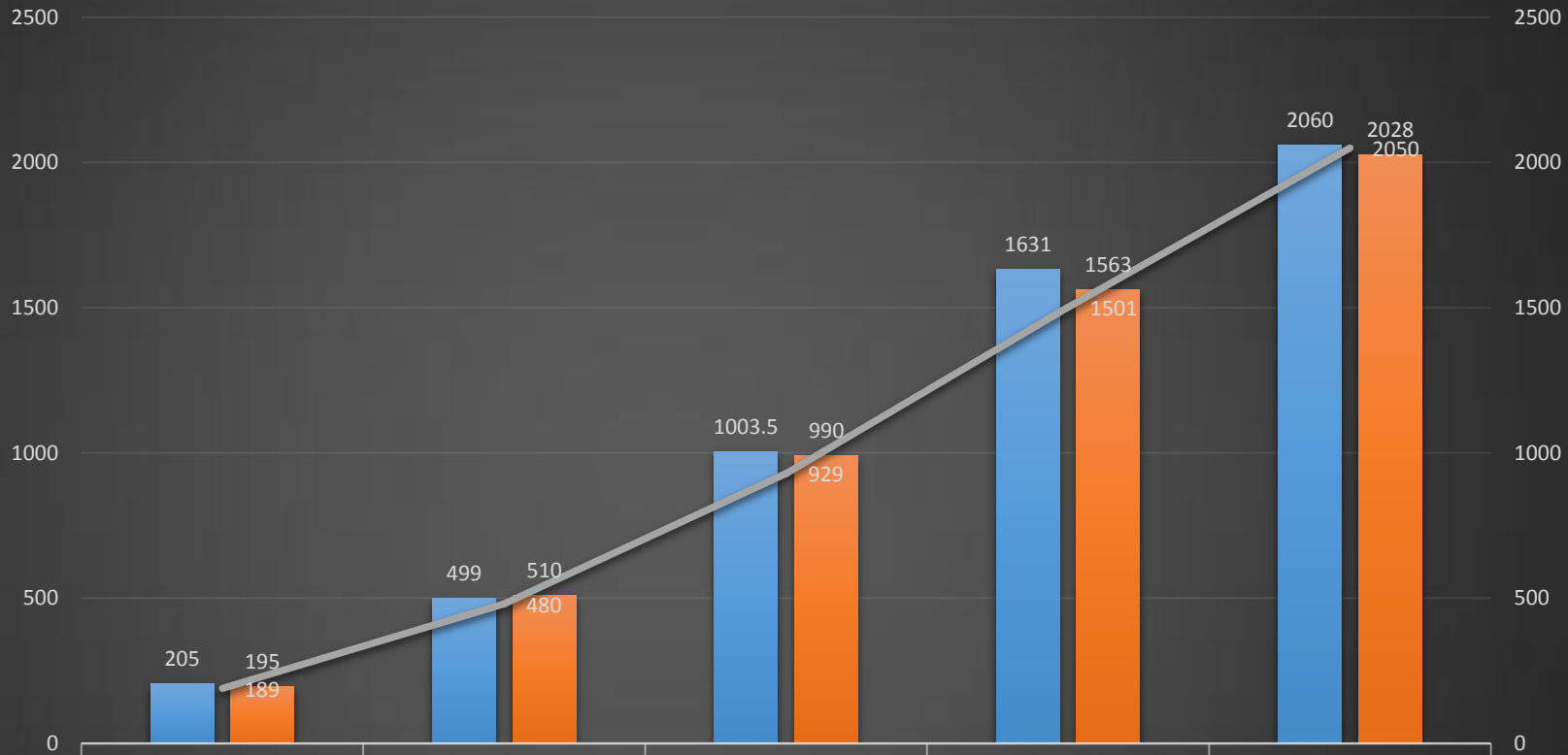
Maintained Setpoint by $\pm 2.0^{\circ}\text{C}$





Big Dutchman.

Weekly bird weigh-ins



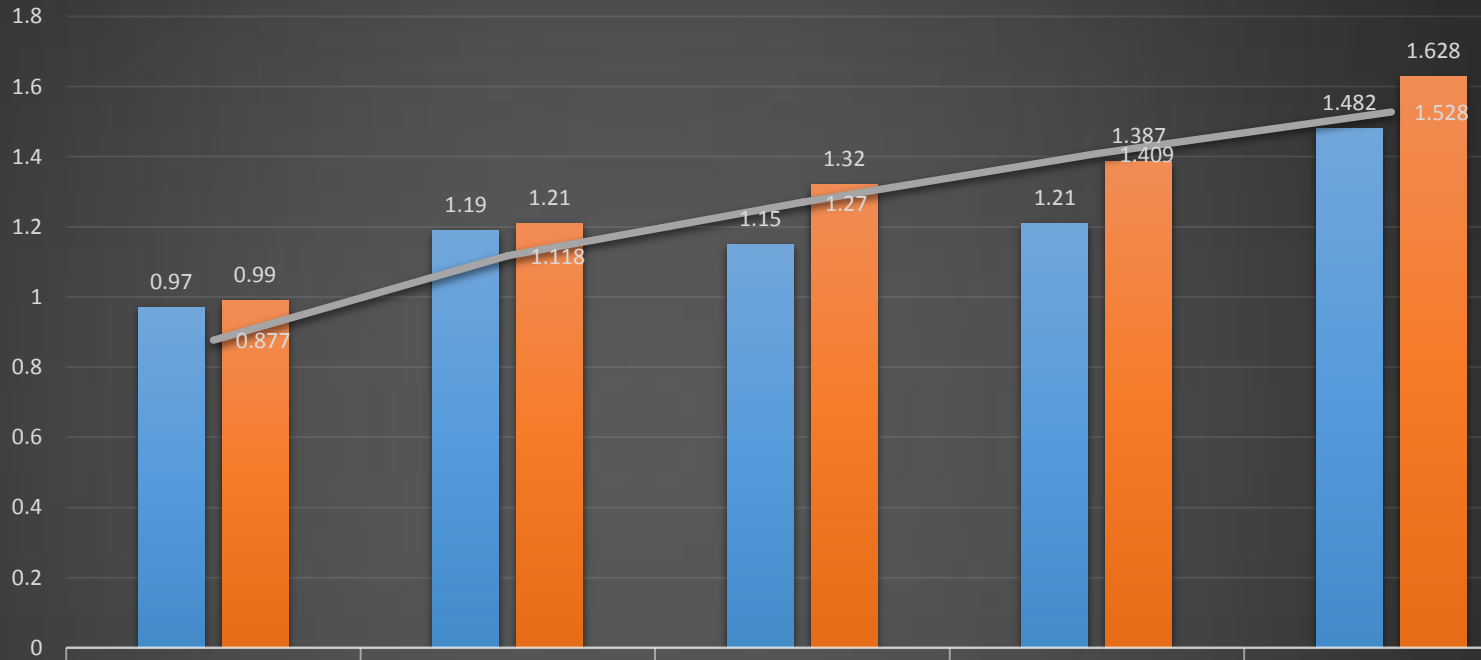
	7	14	21	28	34
Combi Tunnel (g)	205	499	1003.5	1631	2060
Pure tunnel (g)	195	510	990	1563	2028
Ross 308 Reference (g)	189	480	929	1501	2050

Combi Tunnel (g) Pure tunnel (g) Ross 308 Reference (g)



Big Dutchman.

FCR Recordings



	7	14	21	28	34
Combi Tunnel (FCR)	0.97	1.19	1.15	1.21	1.482
Pure tunnel (FCR)	0.99	1.21	1.32	1.387	1.628
Ross 308 Reference (FCR)	0.877	1.118	1.27	1.409	1.528

Combi Tunnel (FCR) Pure tunnel (FCR) Ross 308 Reference (FCR)



Big Dutchman.

PT BD Agriculture Indonesia
Pergudangan Prima Center 2 Blok E No.9
JI Pool PPD Pesing Poglar RT 01/02
Kedaung Kali Angke, Cengkareng
Jakarta 11710, Indonesia

Thank You

