# PADMASHREE Late DR.B.V.RAO,

## *FATHER of INDIAN MODERN POULTRY*

# *RECOMMENDATIONS for* SUCCESSFUL Management of Commercial LAYER FLOCKs


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**VH-GROUP**

# SUCCESSFUL Management of LAYER FLOCKS

**There are Standard Protocols, as well as many field applications involved in Successful LAYER Management.**

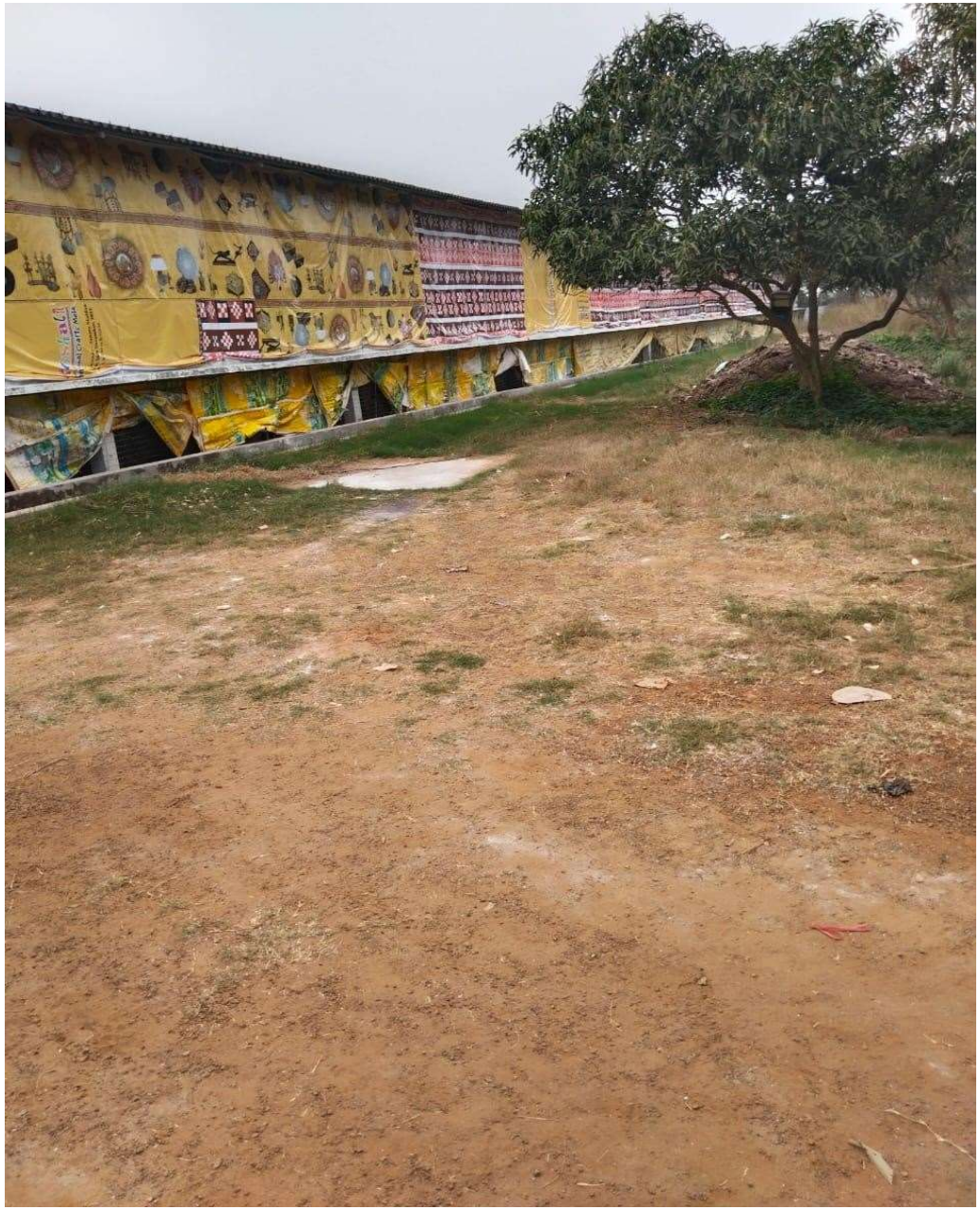
## Ultimately GOAL

- **GOOD PRODUCTION & PROFITABILITY to the farm.**
- **Success Focused on THREE MAJOR areas.**

- a- **FARM & FLOCK Management.**
- b- **Disease Management (Vaccines &Vaccination)**
- c- **BIO-SECURITY**

# FARM & FLOCK Management

- FARM-
- - LOCATION of FARM, i.e **SITE**
- - COMMUNICATION
- - GROUND WATER Availability & QUALITY
- - VENTILATION
- - MANPOWER

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# FLOCK MANAGEMENT

**1 THREE IMPORTANT STAGES**

- **BROODING**
  **GROWING**
- **PRE-LAY & LAYING**

2 FEED , RAW MATERIAL & DRINKING Water

3 VACCINE & VACCINATION

**4 SANITATION HYGIENE & BIO-SECURITY**

# *Shed Cleaning and Disinfection Process*

-- Flock transfer or Liquidation

---CLEANING of old LITTER materials as immediate.

---Cleaning and disinfection- poultry house & equipment-
use of DETERGENTS WASH
PRESSUR WATER WASH
FLAME - GUN BURNING
SPRAY of ANTI-MICROBIAL Components

DRY & REST

-- WHITE WASHING and CLOSE CURTAINS

**THERMAL FOGGING**

**REST & PREPARATION for BROODING**

# Cleaning of Sheds (Brooding, Growing and Laying):

| SR | ACTIVITY | DETAILS |
|---|---|---|
| A. Dry Cleaning | | |
| 1. | Insecticide Spray inside shed | Butox @ 2 ml/ ltr. Or Malathion50% @ 6ml /lit |
| 2. | Removal of litter and dispose off outside | Manual/machine |
| 3. | Shed repairs if any (Curtain/Pipe repairing/ Nipple replacement/ Electricity/ Floor levelling/ Mesh repairing etc.) | Maintenance |
| 4. | Cleanig of shed surroundings (Minimum 10 ft. around) | After grooming the area spray VBFA-400 @ 5 ml/ ltr. |
| 5. | Remove detachable equipment. | Drinkers/ feeders |

| SR | ACTIVITY | DETAILS | | | |
|---|---|---|---|---|---|
| **B. Wet Cleaning** | | | | | |
| 1. | Wash inside of house with Cleaner. | UBC@ 4 ml/ ltr. | | | |
| 2. | Wash down curtains properly. | UBC@ 2 ml/ ltr. | | | |
| 3. | Wash/ Clean equipment | Aquamax@ 50 ml/ ltr. | | | |
| 4. | Descaling, cleaning and disinfection of pipeline (100 ft. pipeline length) 5% Aquamax. Give 12 hours of contact period.<br>Open and clean Nipple line Regulators/constant head tank for bio-film removal.<br>Check water for Bacterial counts in lab. | **Pipeline Diameter (inch)** | 0.50 | 0.75 | 1.00 |
| | | **Aquamax (ml)** | 250 | 500 | 750 |
| | | **Water (liter)** | 5 | 10 | 15 |

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# BROODING

- A--**Brooding temperature-** **Very Very Crucial**
- **As CHICK'S body THERMO-REGULATORY**
- **takes 12 to 14 days to be Functional.**
- Should be -1st wk--- 91°--95°F ( 33—35°C)
- 2nd wk--- 85°--90°F ( 30---32°C)
- 3rd wk--- 84°--86°F (29—30°C)
- 4th wk--- 80°--82°F ( 28—29°C)
- Whole house heating required.
- **Methods**- **ELECTRIC BULB**
- **ROOM HEATERS**
- **GAS BROODERS (3-4Ft height above the Cage)**

- **Relative Humidity(Rh)**— Idal - 60% - 70%
- **--Low Rh cause dehydration in chicks**
- **-- If GAS BROODERS used –Spray Sanitized Water.**
- **Ventilation**– Provide easy AIR EXCHANGE
- ELIMINATE--- **CO2 gas**
- **AMMONIA gas**
- Give SPACE in side CURTAINS

- B-Proper **SPACE**
- - Avoid **Over crowding.**
-
-

| | Cage size | - | Floor Space | - | Feeder space |
|---|---|---|---|---|---|
| • | CHICKS –18 x18 x15 inches | | 40.5 sq. inch | | 2.25 linear inch |
| • | (8 chicks/cage) | | | | |
| • | GROWER–20 x15 x17.5inches | | 60.7 sq.inch | | 4.00 linear inch |
| • | ( 5 birds /cage) | | | | |

- **This Space is very important for the stages to achieve**
- **To receive PROPER SUGESTED FEED ,WATER ,ADDITIVES**
- **To achieve DESIRABLE GROWTH & BODY WEIGHT.**


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# Lighting programme

- **The Lighting schedule plays a crucial role in the successful management.**

- LIGHT Influence on rearing and Laying periods, significantly impact Egg production and Egg weight.

**Lighting should be followed as- SUGGESTED SCHEDULE for CHICKS & GROWER** ( Very Important)

The fundamental principle of lighting

1. Avoid increasing the hours of light (photo-period) during the rearing period
2. Avoid decreasing the hours of light during the production period.

**Mid-night lighting is exception to the above rule.**

# Lighting programme

| Age in weeks |
| --- |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 weeks to stimulation |

-4-hour dark period between 7:30 PM and 11:30 PM.

-Dark period is essential to give the chicks a chance to **rest.**

**-8TH WEEKS onwards NO ARTIFICIAL LIGHT**

# Lighting Programme

## Light Intensity

**BROODING Period---Higher LIGHT Intensity (30 to 40 Lux)**

**Helps the chicks to see their sorrounding better,encourages activity like Feeding,Drinking**

**GROWER & LAYING PERIOD --- Lower LIGHT Intensity (10 to 20 Lux)Creates CALM Environment**

**Reduces Stress**

**Minimize Aggression**

# Beak TRIMMING/ DE-BEAKING

-Beak trimming is a most critical & important operation at $10^{th}$ /$11^{th}$ day.

-Should be carried out by well trained and skilled operators.

**The beak trimming reduces:**

- **Feed wastage**
- **Feather pulling**
- **Cannibalism / pecking**

**IF $1^{st}$ De-beaking is properly done reduces the chance of the $2^{nd}$ .**

**FAULTY DE-BEAKING – In proper FEED intake & hampers EGG PRODUCTIONS at LAYING period.**

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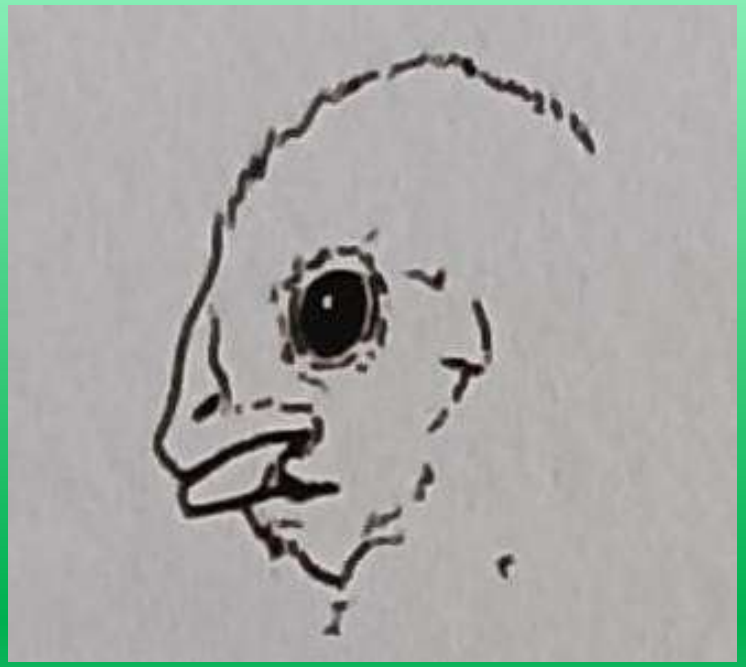
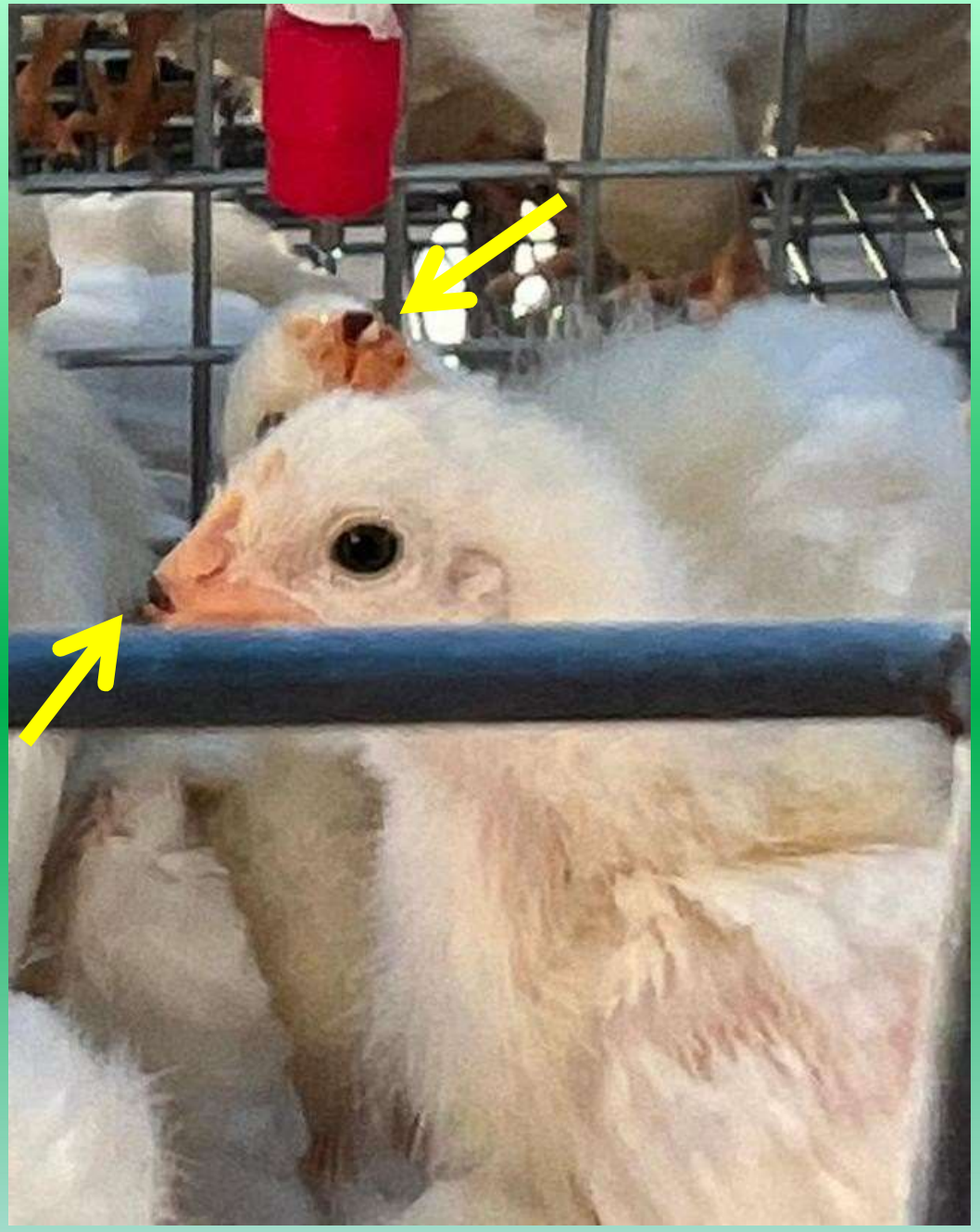
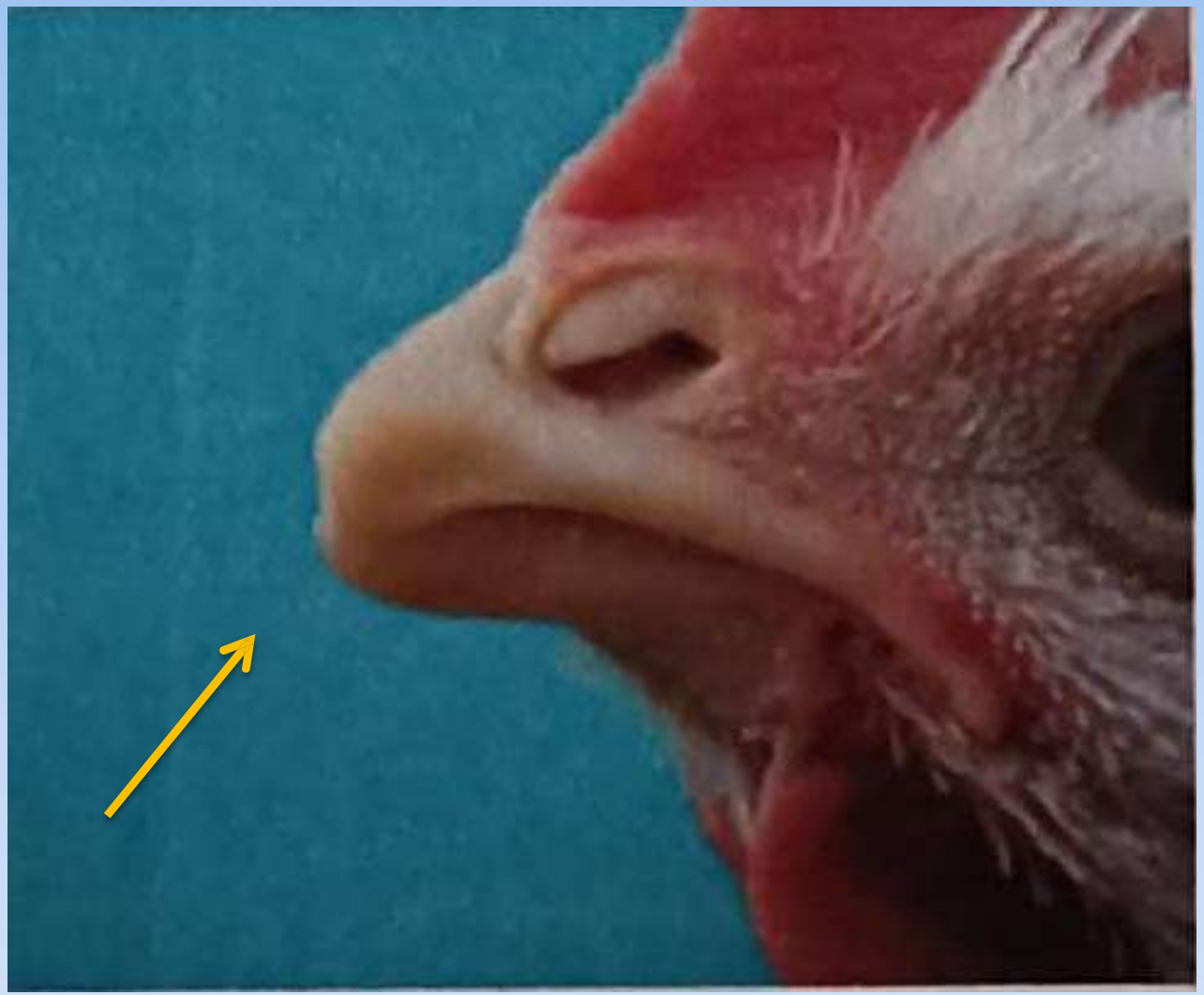




**10-11 days old chick just after beak trim (single beak trimming/de-beaking)**



**Appearance of beak at 18 weeks of age.**

# FEEDING Practice –*(Rearing Period)*

# i.e Crop fill

-A good measure of successful chick start is **Crop fill.**

- **Crop i.e Food storage part should get FULL as soon as possible after CHICKS are placed.**

- Target more than 95% of the chicks to have a full crop within 24 hours after being placed.

Advantage--

-**Early uniform body wt. as per the target.**

- If the Brooding temperature is **too HIGH** or **too LOW** , affects. **full crop.**

# FEEDING Practice--------

## FEEDING should be ADLIBIDUM

- FEED must be Balanced as per Dig.Amino-Acid recommendations Mash or Crumbles.

-Use of **Crumble feed** at least 4-6 wks of age.

## Advantages

Consumption of desirable **NUTRITION**

- To attain desirable **BODY WEIGHT**
- **Chiks– 400 gms (6th wks) 580gms(8th wks)**
- **Pullet– (Grower & Developer) 1050 gms (15th wks)**
- **Laying- 1240gms ( 18th wks)**
- To attain desirable **IMMUNITY, reduce Disease Risk**
- **Increase LIVABILITY %** ( Reduce early mortality)

## IMPORTANCE of proper REARING

- Attain Target BODY Weight on each WEEK & is CRUCIAL for development of Skeletal structure.

- Skeletal system plays major role in maintaining EGG Shell quality for entire LAYING Period.

- Medullary bones, Ribs, shoulder bones,
- Femur,Tibia & Ulna stores huge CALCIUM, helps in egg-shell formation during night.

## *Pre-LAY DIET*

-Extremely important & observed many farmers skip.

**-Should start 14 to15 days before onset of production as Comb,wattles developed.**

**-This Diet helps establish Medullary Bone.**

# Rearing period Nutrient Level Recommendations

| Feeding phases | | Chick | Grower | Developer | Prelay* |
|---|---|---|---|---|---|
| Feed up to | | 400g body weight | 750g body weight | 10 days before onset of production | 0.5% daily egg production |
| Nutrient | Units | | | | |
| Metabolizable Energy (min) | Kcal/kg | 2900 | 2850 | 2700 | 2700 |
| Crude Protein | % | 20.50 | 18.50 | 16.50 | 17.00 |
| Crude Fiber | % | 3.50 | 4.0 – 5.0 | 5.0 – 6.0 | 4.5 – 5.5 |
| Ether extract | % | 3.5 – 5.5 | 3.0 – 4.5 | 3.0 – 4.0 | 3.0 – 4.5 |
| Total Lysine | % | 1.12 | 1.00 | 0.80 | 0.84 |
| Total Methionine | % | 0.54 | 0.48 | 0.41 | 0.44 |
| Total Methionine + Cysteine | % | 0.85 | 0.78 | 0.70 | 0.73 |
| Total Threonine | % | 0.79 | 0.71 | 0.62 | 0.63 |
| Total Tryptophan | % | 0.24 | 0.22 | 0.20 | 0.20 |
| Total Arginine | % | 1.30 | 1.20 | 1.05 | 1.08 |
| Total Isoleucine | % | 0.83 | 0.75 | 0.64 | 0.66 |
| Total Valine | % | 0.92 | 0.85 | 0.78 | 0.78 |

# CHICKS & GROWER

| Age | | Cum Depletion % | Body weight | | Feed Consumption per bird (g) | | Crude Protein intake (g)/bird/ day | Types of Feed |
|---|---|---|---|---|---|---|---|---|
| weeks | Days | | Average (g) | Range (g) | Average (Per day) | Cumulative | | |
| 1 | 0-7 | 0.8 | 65 | 60-70 | 11 | 77 | 2.3 | Chick |
| 2 | *7-14 | 1.2 | 110 | 100-120 | 16 | 189 | 3.3 | Chick |
| 3 | 15-21 | 1.5 | 165 | 150-180 | 18 | 315 | 3.7 | Chick |
| 4 | 22-28 | 1.7 | 235 | 215-255 | 25 | 490 | 5.1 | Chick |
| 5 | 29-35 | 1.9 | 315 | 290-340 | 30 | 735 | 7.2 | Chick |
| 6 | 36-42 | 2.1 | 400 | 375-425 | 40 | 1015 | 8.2 | Chick |
| 7 | 43-49 | 2.3 | 490 | 460-520 | 44 | 1323 | 8.1 | Grower |
| 8 | 50-56 | 2.5 | 580 | 550-610 | 48 | 1659 | 8.9 | Grower |
| 9 | 57-63 | 2.7 | 665 | 630-700 | 49 | 2002 | 9.1 | Grower |
| 10 | 64-70 | 2.9 | 750 | 710-790 | 50 | 2352 | 9.3 | Grower |

# Developer

| Age | | Cum Depletion % | Body weight | | Feed Consumption per bird (g) | | Crude Protein intake (g)/bird/ day | Types of Feed |
|---|---|---|---|---|---|---|---|---|
| weeks | Days | | Average (g) | Range (g) | Average (Per day) | Cumulative | | |
| 11 | 71-77 | 3.1 | 825 | 780-870 | 51 | 2709 | 8.4 | Developer |
| 12 | 78-84 | 3.2 | 890 | 840-940 | 54 | 3087 | 8.9 | Developer |
| 13 | 85-91 | 3.3 | 950 | 900-1000 | 56 | 3479 | 9.2 | Developer |
| 14 | 92-98 | 3.4 | 1000 | 950-1050 | 58 | 3885 | 9.6 | Developer |
| 15 | 99-105 | 3.5 | 1050 | 1000-1100 | 60 | 4305 | 9.9 | Developer |
| 16 | 106-112 | 3.6 | 1105 | 1050-1160 | 62 | 4739 | 10.5 | Pre-lay* |
| 17 | 113-119 | 3.7 | 1170 | 1110-1230 | 63 | 5180 | 10.7 | Pre-lay |
| 18 | 120-126 | 3.8 | 1240 | 1180-1300 | 66 | 5642 | 11.2 | Phase-1 |

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# Management during GROWING period

- -CHICKS Shifting to Grower cage at least by 7th -8th wks.
  (Delay in shifting is a major problem observed many farms.)

- -Feed –Mash type OR Crumbles ( Dig.A.A.recomendations)

- -Growing Body wt.- This is very important to maintain through out growing period.

- -Advised to take b. wt. every 4wks interval & should match to standard manual.

So –Recommended Grading – usually 2-3 Grades.

-- Lower grades to segregation & separation.

-- Support Nutrition & supplements.

-- Efforts to keep +30 to +50gms above the Std. b.wt.

# ALERTNESS during GROWING Period

- Birds seen highly Sensible to -Abnormal Sound , and Flightiness observed, so,

- **-Restrict Man, material movement into the shed.**
- **-Sensible to Bright colours & un-precedent events.**

- **-Control measures – Least disturbances.**
  **single time feeding.**
- **-Active operations during late evening hrs.**
  **( Grading , 2nd de-beaking , Killed vaccination, etc.)**

# GROWING, DEVELOPING & PRE-LAYING Stages

- -Minimum birds disturbance are recommended.
- But Late vaccination, late shifting to Layer cages, late grading are usual practices being observed at many farm-- This affect the Production later
- -Housing should be finished max. by 16th wks. age.
- -Suggested for Timely Shifting, Transportation, Selective De-beaking & Injectable Vaccinations during Night time.
- -Pre-lay feed should start by 16th wks & as per recommended dig. A.A. on guideline.
- - Total light hrs -Pre-lay(18th)—16 hrs & not to get disturbed.
- PRE-LAY FEEDING is most IMPORTANT STAGE IN POULTRY FARMING. Due to managemental ERRORS, many farms forced to SKIP this PRE-LAY Feed , suffers PRODUCTION.

**ALERTNESS during GROWING Period**

**ADVISED to keep +50gms above the Std.b.wt.**

**Growing b. wt. relates very much towards attaining Uniformity, sexual maturity in the flock & to achieved, peak & better production.**

## Uniformaity -

$$\frac{\text{No.of birds within range of } \pm 10\% \text{ of the mean wt} \times 100}{\text{Total birds weighed}}$$

| ALERTNESS during GROWING Period | **Uniformity rating** |
|---|---|
| **85% and over** | Excellent |
| **80 – 85 %** | Very Good |
| **75 – 80 %** | Fair |
| **Less than 70%** | Not Satisfactory |

# IMPORTANCE OF PRE- LAY FEED---

- Start pre-lay feed when comb and wattle enlarge and turns red.
- **Pre-lay feed helps in**

- **transition from a low-calcium, low-nutrient-density**
- **developer feed to a high-calcium, high-nutrient-level diet**..

- **PRE-LAY DIET contains 2.2 CALCIUM & to fed up to 0.5% PRODUCTION,which allows rich CALCIUM deposit in the MEDULLARY BONE of young Layers.**

- **It prevents reduced appetite and low feed intake during**
  **early egg production.**
- **Use of pre-lay feed improves uniformity among pullets.**

. -- 50% calcium should be provided in granular form (2-4mm diameter), and 50% in less than 1mm granule size.

- Layer phase-1 feed can be started when production reaches 0.5%,& it is start of the LAYING PERIOD.

# Transfer

- TRANSFER of birds to another can be a stressful experience for them. It involves changes in their surroundings and the equipment they are used to. It's important to complete this transfer process before the hens start laying eggs, as the stress during and immediately after the transfer can have negative effects.
- **The reproductive organs of the hens, such as the ovaries and oviduct, go through significant development in the two to three weeks leading up to the first egg being laid.**
- To ensure proper development, it is recommended to schedule the transfer before onset of production.
- To minimize the stress during this period, it's beneficial to provide supportive care. vitamins, probiotics, and vitamin C.
- Two days continuous 24-hour lighting may be given as the Pullets to adjust.
- **Any sexing errors should be removed at transfer**.

# Start of LAYING Period

- This is a very important stage, the pullets are ready to enter their LAYING CYCLE.
- The Farm managers & the owners have to keep an close monitoring to their flocks.
- LEAST Disturbances to the birds.
- Feed Quality & Balancing as per guidelines to be maintained.
- To follow recommended LIGHTING PROGRAME

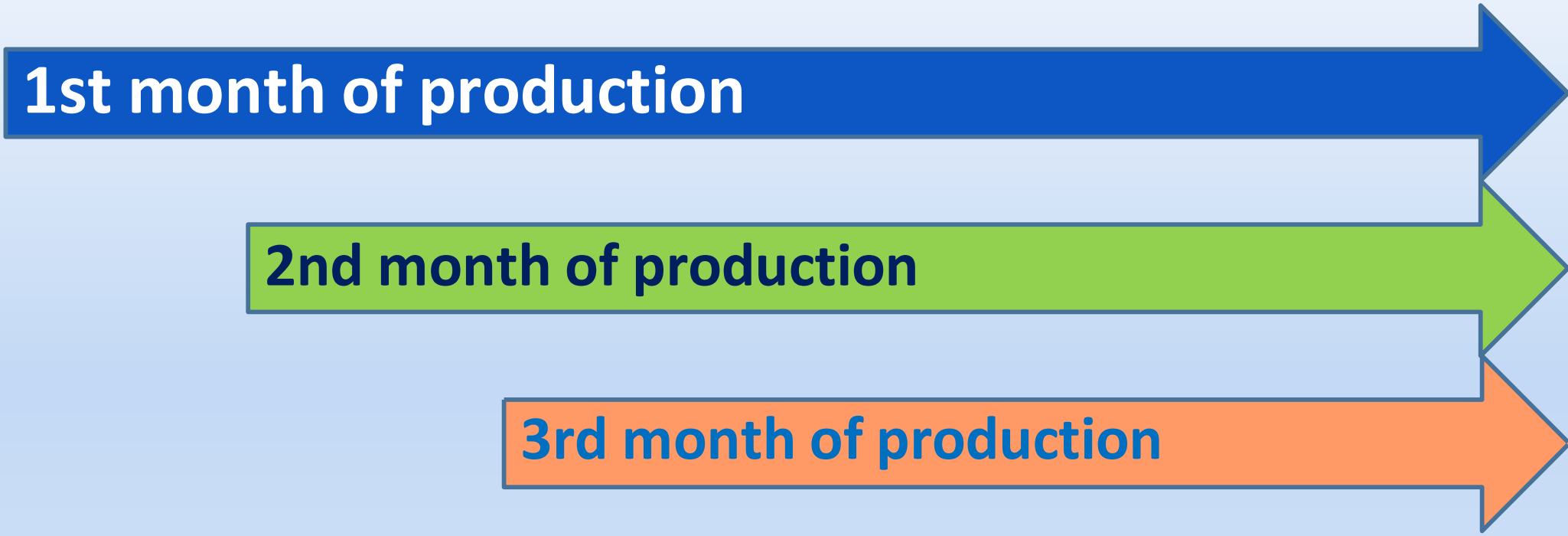
# *Performance Goal:* commercial LAYER

| | | |
|---|---|---|
| **Livability%** | | |
| 0 to 18 weeks | : | 96 - 98 |
| 19 to 80 weeks | : | 93 |
| 19 to 100 weeks | : | 91 |
| **Feed Intake** | | |
| 0 to 18 weeks | : | 5.6 Kg |
| 19 to 80 weeks | : | 46.5 Kg |
| 19 to 100 weeks | : | 61.2 Kg |
| **Body Weight** | | |
| At 16 weeks of age | : | 1.10 kg |
| At 22 weeks of age | : | 1.40 kg |
| At 32 weeks of age | : | 1.50 kg |
| At 100 weeks of age | : | 1.57 kg |
| **Sexual Maturity** | | |
| Age at 50% rate of lay | : | 20 week |
| Age at 90% rate of lay | : | 22 week |

| | | |
|---|---|---|
| **Egg Production** | | |
| Peak Production | : | 98.00% |
| Egg Production above 90% | : | 45 weeks |
| Total Hen Housed eggs for 72 weeks | : | 340 |
| Total Hen Housed eggs for 80 weeks | : | 386 |
| Total Hen Housed eggs for 100 weeks | : | 490 |
| **Egg Weight** | | |
| Egg Weight at 22 weeks of age | : | 50g |
| Egg Weight at 26 weeks of age | : | 55g |
| **Feed Conversion** | | |
| Feed/egg for 19-80 weeks of age | : | 121g |
| Feed/egg for 19-100 weeks of age | : | 125g |
| **Egg Characteristics** | | |
| Shell quality | : | for extended period |
| Shell colour | : | Uniform white |
| Variation in egg size (Uniformity of eggs) | : | Uniform |

# Body weight milestones

# In the first month of production egg weigl rapidly.




| 2.5g per week egg weight increment | 1.0g per week egg weight increment | 0.5g per week egg weight increment |
|---|---|---|

**The FEED during the laying period must meet the birds' requirement for**

- **Maintenance**
- Production
- Growth

**Goals during Laying Period**

**Achieving high production peaks**

**Maintaining persistent production over extended periods**

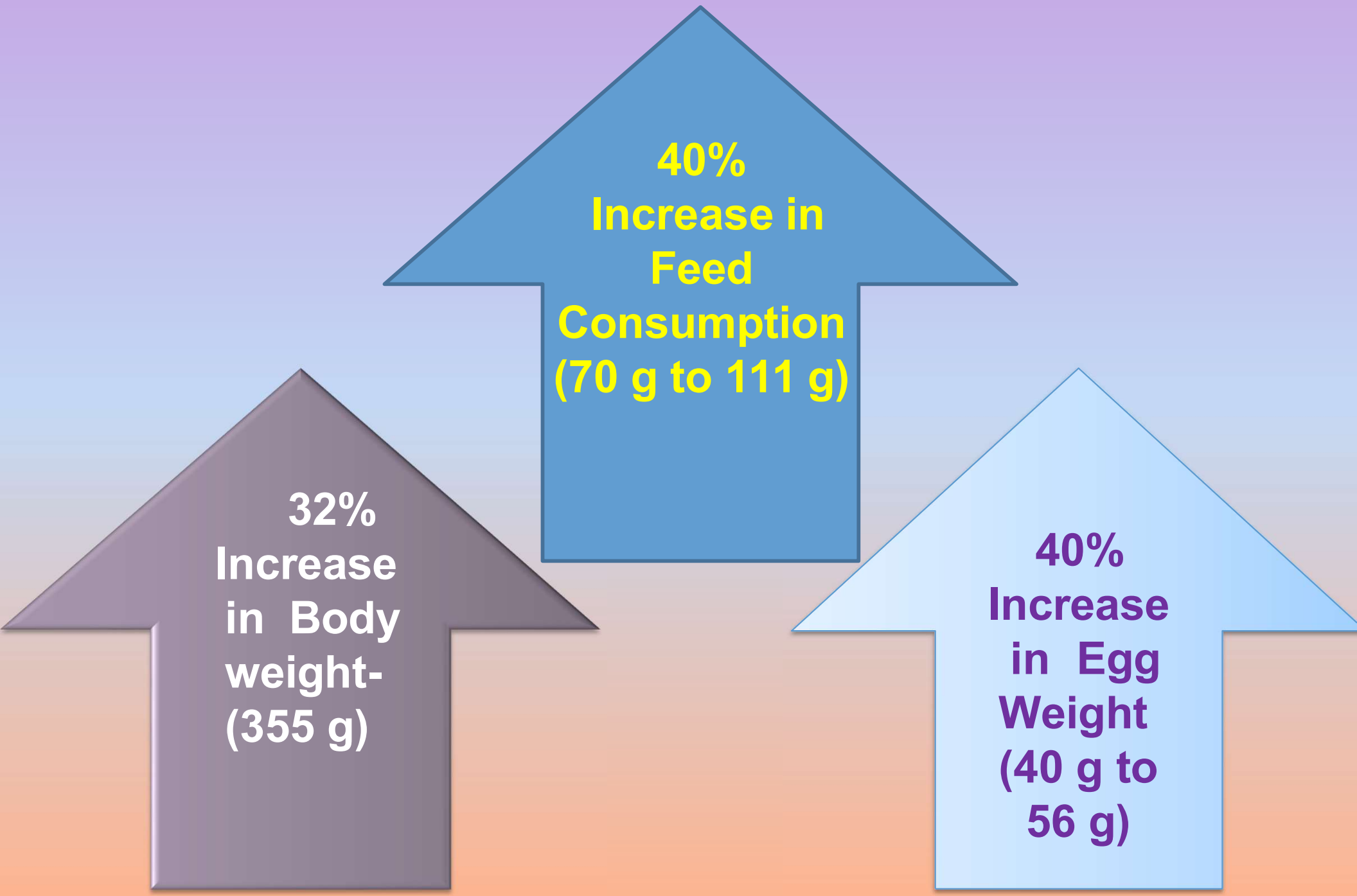
**Achieving marketable egg size quickly**

**Controlling egg weight**

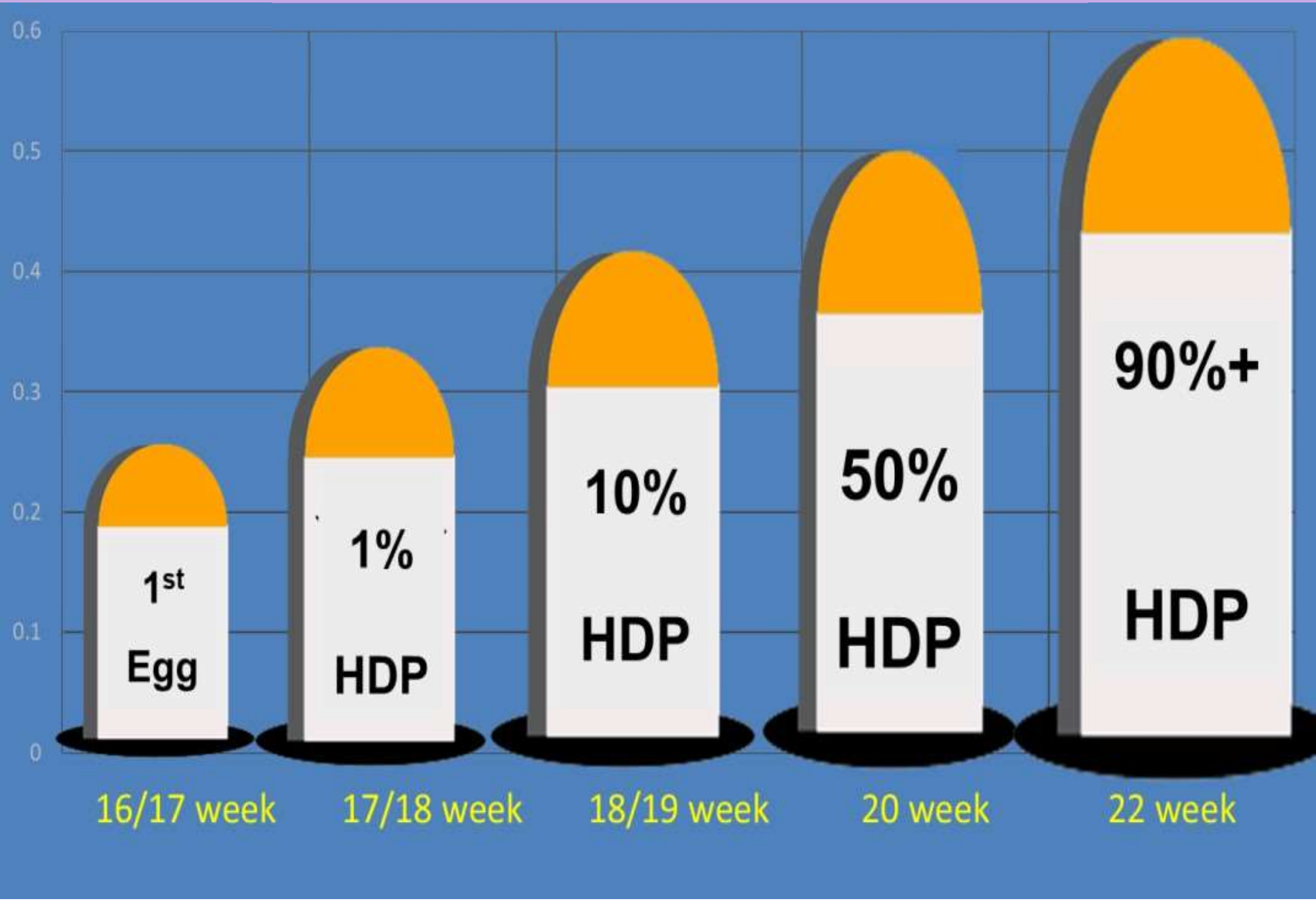
**Promoting immunity for better livability.**

**Maintaining shell quality**

# Phase-1 (0.5% egg production to 30 weeks)



# Production milestones



# Phase Feeding

- An optimized feeding regimen for flocks is structured based on the age of the birds, rather than focusing solely on production with respect to calcium and phosphrous requirements.

- The feed supplied is carefully formulated to contain all necessary nutrients to support 100% production of individual birds in all phases.

Maximum nutrient demand is in this period.

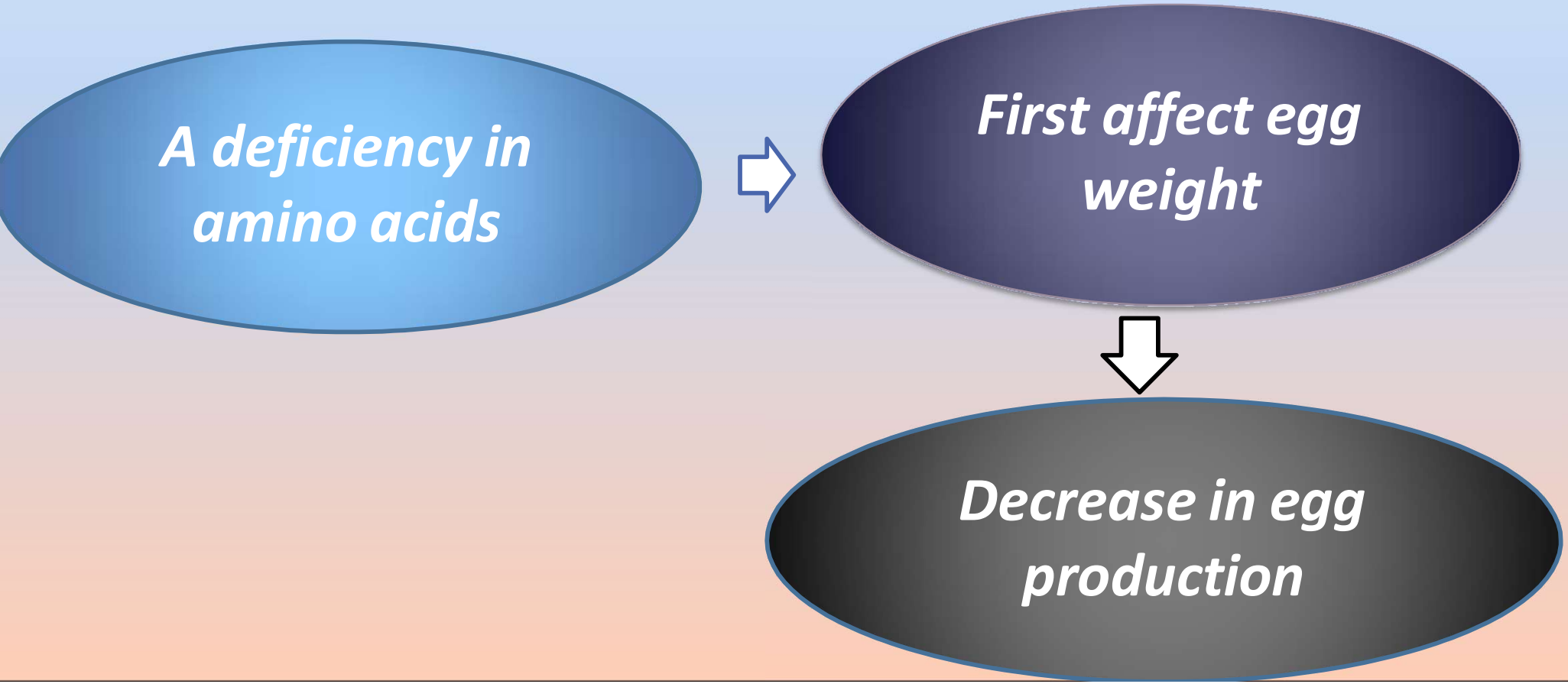
- Production reaches peak.
- However, feed consumption is low as birds are yet to reach mature body weight.

- **Initiate management efforts to increase feed consumption**
  - **Increase day length by providing artificial light when body weight is 1.2kg or 10% production whichever earlier.**
  - **Frequent feeding.**
  - **Early morning feeding.**
  - **Avoid accumulation of less fine particles in the feeders**
  - **Mid-night light require during Summer Season.**
- **The goal in this phase is to attain body weight targets and mature body weight. This indicates adequacy of the given diet.**
- **If targets are not met review the formulation and make required changes.**
- **Consumption based nutrient levels to be properly followed**

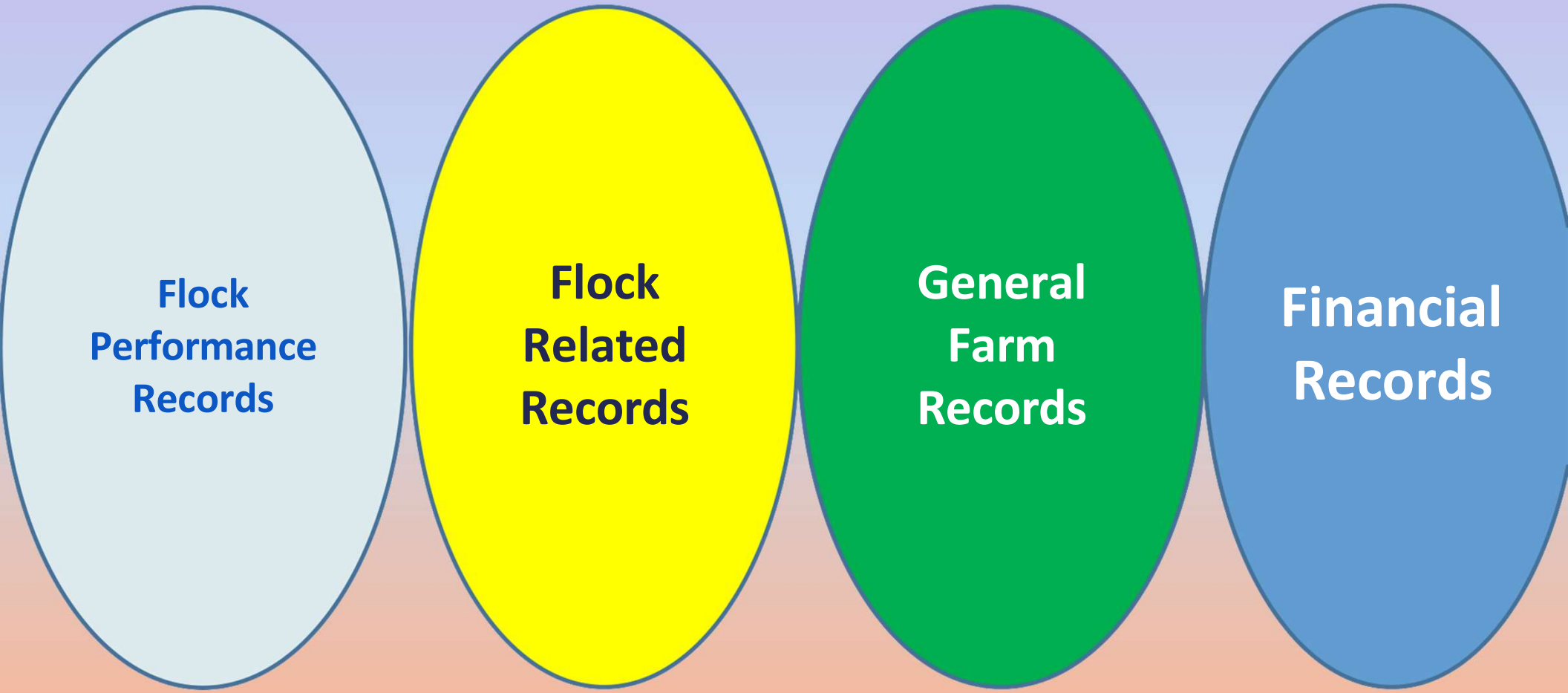
Feed consumption is influenced by

- Body weight,
- Performance
- House temperature
- Feed texture
- Energy level of the feed
- Nutrient imbalances in the diet

- If there is a deficiency in certain nutrients, the hen may try to compensate by increasing feed consumption.
- Birds are sensitive to new ingredients, so it is important to gradually introduce any changes.



# Type of Records



# Flock Performance Records

- Egg Production : Number of Eggs, Hen Day Production (HDP%) & Hen Housed Production HHP
- Mortality(weekly & cumulative)
- Feed consumption(daily, weekly & cumulative) and Feed efficiency (Feed per egg)
- Water consumption
- Egg weight
- Body weight

# Flock Related Records

- Medication & vaccination records
- Gas & Electricity consumption records
- Post Mortem & Laboratory records
- Water tank & nipple line cleaning records
- Feed rates
- Eggs rate

# General Farm Records

- Visitors register
- Vehicle register
- Supervisor & workers
- Diesel consumption

# Financial Records

- Expense for purchase of chicks,feed/feed ingredient,medicines,vaccines & other consumables.
- Income from sale of eggs, culls,empty gunny bags & manure.

Financial records may be kept as per advice from your financial consultant.

Computerized records are excellent tools to speed up the analysis of records.

- Photographs of few WELL MANAGED FARMS WITH GOOD RECORDS

Photography by-DR. P. K. SATPATHY

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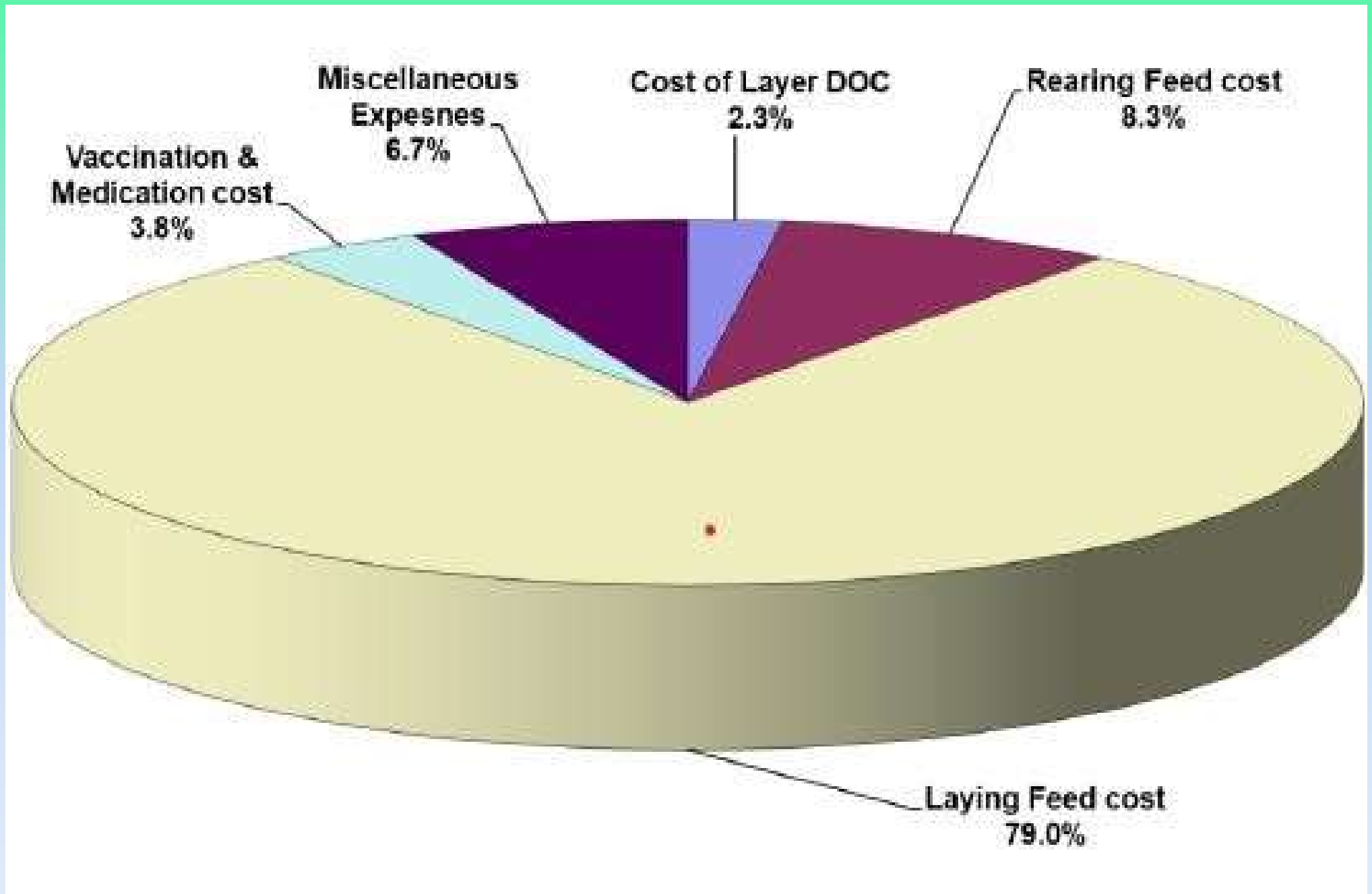
# Economic indicators in commercial layers

| 1 gram Feed per egg | Rs-9/ profit per bird |
|---|---|
| 1% average Hen Day Production | 4.2 Eggs per Hen Housed |
| | 17 Rs. Profit per bird |
| 1% laying mortality | 7 Rs profit per bird |
| 1000 Rs per ton feed cost | Economical if HDP% is not reduced more than 2.6%(equivalent to 11 eggs HHP) |


Miscellaneous
Expesnes
6.7%
Cost of Layer DOC
2.3%
Rearing Feed cost
8.3%
Vaccination &
Medication cost
3.8%
Laying Feed cost
79.0%

# *Drinking water quality*

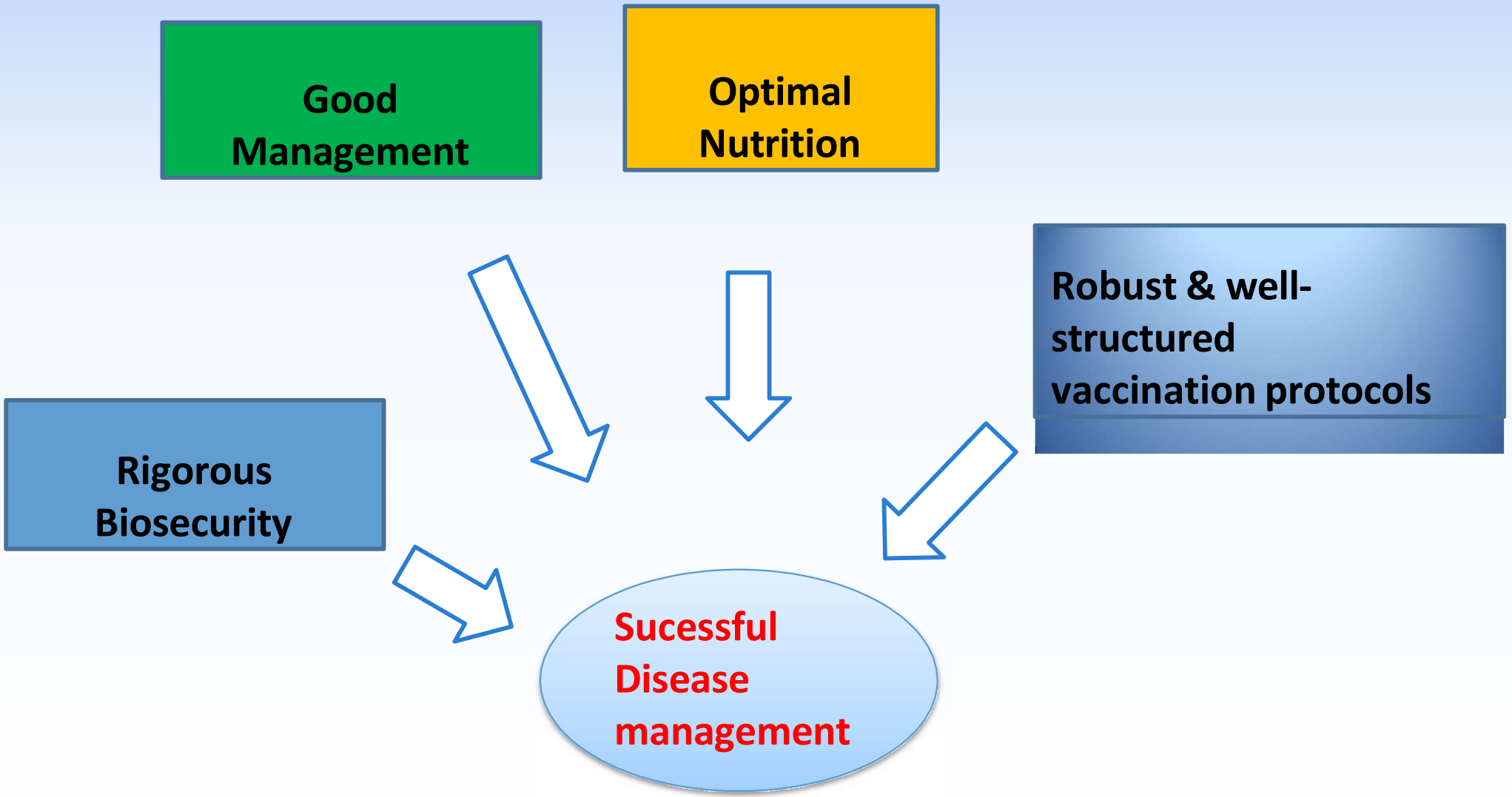
- Water is an **essential nutrient,** but given little attention.
- Poor water quality can interfere with digestion, affect bird performance, & become potential source of pathogens.
- Moreover, the efficacy of vaccines and medications administered through water lines can be affected, when water quality is sub-standard.
- To maintain water free from bacteria, fungus, molds, algae, biofilm, scale, and within the recommended pH range.
- Regular monitoring of water quality is highly recommended.
- Under normal conditions, birds consume 1.8 to 2 times more water than feed.
- During periods of heat stress, water consumption increases.

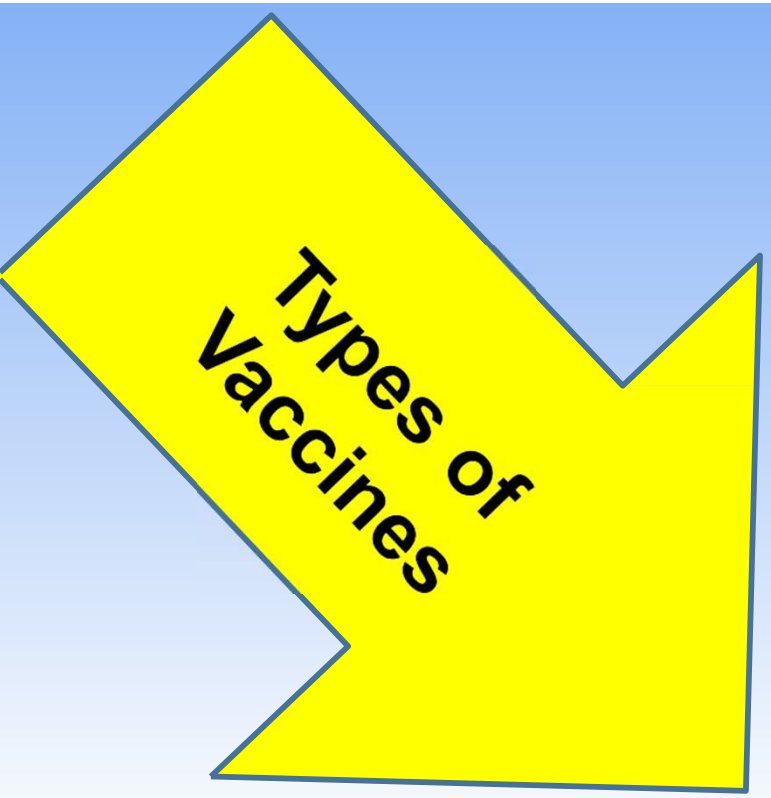
# *Recommended Drinking Water quality parameters.*

| Parameters | Recommended Level | Parameters | Recommended Level |
|---|---|---|---|
| Physical parameters | Clear, colorless, odorless | Chlorides, mg/lit | <200 |
| Total Bacteria count, CFU/ml | <50 | Copper, mg/lit | <0.5 |
| Total Coliform, CFU/ml | 0 | Fluoride, mg/lit | <1.5 |
| pH | 6.5 – 7.5 | Iron, mg/lit | <0.3 |
| Total Dissolved Solids, ppm | <1000 | Magnesium, mg/lit | <50 |
| Total Hardness, ppm | 60 - 180 | Manganese, mg/lit | <0.05 |
| Salinity, ppm | <1000 | Nitrates, mg/lit | <25 |
| Oxygen Reduction Potential (ORP), mV | 650 -750 | Nitrites, mg/lit | <4 |
| Ammonium, mg/lit | <0.5 | Sodium, mg/lit | <50 |
| Arsenic, mg/lit | <0.05 | Sulfate, mg/lit | <250 |
| Calcium, mg/lit | <60 | Zinc, mg/lit | <1.5 |

# Preventive Health Approach

**To realize the full genetic potential of BV300 birds, it is imperative to minimize the influence of diseases within the flock.**






Live attenuated virus vaccines

Inactivated (killed) virus vaccines

Recombinant virus vaccines

Inactivated (killed) Bacterial vaccines

# Vaccination Methods

| | |
|---|---|
| Eye drop (intraocular) | Nasal instillation |
| Beak dipping | Subcutaneous injection |
| Intramuscular injection | Wing Web prick |
| Drinking water | Spray vaccination |

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# DISEASE MANAGEMENT-

- Keep routine observations on surrounding Farms.

- **Initiate immediate precautions if any out break noticed on vicinity.**

-**Any out break, Diagnosis must made through efficient Veterinarian & help of a LAB.**

-**Any Medication/Vaccinations are also required to be followed with patience & extra working hours with manpower adjustment must be followed.**

-All farm should have **Disposal Pit** for regular dead & affected birds during infection.

# SANITATION HYGIENE &BIO-SECURITY-

-Most important &required for a successful & Viable Farm.

- a--Sanitation of the Shed surrounding & premises.

b--Cleanness of the individual sheds, platforms, cages, OH Tanks, pipelines, Fluorescent light ,Fan, Foggers etc. on regular intervals.

c--Cleaning ,Disinfection & White washing of the all sheds before the birds arrival,& or shifting.*

d--Litter Management & proper disposal of litter.

e--Fly, rats & rodents control to a minimum level.

# BIO-SECURITY

- -Cheapest & most effective method of disease control.
- -A mean designed to prevent the disease into the Farm, i.e maintaining minimum traffic of Biological across its boarder.
- - As suggested for Isolation, Traffic control etc.
- a-- Isolation of the bird in a controlled environment.
- b-- All in /all-out rearing pattern
- c-- Periodic clean-up & disinfection protocol after depopulation.
- d-Control of man as labour, guests or related & non related persons.

cont-

- 
- e-Construction of Fogging passage, change room, farm dress,vehicle stand, vehicle bath particularly Raw material vans, Egg carrying vans & own regular cars.
- f-Suggested litter carrying vans & cull bird vans should remain out of the premises & arrangements to be made to deliver at out side Gate.
- -Regular Spray of Anti Microbial Disinfectants within & out side the Shed & Premises.


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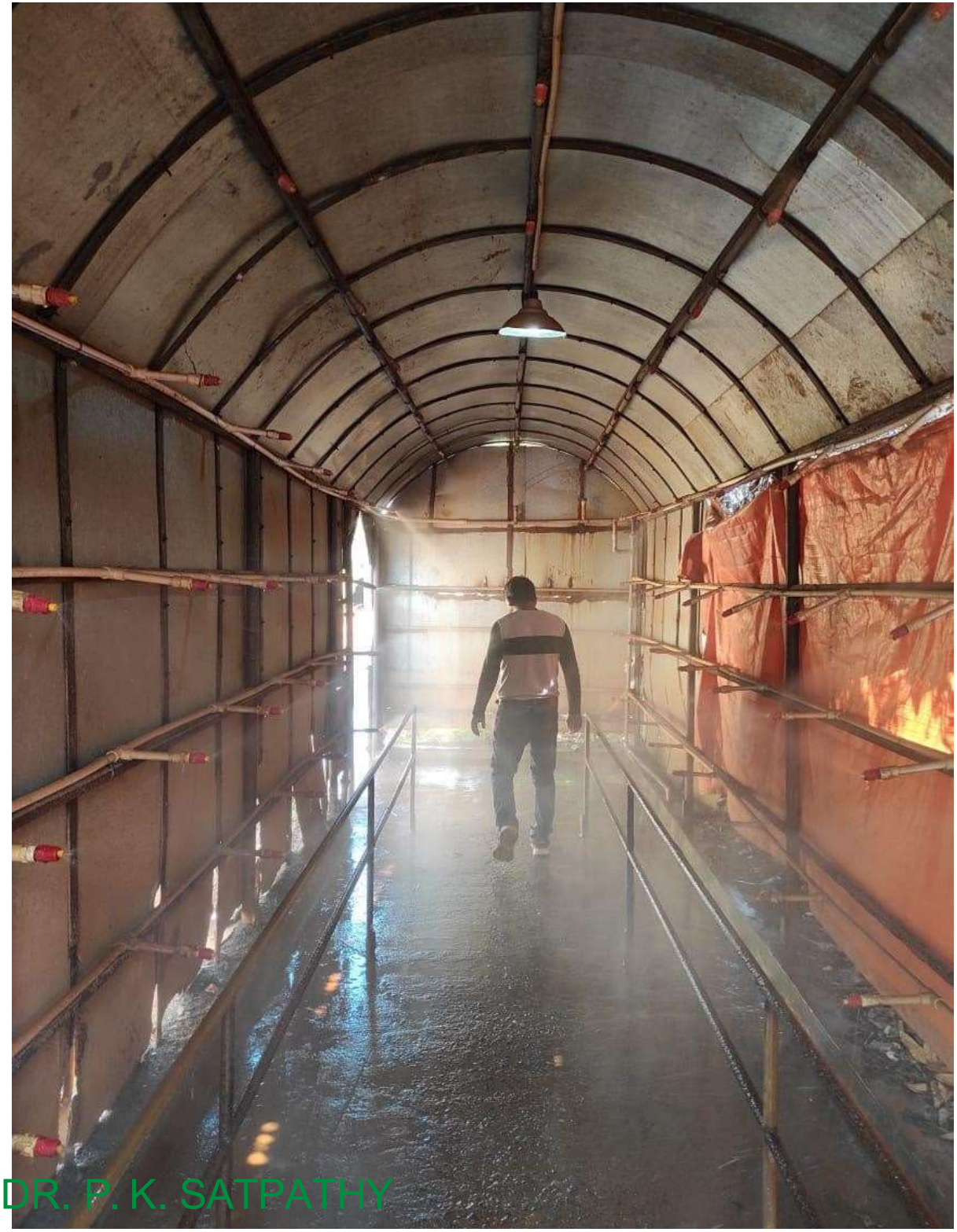

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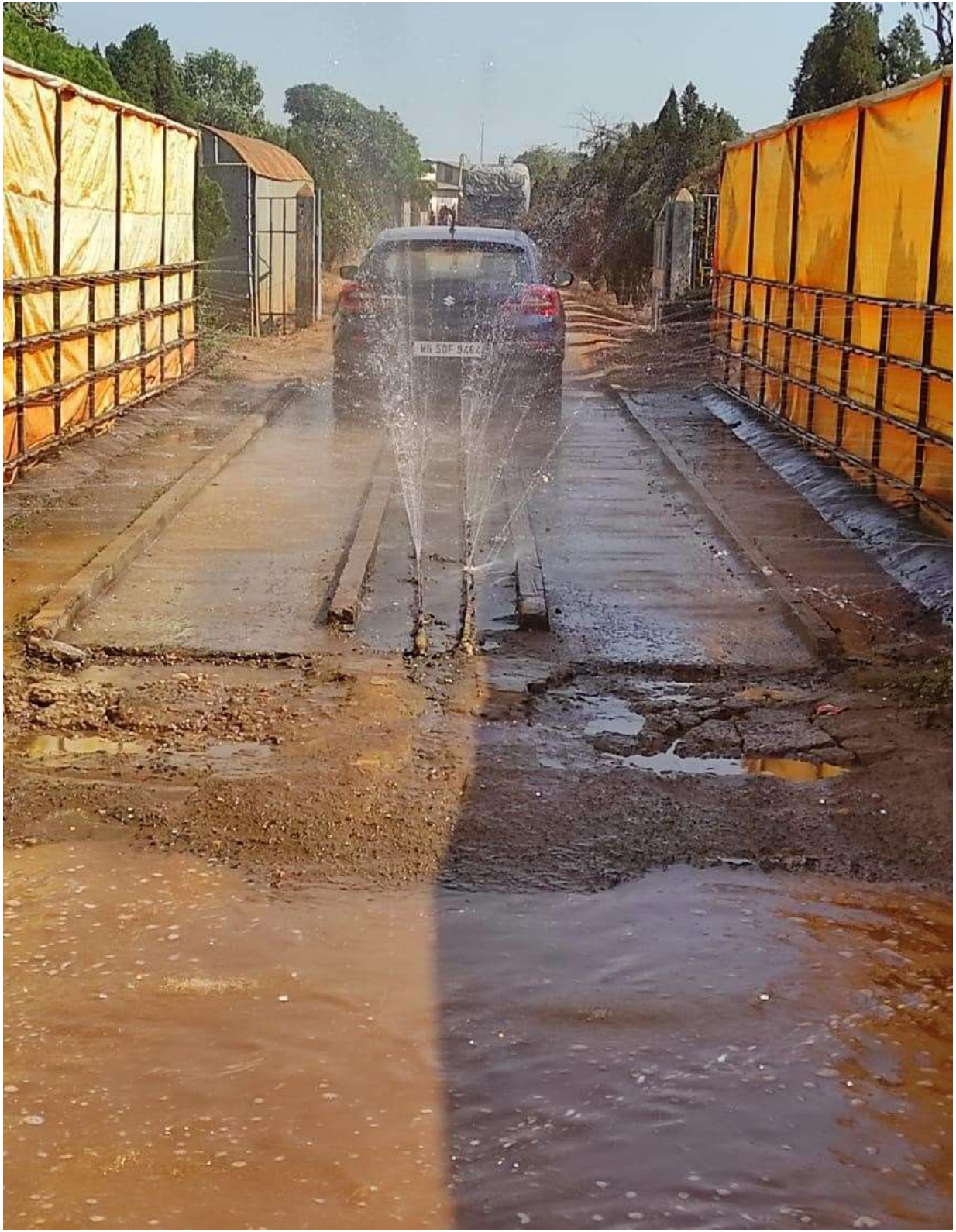
vivo Y51A

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**THANK YOU**, very much Respected **DR.B.V.RAO Sir,**

We are Extremely Happy with the genetic progression & achievement of

**INDIAN POULTRY BIRDS and EGG- PRODUCTION**


THANK YOU