"INNOVATIONS FOR HIGHER PRODUCTIVITY"

Most innovations involves doing things we do every day a little bit better rather than creating something completely new and different

TEAM REVUREVU

Future Farms Pte Limited t/a Rooster Poultry

NCQ COMPETITION 2022

TEAM MEMBERS

Joel Evangelista
Head of Livestock
Team Facilitator

Umeer Ali
Rearing Manager
Team Leader

Semisi Koroivulavou
Asst. Rearing Manager
Team Manager

Reijeli Vueti
Senior Quality Assurance officer
Team Member

Neelam Prasad
Quality Assurance officer
Team Member

Waisea Deruru
Farm Assistant
Team member

QC TOOLS/ TECHNIQUES

TOOLS

- Brainstorming
- Gantt Chart
- Decision Matrix
- Problem Ranking
- Cause & Effect Diagram
- Histogram
- Flow charts

TECHNIQUES

- PDCA Approach
- Cost & Benefit Analysis

- Identifying / defining areas of improvement
- Formulating decision matrix
- Project selection
- Project target setting
- Effectively Using Tools and techniques
- PDCA approach of identifying and verifying probable causes.

- Sound practical solutions were implemented and executed

- Procedures were documented
- Review of the project for future improvements was conducted
- Team's next project was stated with reasons

- Checked if there were variation in our tangible results
- Result Evaluation and Comparison

Opportunity

1. PLAN STAGE

- Identifying / defining areas of improvement
- Formulating decision matrix
- Project selection
- Project target setting
- Effectively using tools and techniques
- PDCA approach was used in identifying and verifying probable causes.

Opportunity

BRAIN STORMING: Problem Identification

Henry's 5 Wives concept

WHO

WHEN

HoW

WHY

WHAT

WHERE

Opportunity

PROBLEM LOG - AREAS OF IMPROVEMENT

1. Low Egg production - Vimlesh farm
2. Floor feeding system
3. High Cockerel Mortality due to Cocci Outbreak
4. Rats damaging feed bags and drinker hose

Rearing Farm KPI's

1. Mortality
2. Uniformity
3. C.V
4. Bodyweight

We listed our problems in relation to Rearing department KPI's which is linked to Organization Vision

DECISION MATRIX

PROJECT IDEAS	CRITERIA WEIGHING	SCORES				
		COST OF IMPLEMENTATION	SKILLS AVAILABLE TO SOLVE PROBLEM	EFFECTIVENESS OF SOLUTION	BENEFIT OF OUTCOME	TOTAL
		1	2	3	4	
1.	Floor feeding system	(5) 5	(4) 8	(5) 15	(3) 12	3 40
2.	High cockerel Mortality due to Cocci Outbreak	(2) 2	(4) 8	(4) 12	(5) 20	2 42
3.	Rat Infestation	(4) 4	(3) 6	(3) 9	(4) 16	4 35
4.	Low Egg production- Vimlesh farm	(3) 3	(5) 10	(5) 15	(5) 20	1 48

Total score =Problem rating against Criteria (1-5) x weight of criteria

5- very high , 4 – High, 3 – Moderate, 2- low, 1 –very low

PROBLEM RANKING

Low Egg production- Vimlesh farm

High Cockerel Mortality due to Coccidiosis Outbreak

Floor feeding system

Rat Infestation – Damaging Feed bags and drinker hose

IMPROVE EGG PRODUCTION - VIMLESH FARM

PROJECT GOALS

- To improve HE/HH by 6 Eggs for year 2021 vs year 2020
- Achieve 85% Flock Uniformity (Department KPI)
- Achieve Body Weight as per breed Standard on Weekly Basis ((Department KPI)

Pre-requisite requirement for good egg production

What is HE?

What is Uniformity?

What is Body Weight?

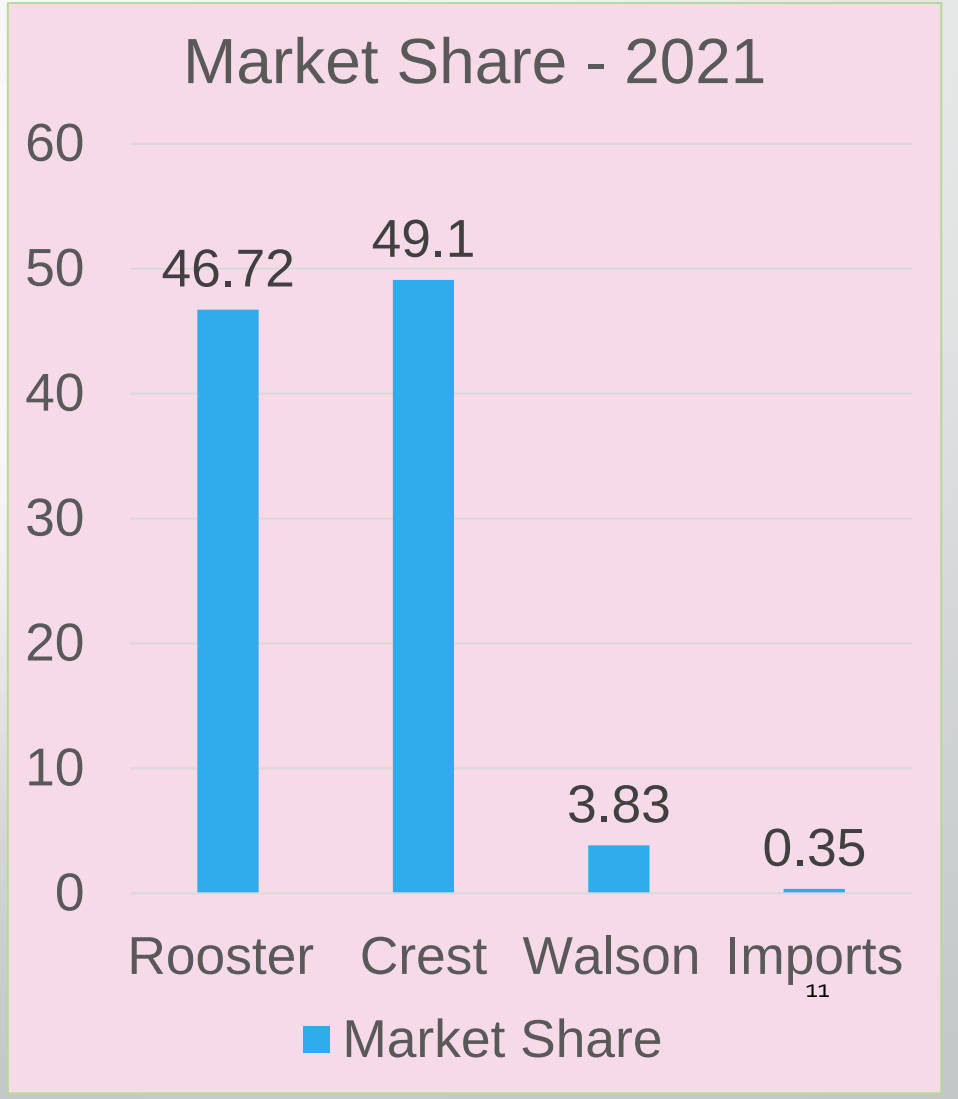
PROJECT JOURNEY – GANTT CHART

	REVUREVU Journey		
PDCA	Improve egg production – Vimlesh farm		
	Future Farms Limited t/a Rooster Poultry		
	2021		
		Start	End
P	• Identifying / defining areas of improvement • Formulating decision matrix • Project selection • Project target setting • Effectively using tools and techniques • PDCA approach of identifying and verifying probable causes	Feb – 2020	Feb – 2020
D	• Sound practical solutions were implemented and executed	Mar – 2020	Jul – 2020
C	• Result Evaluation and Comparison	Aug – 2020	Aug– 2021
A	• Review of the project for future improvements was conducted • Team's next project was stated with reasons	Sept – 2021	To date

Customer Definition - Impact on Productivity

Industry Facts & Figures

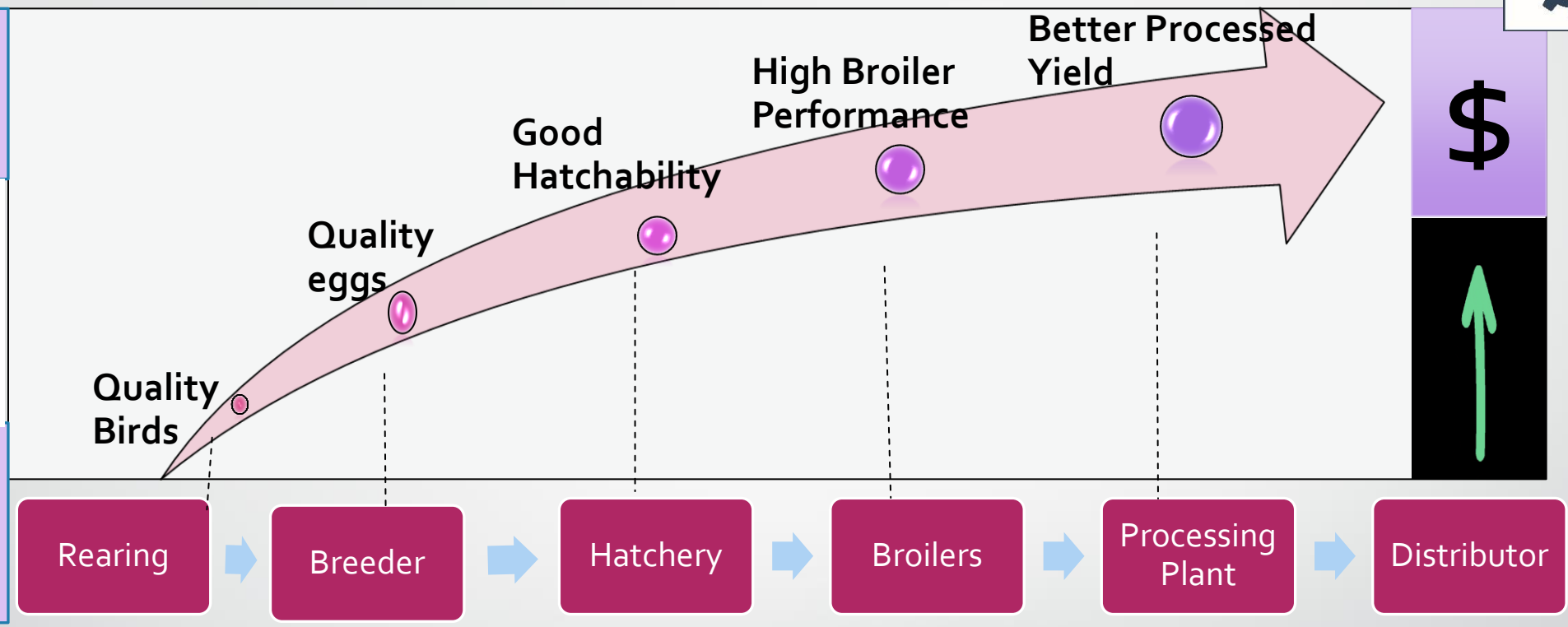
- In 2019 Poultry meat production in Fiji was 34,715 tonnes and has a steady annual growth of 11.35%.
- In 2020 38,655 tonnes of poultry meat was produced with an annual growth projection of 11.35% for 2021.
- In order to maintain market share domestically, a minimum growth of 11.35% (annual industry growth) is mandatory by the company.
- ***A higher growth percentage equates to a gain in market share.***



Customer Definition - Impact on Productivity

Rearing Being the source of the Business

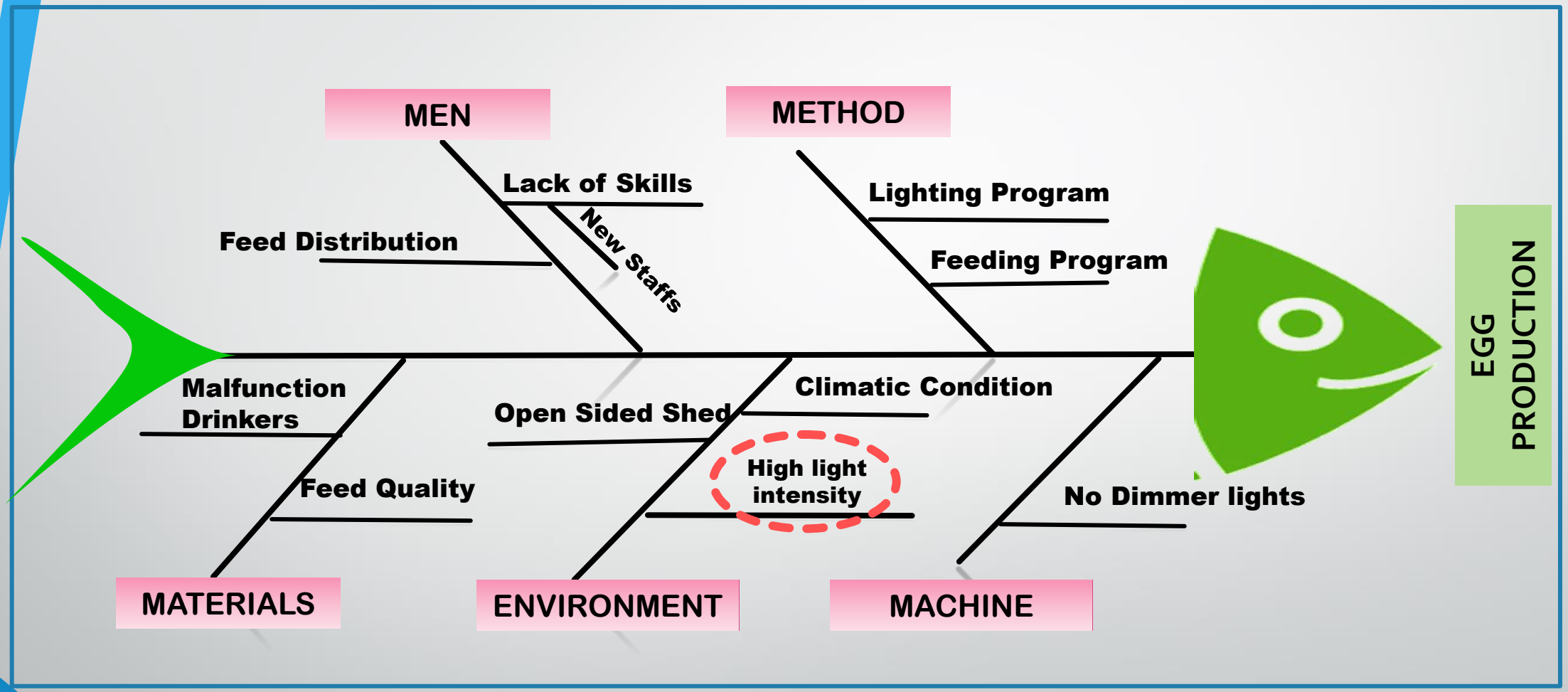
It's the foundation of Continual Improvements



Impact of an improvement of 6HE/HH in the business

	Improvement from previous year	Number Housed	HH	Hatchability (avg 80%)	Boiler Morality (5%)	ALW (2KG)	Dressed weight	Sold out	cost	Profit
2021 vs 2020	**6.00**	6000	36000	28800	27360	54720	42682	$ 307,307.52	$209,139.84	$ **98,167.68**

CAUSE AND EFFECT –Identifying Probable Causes



CAUSES

EFFECT

CAUSE AND SOLUTION ANALYSIS

ANALYSIS TYPE	CAUSES	SOLUTION
MAN	• Lack of skills • Feed distribution	• Train staffs for better results • Install track feeding system at rearing farm.
METHOD	• Lighting Program • Feeding Program	• Follow breed specification
MATERIAL	• Malfunction drinkers • Feed Quality	• Back up for spare parts • Feed Analysis
ENVIRONMENT	Climatic Condition • High light intensity	• Convert open sided rearing shed to Dark-out shed
MACHINE	• No Dimmer light • Track feeding system	• Install dimmer lights • Purchase track feeding system

Project Definition

SOLUTION MATRIX

PROJ-ECT IDEAS	SOLUTION	SCORES				
		COST OF IMPLEMENTATION	SKILLS AVAILABLE TO SOLVE PROBLEM	EFFECTIVENESS OF SOLUTION	BENEFIT OF OUTCOME	TOTAL
		1	2	3	4	
1.	Staff Training	(3) 3	(4) 8	(3) 9	(3) 12	5 32
2.	Follow breed specifications (Light and feed)	(1) 1	(4) 8	(3) 9	(4) 16	4 34
3.	Feed analysis	(3) 4	(3) 6	(3) 9	(4) 16	3 **35**
4.	Dark-out shed	(5) 5	(4) 8	(5) 15	(5) 20	1 **48**
5.	Installation of silo cloths and raising curtains	(3) 3	(4) 8	(4) 12	(5) 20	2 43

Total score =Solution rating against Criteria (1-5) x weight of criteria

5- very high , 4 – High, 3 – Moderate, 2- low, 1 –very low

Solution Ranking

1. Dark-out sheds
2. Installation of shade cloth and raising up of side curtains
3. Feed analysis
4. Follow breed specifications (Light and feed)
5. Staff Training

- Due to high cost of implementation and material not available locally to convert open sided sheds to dark out the team did not set back.

- Came up with ***an idea*** to install shaded cloth along the side of the shed and raise side curtains to limit the amount of light entering the shed.

CURRENT PRACTICE

Open sided rearing sheds → Birds reared on natural day length → exposed to high light intensity → Delays Egg production

2. DO STAGE

- Execution of project
- Data collection for analysis

EXECUTION OF PROJECT

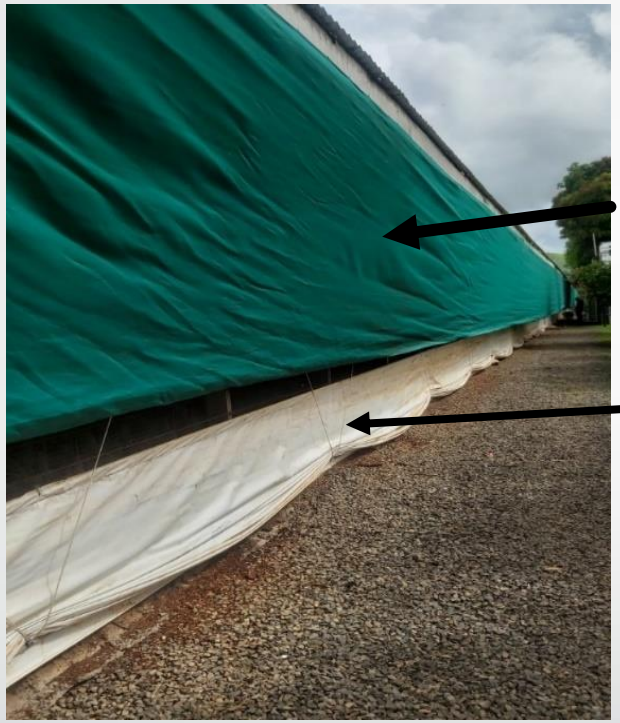
PROJECT SITE

- Vimlesh farm

EXECUTION

- Approval from management to conduct trial
- Implementation to reduce light intensity

PROJECT EXECUTION

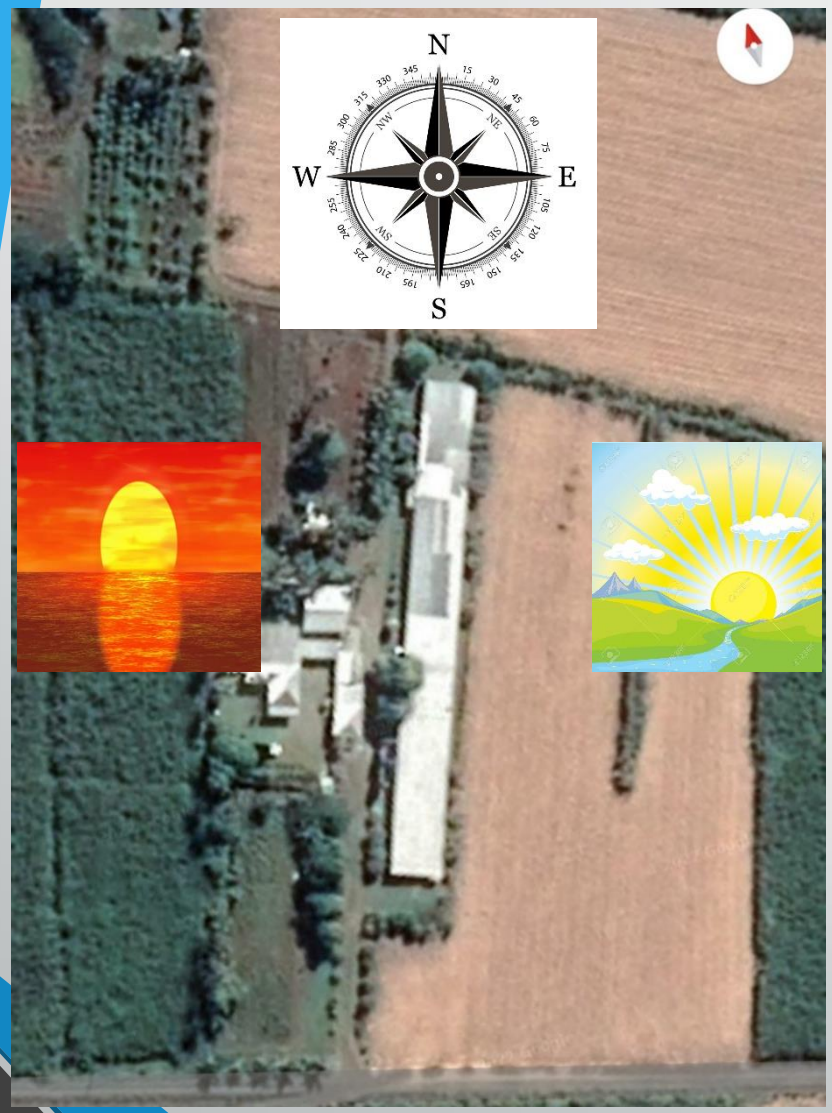


Shaded Cloths

Side curtains

1. Shade cloths were installed along the side of the shed (30/70)
2. Side curtains were lower down at 9am and again raised at 2pm

SHED ORIENTATION



Due to the shed orientation at Vimlesh farm which is North – South and since the Sun rises from East and sets at West the light intensity inside the shed was recorded in the morning and afternoon.

Innovation / Transformation

Data Collection

Light intensity - is the amount of light falling on a surface and it measured in foot candles or lux

Light meter was used to measure and record the light intensity inside the shed, and the unit we used for this project is Lux.

Reading were taken at;
Morning – 9am before and after trial was conducted
Afternoon – 3pm before and after trial was conducted

MANAGEMENT SUSTAINABILITY

WE ENSURE.....

TEMPERATURE

DISTRIBUTION

GOOD PERFORMANCE

WATER

AIR QUALITY

FEED

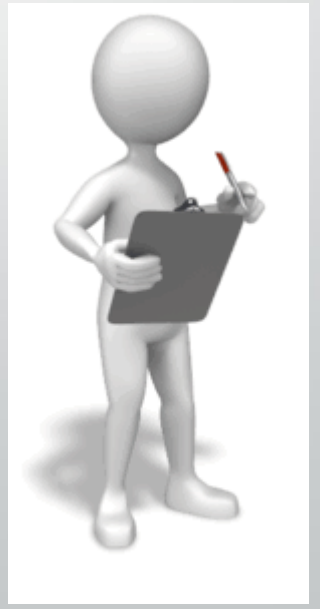
3. CHECK STAGE

The results were confirmed before and after the trial was conducted to ascertain any difference

Phase 1: Comparison of light intensity inside the shed before and after the trial

Phase 2: Comparison of HE data for year 2021 vs 2020 for Vimlesh farm

Phase 3: Impact on the organisation

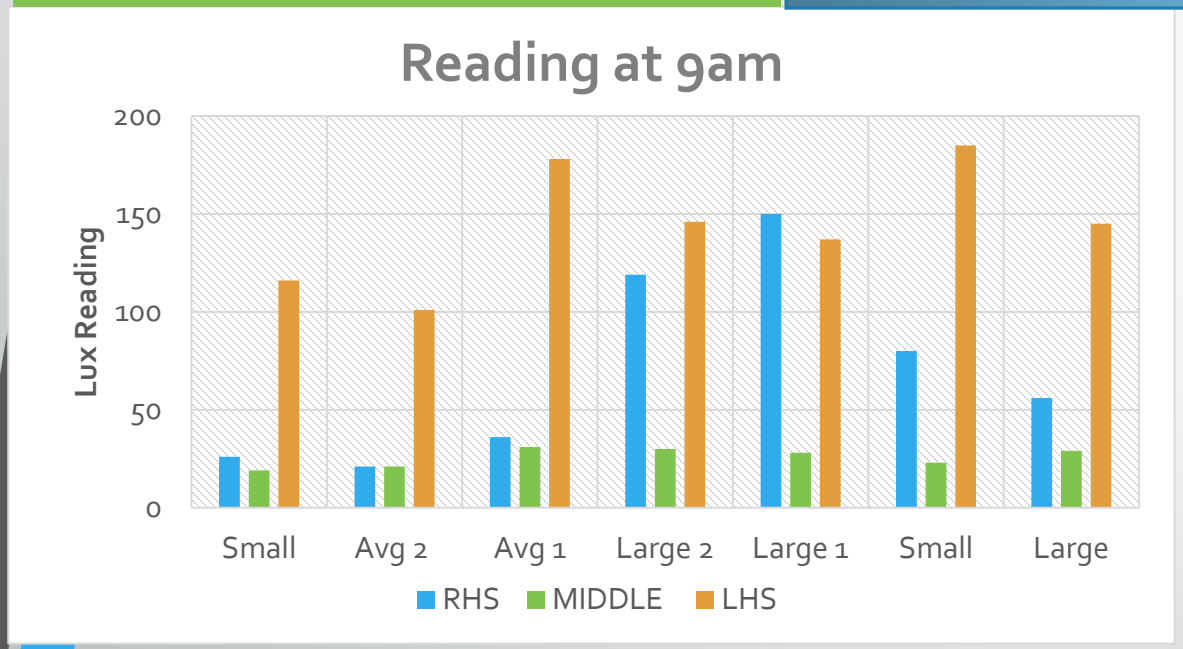


PHASE : 1

Transformation

Light intensity inside the sheds (Morning readings)

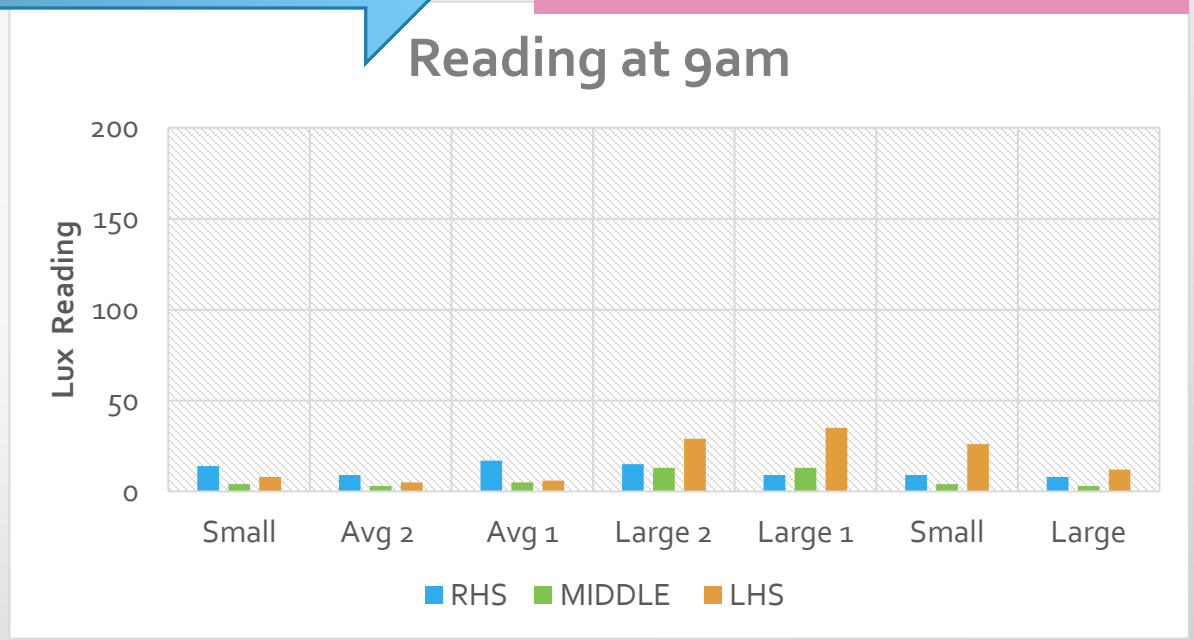
BEFORE – Trial



As illustrated in the graph since the sun rises from East the light intensity on LHS of the shed was high.
Average light intensity recorded inside the shed was ***80 Lux***

Reduction of 86% Light inside the shed

AFTER - Trial



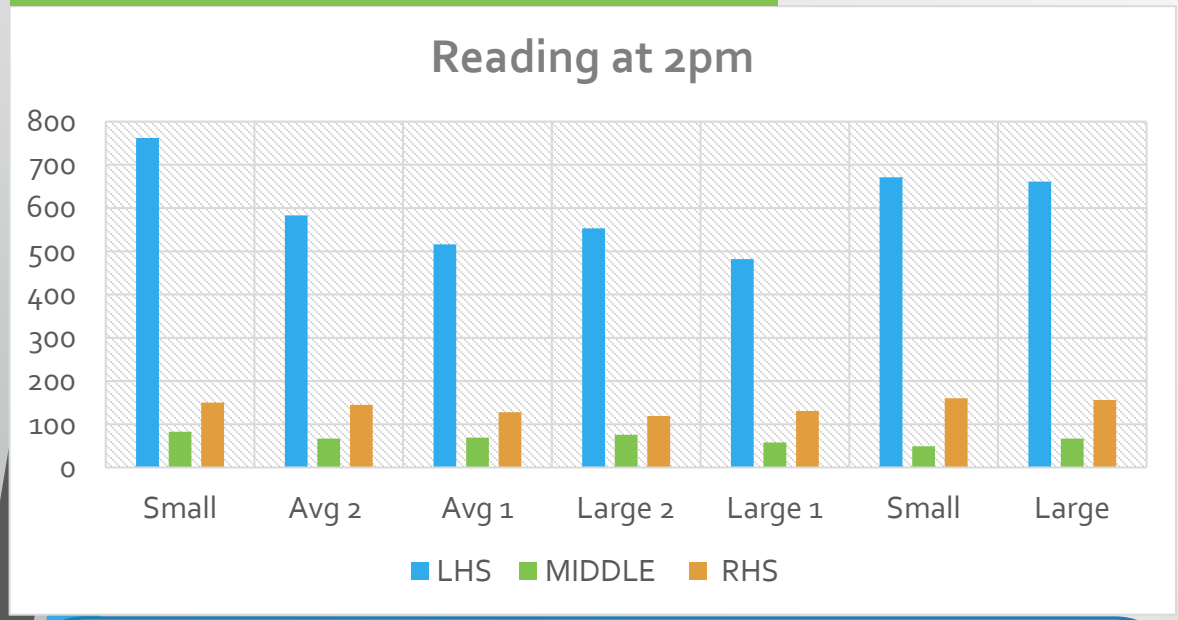
As projected in the graph above after project implementation the light intensity inside the shed was ***significantly reduced*** .
The average light intensity recorded inside the shed after trial was – ***11 Lux***

PHASE : 1

Transformation

Light intensity inside the sheds (afternoon readings)

BEFORE – Trial

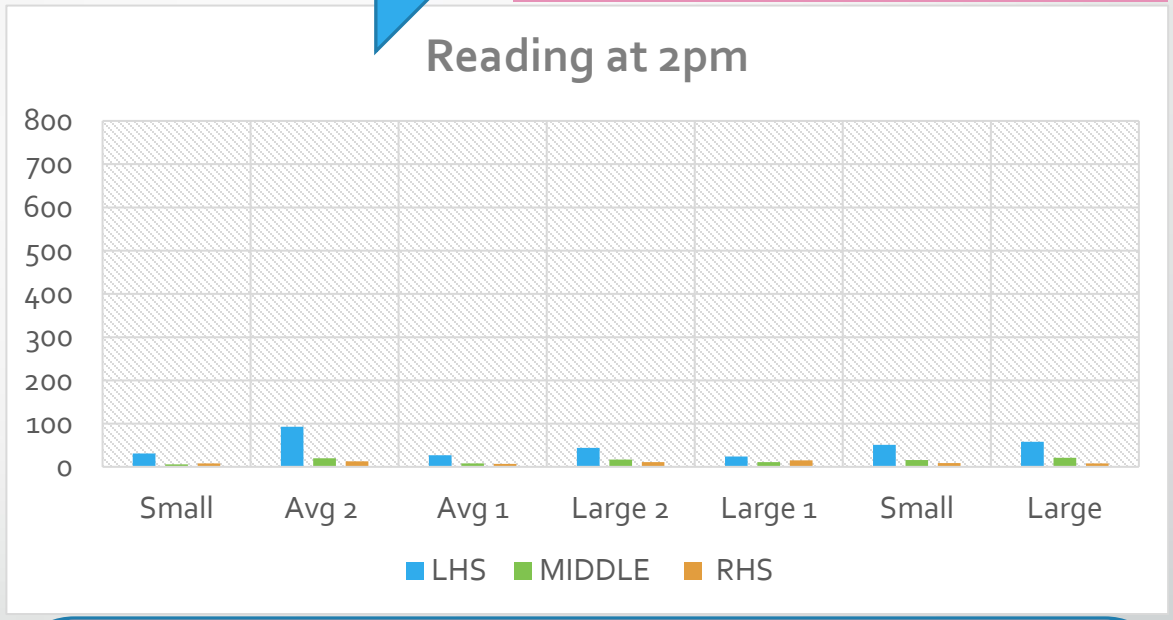


As illustrated in the graph above since the sun sets on west the light intensity on RHS of the shed was high due to the orientation of the shed (North – South)

Average light intensity inside the shed was - **272 Lux**

Reduction of 91% Light inside the shed

AFTER - Trial



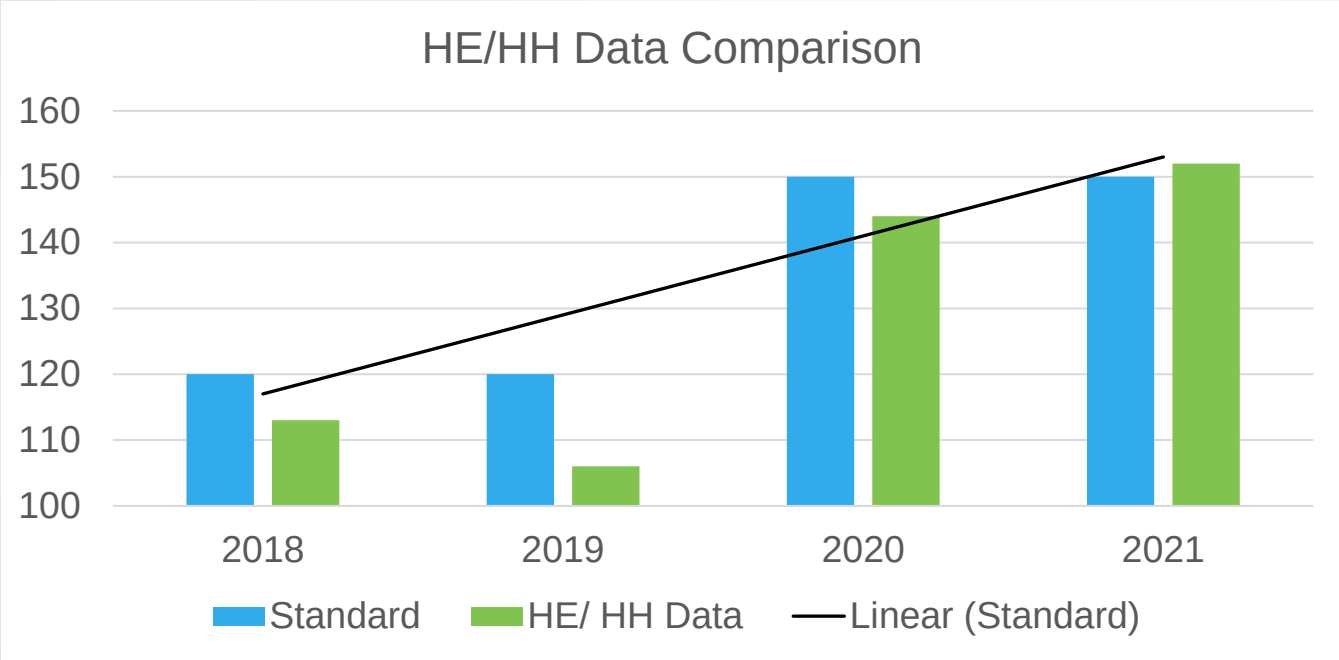
After the implementation of this project there was ***significantly reduced*** in the light intensity in side the shed as seen in the graph above.

The average light intensity inside the shed after trial was – **23 Lux**

PHASE : 2

Impact on the Productivity

COMPARISON OF HE/HH DATA



Due reduction in the light intensity during rearing stage

We were able to better photo stimulate our birds

Increase in Egg production

Improvement of 8.02 HE/HH comparing 2021 with 2020.

PHASE : 3

Impact on the organization – Increase in production

Data Comparison - Actual HE/HH

Project implementation it lead to an increase in hatching egg production (47 500)

Improvement from previous year	Number Housed	HH	Hatchability (avg 78%)	Boiler Morality (4.20%)	ALW (2KG)	Dressed weight	Sold out	cost	Revenue
8.02	5923	47502	37052	35496	70991	55373	$ 398,688.13	$ 271,329.42	$ 127,358.71

PHASE : 3

Impact on the organization – Value Creation

CAPITAL PRODUCTIVITY - COST & BENEFIT ANALYSIS

	Cost of Implementation	
MATERIAL	UNIT PRICE	TOTAL COST
Shaded Cloth (1 roll = 50m)	$380.00	5 rolls x $380.00 = $1900.00
Labour	$3.50/ hr	$126.00
3 staffs 6 hours per day 2 day	3 x 6 Hrs x 2 day = 36 hour	
Total cost of Implementation		$2026.00
Revenue		$127,358.71
Net Profit		$125,332.71

PHASE : 3

Impact on the organization – Increase in production

CAPITAL PRODUCTIVITY - COST & BENEFIT ANALYSIS

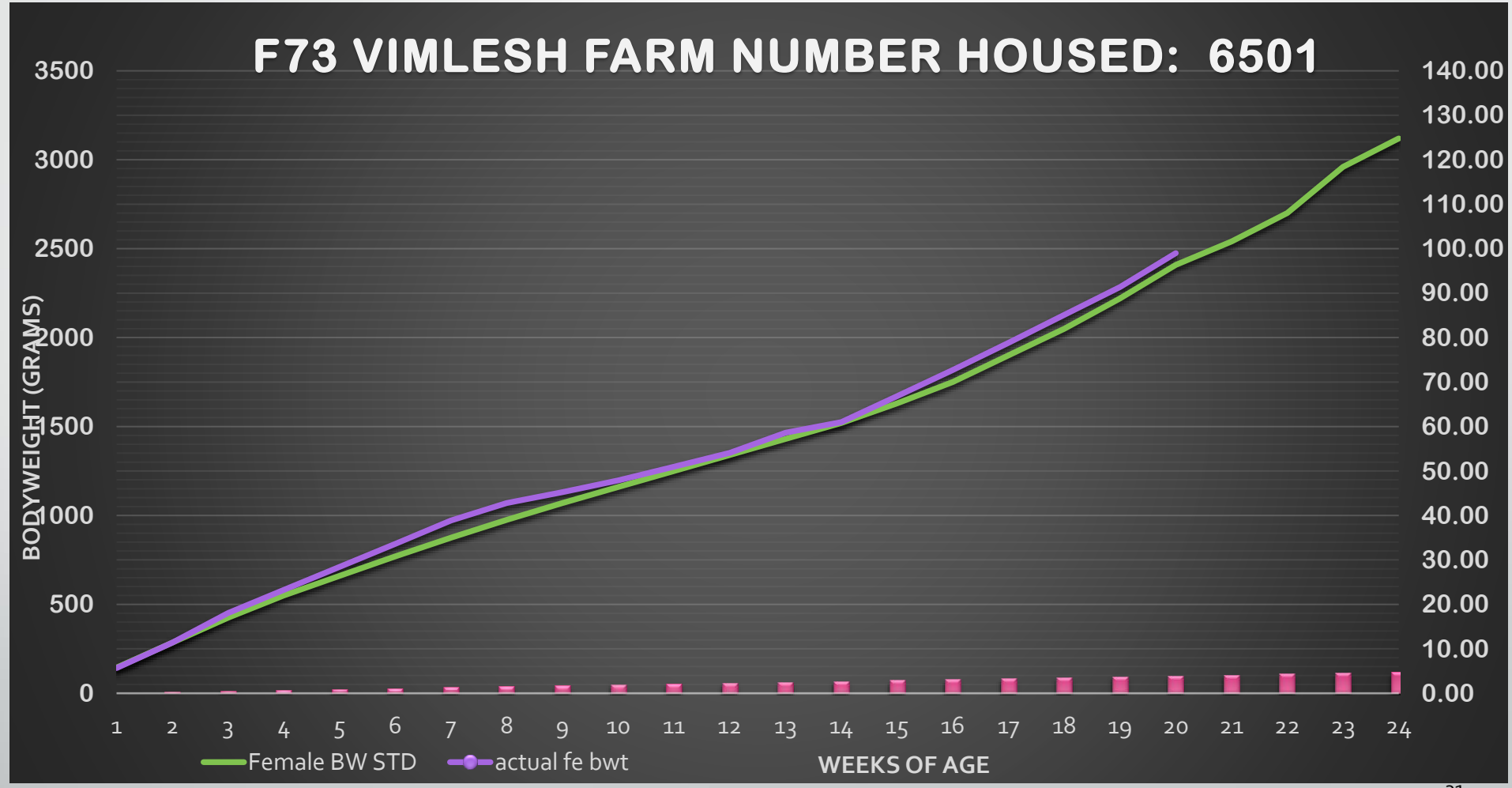
Total input	$2026.00
Total output	$127,358.71
Achievement	ROI = $ 62.86 / every dollar output 2 flocks / year = $125.72

In terms of our return on investments for every dollar input there is a gain of $62.86.

PHASE : 3

Impact on the organization – Increase in production

BODY WEIGHT MAINTAINED



- The Flock that was reared in the trial shed the body weight was maintained as per breed (Cobb) standards on a weekly basis.

PHASE : 3

Impact on the organization

SUMMARIZING PRODUCTIVITY GAIN

Productivity	Achievement
Capital Productivity	Increase in egg production lead to profit of **$125K**
People Productivity	100% in terms of active involvement & knowledge gain.
Material Productivity	Improved hatching egg quality
Total Factor Productivity	Improved performance in terms of achieving department KPIs.

PHASE : 3

Impact on the organization

OTHER BENEFIT OF THE PROJECT

Uniform light intensity inside the shed

Resulted in even bird distribution

Less litter management issue

uniformity of weight

ACT STAGE

- Document results.
- Inform others about process changes.

STANDARISED

- Approval has been given to use side curtains for succeeding flocks to control light intensity at rearing stage.

Joel Evangelista <joel.evangalista@roosterpoultry.com.fj>
RE: Rearing QC Project
To 'Umeer Ali'

Thanks Umeer.

I totally support the recommendation of converting Vimlesh shed to dark-out shed based on the significant improvement noted in the production side. The improvement gained was the result of the project which was initiated in that shed which reduced the light intensity thru the use of shed cloth and in turn restricted intolerable high amount of lux going through the shed.

Regards,
JOEL EVANGELISTA
Livestock Operations Manager

FUTURE FARMS PTE LIMITED (trading as Rooster Poultry)
P O Box 47, Ba, Fiji Islands
Ph: (679) 6674666 | Fax: (679) 6670139 | Mob: (679) 9994430

- Staffs were trained on the process
- Succeeding flocks at Vimlesh farm were reared

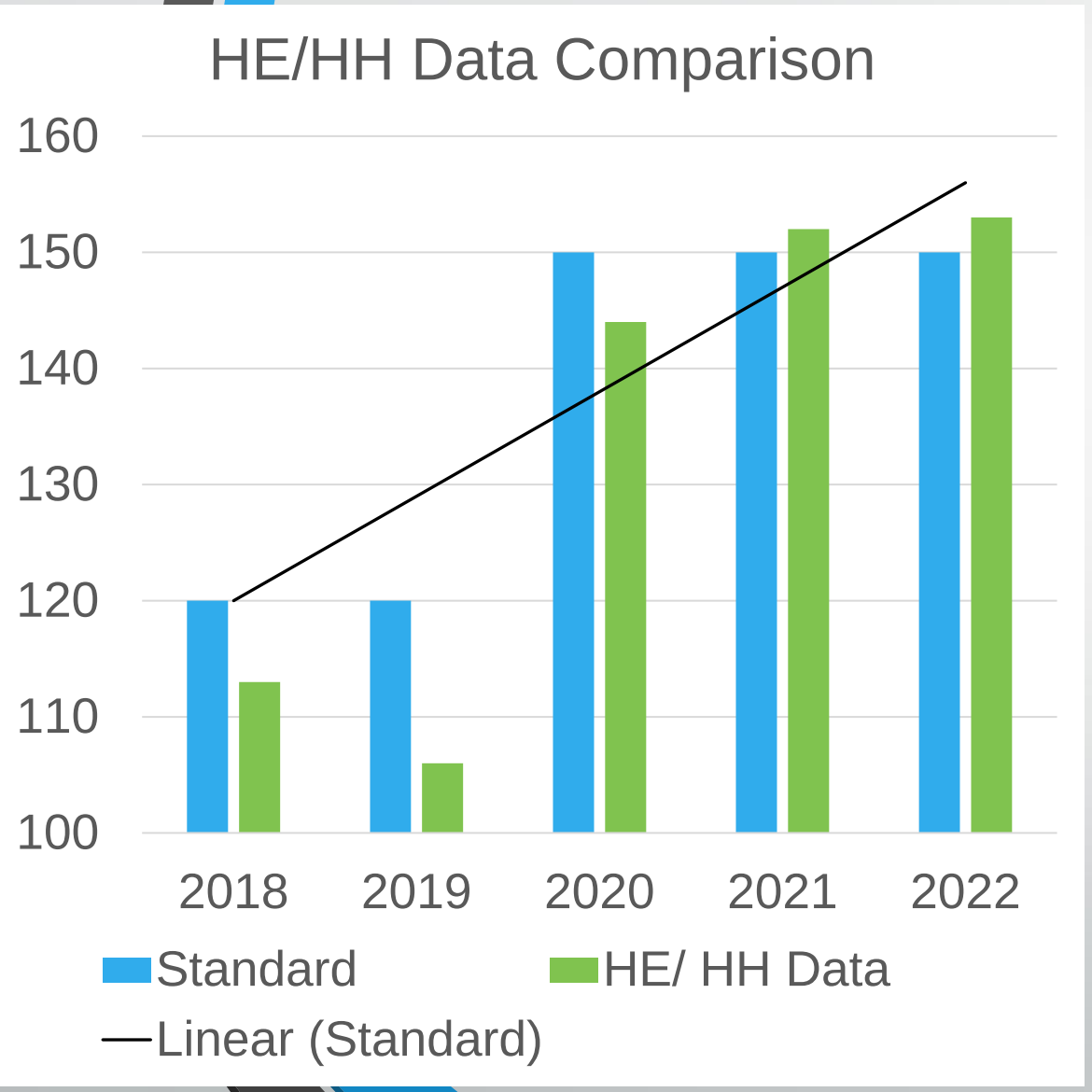
TANGIBLE RESULTS

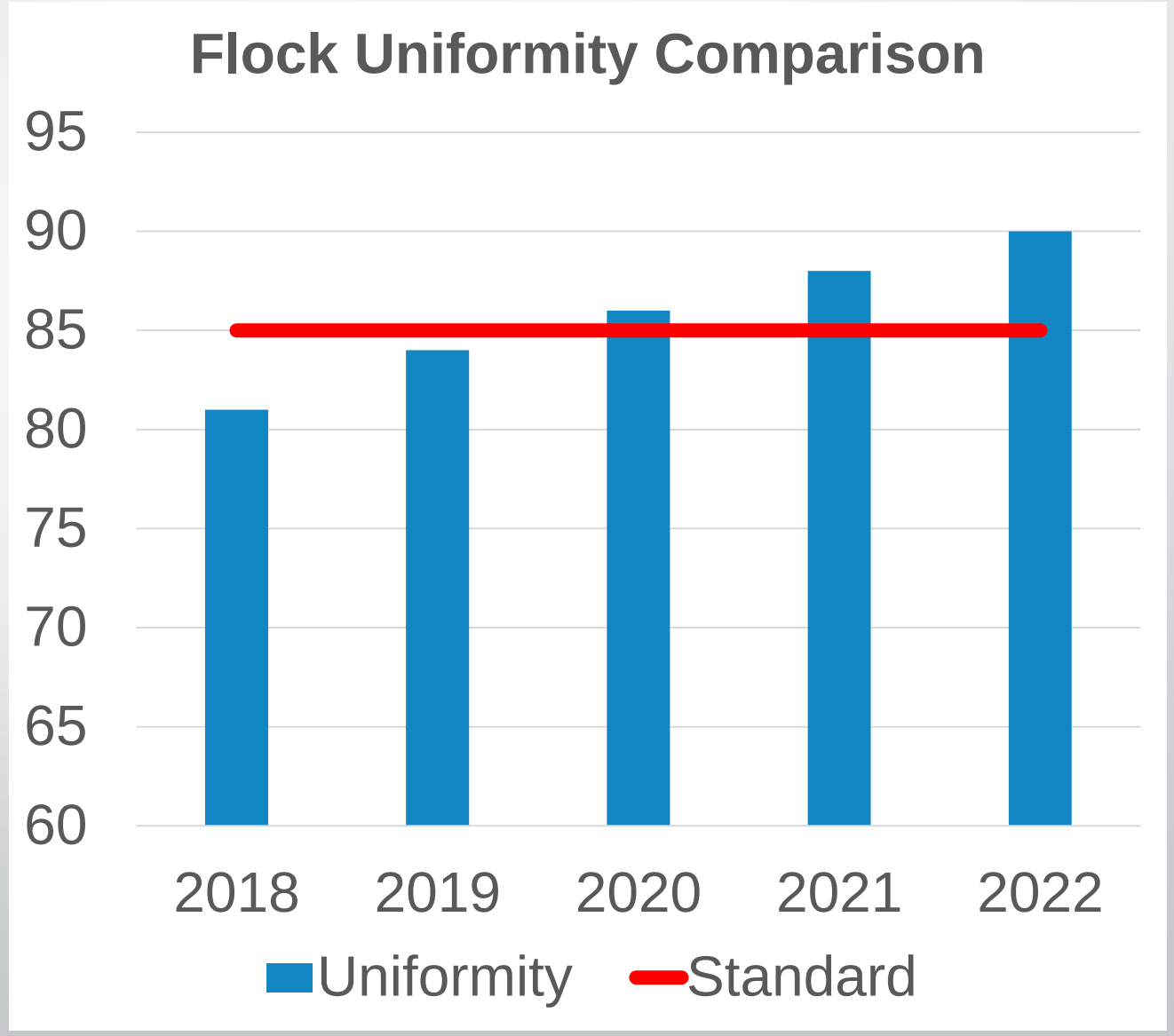
REVIEW

DID WE ACHIEVE OUR PROJECT GOAL?

- To improve 6 HE/HH vs year 2020
  - There was an improvement of 8.03 HE/HH
- Achieve 85% uniformity at point of Transfer.
  - Flock Uniformity at transfer was 88%
- Achieve Body Weight as per Cobb Standard on Weekly Basis
  - Achieved Bodyweight as per breed standard on weekly basis

PROJECT SUSTAINABILITY





NEXT PROJECT

PROJ-ECT IDEAS	CRITERIA WEIGHING	SCORES				
		COST OF IMPLEMENTATION	SKILLS AVAILABLE TO SOLVE PROBLEM	EFFECTIVENESS OF SOLUTION	BENEFIT OF OUTCOME	TOTAL
		1	2	3	4	
1.	Floor feeding system	(5) 5	(4) 8	(5) 15	(3) 12	40
2.	**High cockerel Mortality due to Cocci Outbreak**	**(2) 2**	**(4) 8**	**(4) 12**	**(5) 20**	**42**
3.	Rat Infestation	(4) 4	(3) 6	(3) 9	(4) 16	35
4.	Low Egg production- Vimlesh farm	(3) 3	(5) 10	(5) 15	(5) 20	48

Problem Priority #2

2. High Cockerel mortality due to cocci out break

Impact of 10 cockerels in the Business

Males	M: F ration 1:10	150 HE/HH	8 Flocks /Yr	cost of 1 HE is $1.00
10	100	15000	120000 HE	$ 120,000.00


TEAM REVUREVU
CSR PROJECT

rooster

Thank You!

DRIVE PRODUCTIVITY

We can and we will
We made it happen

CHOOSE QUALITY CHOOSE ROOSTER !!!!!!