Causes Of Drop In Egg Production
Egg Production Curve
Rearing problems

- Disease problems in rearing periods with viral or chronic bacterial infections or parasitic problems as coccidia may result in poor performance in lay.
- If pullets are underweight for any reason at transfer to the laying site, this will influence production.
- Sudden changes in light programs between rearing and laying site can also affect production.
Viral infections

- Many viral infections can cause production problems, sometimes coupled with mortality in laying birds. These include Newcastle disease, Infectious Bronchitis and IB variants, Infectious Laryngotracheitis (ILT), Egg Drop Syndrome, Epidemic Tremor, Avian Influenza and Avian pneumovirus (TRT).
- A good vaccination programme should protect layers against the majority of these viruses.
Causes of drop in egg production could be classified into:

1- Mange mental & Environmental.

2 - Nutritional.

3 - Pathological.
Factors have a negative impact on egg production.

1. Poor pullet quality.
2. Inappropriate feeding program.
3. Poor feed quality.
4. Disease.
5. Inadequate water supply or poor water quality.
6. Inadequate light stimulation.
7. High bird density.
8. Inadequate ventilation.
9. Sudden weather changes.
10. Equipment malfunctions.
11. Poor farm management.
Common egg production problems can be divided into

Three categories:

1. Low peak production.
2. Normal peaks but production drops shortly afterwards.
3. Mid-lay production drops (40 to 50 weeks of age).
Causes of sudden drop in egg production

Troubleshooting egg production problems

• The first rule in troubleshooting egg production problems is to keep it simple. Do not take anything for granted. Check all the basic items first.

• To limit the discussion we will assume we are housing a healthy, uniform flock of pullets with adequate weight and that basic management is acceptable.
Does the feed contain the nutrients and energy calculated?

The birds are not consuming what we calculated in case of:

- If ingredient quality is less than projected,
- Bad quality ingredient.
- Ranced ingredient.
- Weevils infestation.
Is there adequate feeder space to allow all hens to eat?

• Inadequate feeder space will not allow all hens to eat.

• Chain feeders should allow 5.5 to 5.9 inches per bird (14 to 15 cm per bird) and pan feeders should allow 13 to 14 birds per pan.

• Increasing the number of hens per house will reduce feeder space per hen.
Is feed distribution fast enough to allow hens access to feed?

- Feed should be distributed throughout the house within five minutes or less.
Are all hens getting enough feed?

• If feed clean-up time is less than one and one-half hours, some hens will not consume enough feed.

• Fast clean-up time can result from daily feed being given too early, a high energy feed (low feed volume), pellet rather than mash feed, and type of feeder.
Are males stealing feed from the hens?

- With dubbed males, and improper or damaged grills feed intake may be one to two pounds less than calculated due to male stealing.
- Hens need to be compensated under those conditions. To verify this you need to be in the house to watch the birds eat.
Did the hours of light stimulation bracket natural daylight?

• Was light intensity and duration adequate?

• Light intensity should be 3 to 4 foot/candles at bird level.

• Low intensity may be due to lights not being turned on during cloudy days, dirty or missing bulbs, fluorescent bulbs in the winter time and/or voltage drop with high-pressure sodium lights.
Nutritional Deficiency

Laying chickens require a completely balanced diet to sustain maximum egg production over time. Inadequate nutrition can cause hens to stop laying. Inadequate levels of energy, protein or calcium can cause a drop in egg production.
Prolapse Of Oviduct

- Feed imbalances can cause other problems like oviductal prolapse. Prolapse may occur when the bird is too fat and/or an egg is too large and the bird's reproductive tract is expelled with the egg. Prolapse usually causes permanent damage to the hen and is fatal in many cases.
• Feeding a salt-deficient diet will lead to increased feather pecking and a decline in egg production.

• Birds deficient in chlorine are more nervous, showing increased sensitivity to sudden noise.

• Inadequate calcium consumption will result in decreased egg production and lower egg shell quality Leading to cage layer fatigue.
• If dietary protein is too low or the amino acid requirements are not met, poor egg production and hatchability will occur.

• Dietary fat is a source of energy and of linoleic acid, an essential fatty acid. A deficiency of linoleic acid will adversely affect egg production. Dietary fats also serve as "carriers" of fat-soluble vitamins, and some fat is necessary for absorption of vitamins. In fact, impairment of the absorption of fat-soluble vitamins (A, D, E, and K) is the most serious consequence of a dietary deficiency of fat.
Toxicoses

- **Salt**: High levels, and excessive amounts are highly toxic and reduce egg production.

- **Phosphorus**: The ratio of dietary calcium to phosphorus affects the absorption of both these elements; an excess of either one impedes absorption and can reduce egg production, shell quality and/or hatchability.
• **Vitamin D**: Excess vitamin D3 leads to increased calcium absorption resulting in hypercalcemia which may reduce egg production.
Botulism

• Botulism is an acute intoxication caused by consumption of a neurotoxin produced by the bacterium *Clostridium botulinum*. 
Anticoccidials

• **Nicarbazin:**
  - An anticoccidial drug that reduces reproductive performance when it's inadvertently added to layer or breeder diets at normal anticoccidial levels.
  
  - The yolk membranes are weakened, resulting in mottling of the yolk.

  
  Nicarbazin fed to brown-egg layers turns their eggshells white within 48 hours, although this is completely reversible when the product is withdrawn from the feed.

  - Even low levels of nicarbazin can cause some loss in shell color, mottling of egg yolks, Quality, and a decline in hatchability.
Monensin

- Monensin, and other ionophore anticoccidials, have an adverse effect on egg production when used in conjunction with low protein diets.
Intestinal Spirochaete Infections in Chickens

- Infection of the caeca with intestinal spirochaetes is associated with the occurrence of wet droppings, delayed onset of egg laying, faecal staining of eggshells, reduced egg weights and reduced carotenoid content of eggs. Broiler chicks hatched from infected hens show reduced weight gain.

- Spirochaetes are recovered significantly more frequently from layer and broiler breeder flocks with diarrhoea and reduced egg production than from clinically normal flocks.
The organisms have fastidious growth requirements and need anaerobic conditions for their laboratory isolation: this complicates diagnosis and helps explain why it has taken so long for their significance to be appreciated in poultry.
BLS

A new disease in broiler breeders known in Australia as Big Liver and Spleen Disease (BLS) is described from field observations, retrospective record analysis, and detailed study of a selected flock. BLS has a predilection for adult birds. It is characterized clinically by a sudden drop in egg production, splenomegaly, hepatomegaly, and increased mortality and histologically by a period of lymphoproliferation followed by a period of lymphoid destruction that coincides with the clinical signs.