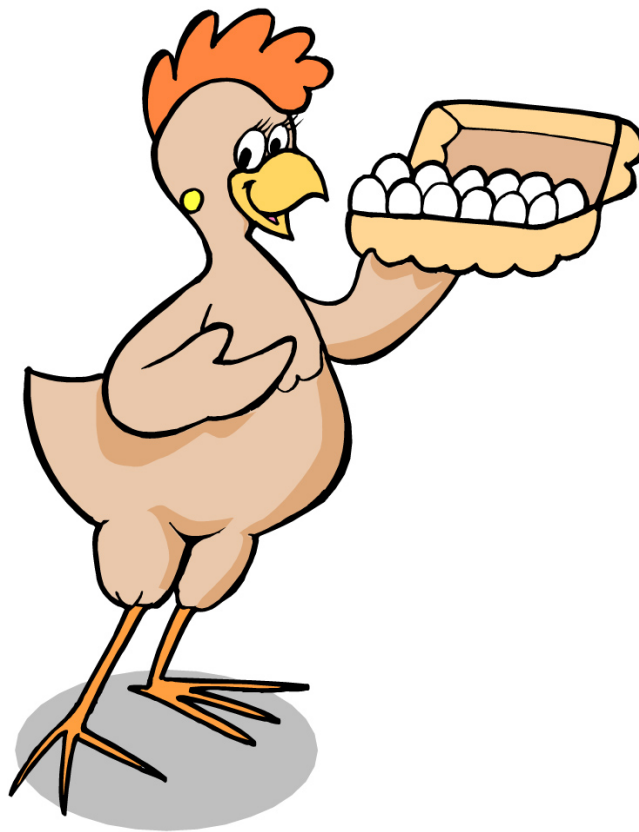


HAPPY LAYERS

TRAINING MANUAL



1. INTRODUCTION

This manual will teach you everything about running a successful egg business: from the laying cycle of a chicken to the marketing of the eggs.

A hen can lay one egg in a day and will have some days when it does not lay an egg at all. The reasons for this laying schedule relate to the hen reproductive system. A hen's body begins forming an egg shortly after the previous egg is laid, and it takes 26 hours for an egg to form fully. Birds typically begin producing eggs in their twentieth or twenty-first week and continue for slightly over a year. This is the best laying period and eggs tend to increase in size until the end of the egg production cycle.

Both the number of eggs you can get from a flock and the number of years a flock will produce eggs depend on several variables, including the following factors:

- Breed
- Management of pullets prior to lay
- Light management
- Nutrition
- Space allowances

Chickens usually start to lay at around five months (20-21 weeks) of age and continue to lay for 12 months (52 weeks) on average, laying fewer eggs as they near the moulting period.

2. PRODUCTION

2.1 Types of layers

According to the nature and colour of egg, there are two types of layer hens:

- White egg laying hens: This type of hens is comparatively smaller in size. They eat relatively eat less food, and the colour of eggshell is white. Isa White, Lehman White, Nikchik, Bab Cock BV-300, Havard White, Hi Sex White, Sever White, Hi line White, Bovanch White etc. are some popular white egg laying chickens.
- Brown egg laying hens: Brown egg laying hens are relatively larger in size. They eat more food, compared to white egg layers. And they lay bigger eggs than other laying breeds. The eggshell is brown coloured. There are many types of brown layer



available. Among those Isa Brown, Hi Sex Brown, Sever 579, Lehman Brown, Hi Line Brown, Bab Cock BV-380, Gold Line, Bablona Tetro, Bablona Harko, Havard Brown, Golden Comet etc. are very suitable for commercial layer poultry farming.

2.2 Housing

Chickens need to have a place to roost at night, which is protected by the weather, they need to be fed and their water needs to be checked every day. They also need a nesting box to lay their eggs in, which you put in your chicken coop.

Hen groups are comfortable at a stock density of three to four birds per square metre. If more space is allowed, a greater variety of behaviour can be expressed. Less space creates stressed social behaviour, allowing disease vulnerability and cannibalism and leaving weaker birds deprived of feed or perch space.

Perches

To make use of the entire housing facility, you can incorporate perches. The hens will sleep on the perches at night, keeping them off the floor. The use of perches also helps concentrate much of the manure in a single location for easier cleaning of the poultry house. Moreover, chickens have a desire to perch, so providing for this behaviour contributes to animal welfare.

Providing laying hens with perches is a way to relieve their stress and to reduce certain injuries and cannibalism. During the day, hens that are lower in the pecking order use the perches to escape pecking from more dominant hens. This ability to escape reduces the incidences of injury to the head and neck caused by aggressive pecking and cannibalism caused by severe feather pecking. At night, when all the hens perch, the more dominant hens take the higher perches.

It is very important that the chickens have enough space, otherwise they experience stress and they will lay fewer eggs. Perches are a crucial part of a happy chicken house, because chickens like to roost and they also relieve stress.



2.3 Purpose

You can keep chickens for the purpose of creating a sustainable source of income for the school. Here are some reasons why a layer farm is a good school enterprise.

- **Fresh eggs** are the number one reason most people want to have hens. We sell the egg to make a profit. Not all of your hens will necessarily be laying eggs at the same time, but when a hen is laying, she lays one egg about every twenty-five hours.
- **Caring for chickens is relatively easy.** Once your flock is established, daily chicken care is minimal. Just like pets, chickens need food, water, a clean shelter, and exercise. It is important to keep the chicken house clean, and make sure the chickens have the opportunity to go outside.
- **Chickens will eat bugs.** Chickens live for bug hunting. It seems to be their favourite thing to do. All day long they forage in the grass and rocks, looking for a tasty treat. Chickens enjoy eating scorpions grasshoppers, ticks, termites, caterpillars, worms, slugs, fly eggs and pupae, beetles, weevils, spiders, centipedes, and snails.
- **Chicken poop is excellent fertilizer.** Chicken poop will make the garden look amazing. To make great compost, you need nitrogen; as luck would have it, chicken poop is full of it! We can use the chicken poop to fertilize the school garden.

There are a lot of benefits to keeping chickens for the sale of eggs; chickens eat scorpions, centipedes and other dangerous bug and their poop can be used as fertilizer for the garden.

2.4 Reasons Hens Stop Laying

Any factors can affect egg production, with health (before and after lay) being one of the most significant. If your hens stop laying, you may be able to identify the source of the problem by asking the following questions:

- **Have the hens been laying for 10 months or more?** Your hens may just be at the end of their laying cycle. If so, they will stop production, go through a moult (loss of feathers), take a break, and start laying again. If your hens have been laying for less than 10 months, something else may be causing their lack of production.
- **Are the hens receiving enough fresh, clean water?** The hens will not eat if they cannot drink, so make sure that your watering system is functioning correctly. Summertime high temperatures can make the water so warm that the chickens will not drink enough to meet their increased needs.

- **Are the hens eating enough of the right feed?** Feeding the wrong feed, diluting feed with scratch grains, or limiting the amount of feed available can result in your hens having a nutritional deficiency, causing them to moult and go out of production. When hens have a nutritional deficiency, it is common to see feather pecking as well as a loss of egg production.
- **Are the hens getting enough hours of light per day?** Decreases in the number of hours of light per day typically will put a flock out of production. For this reason, many flocks that are not provided with supplemental light go out of production during the fall and winter months.
- **Do the hens have parasites?** Various internal parasites and external parasites can infest poultry flocks and stress the hens. Heavy infestations of internal parasites can result in serious damage to the digestive tract and reduce hen performance.

There are several reasons why chickens stop laying eggs. After 10 months there might occur a break in the laying cycle. Other reasons why chickens stop laying are: they don't have enough fresh water, they aren't given the right feed, they don't receive enough light or they have parasites.

3. MANAGEMENT

3.1 Safety

A good house protects laying birds from theft, predation, direct sunlight, rain, excessive wind, heat and cold, as well as sudden changes in temperature and excessive dust.

Vaccination programmes are very important for keeping the chickens free from all types of diseases. Vaccinations are important for a number of reasons:

- Timely vaccination creates disease resistance power in the body of the chicken.
- It helps to keep the hen free from infective poultry diseases.
- Disease prevalence will be less.
- Mortality rate will reduce.
- And low mortality rate = more production = more profit.

There are many types of poultry vaccines available for layer hens. We use Piperazine, every six months. One bottle (containing 100grams) must be added to 70 litres of drinking water.

Poultry ticks

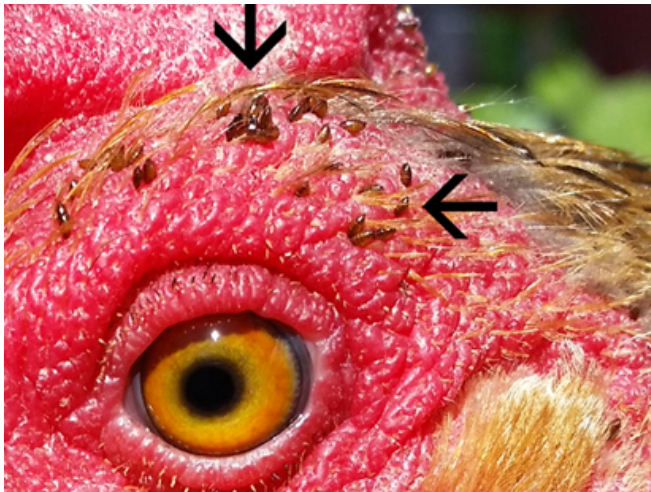
These pests hide in the walls, floors and bedding of the cages and houses where chicken are kept. In order to control the parasites it is necessary to keep these places clean!

You may never see poultry ticks on your chickens. However, the behaviour of your chickens may give you the first clue that you have poultry ticks. Chickens living in tick-infested coops will suddenly appear agitated at roosting time and seem reluctant to go into the coop.

Normally ticks are brought about by poor hygiene and proper maintenance of the chicken house is therefore very important. You must always fumigate (disinfect) the house before introducing new chickens in a house or after removing old ones.

Demonstrated insecticidal (acaricidal) treatments for poultry ticks:

Permethrin (pyrethroid-neurotoxin), carbaryl (Sevin), coumaphos (organophosphate), malathion (maldison, organophosphate), stirofos (organophosphate). Of these, Permethrin is considered to be the most effective against poultry ticks.



Preventing diseases

- Maintain a hygienic environment at all times.
- Monitor your birds closely.
- If you notice anything suspicious, notify a vet immediately.
- Move infected birds into quarantine.
- Always ensure there is fresh water- if you wouldn't drink it then neither should your chickens!
- Change the litter regularly.

- Make sure there is enough light and ventilation in the broiler house.
- Prevent other animals or insects entering the house.
- Carry out thorough rodent and pest control measures.
- Make sure that movements into the house and the garden are kept to a minimum. Only enter to feed the chickens, collect eggs and clean the house. Chickens experience stress when there is too much movement, this can cause death.

A good, clean house and vaccinations are very important to keep the chickens safe. Keep an eye on the behaviour of the chickens to make sure they don't have ticks. If they do, make sure to treat it properly.

3.2 Feeding (food & water)

In general, optimum body weight during the laying period should be around 1.5 kg, although this varies according to breed. Underweight as well as overweight birds lay eggs at a lower rate. Proper management and the correct amount of feed are necessary in order to achieve optimum body weight. Each chicken needs 120 grams of feed per day. We fill the feeders once every day, in the morning.

Chickens of any type and age require a complete, balanced diet. Feed mills assemble the available ingredients in combinations that provide all the nutrients needed by a flock in one package. Some producers mix complete feeds with cheaper scratch grains, but doing so dilutes the levels of nutrients the chickens are receiving, and nutrient deficiencies can occur. Nutrient deficiencies can affect the growth of pullets and the level of production of hens in a bad way. When the chickens have just started laying, we feed them Novatek Layer 95, after six months, when the laying frequency goes up, we feed them Novatek Layer 100. When it goes up again we feed them Novatek Layer 105. In the last period, before the chickens stop laying, we feed them Novatek Layer 110.

Chickens health depends on the supply of pure, clean and fresh drinking water. Every morning when you fill the drinkers, you throw the water from the previous day out, and you add 1 teaspoon of Tetroxy per drinker helps the chickens lay good eggs.

The feed we give to the chickens is Novatek Layer 95, and after six months Novatel Layer 100. During the last period of the laying cycle we give them Novatek Layer 110. Each chicken needs 120 grams of feed per day.

3.3 Temperature and treatment

Heat stress is a significant constraint to successful production and can lead to death. Although birds can withstand several degrees below freezing, they do not tolerate temperatures over 40 C.

Ground cover can also reduce reflected heat. Shade should be provided, especially if there is little air movement or if humidity is high. With no shade, or when confined in higher temperatures, poultry become heat stressed and irritable, and may begin to peck at one another.

The chickens should always be kept in a cool environment. The temperature should never exceed 40 degrees.

3.4 Lighting

Chickens are called long-season breeders, meaning that they come into production as days become longer. That is, they start producing eggs when there are more hours of light per day. Since we buy the chickens when they are at the point of lay, the chickens need 14 hours of light per day; this equals the amount of hours of natural sunlight in a day. This exposure should stimulate the flock to lay eggs. To keep the flock in lay year-round, you will need to maintain a schedule of at least 14 hours of light per day. You can increase the amount of light slowly to 16 hours per day late in the egg production cycle to help keep the flock in production.

Birds do best in situations where there is plenty of natural light that does not raise the temperature of the house.

Chickens need at least 14 hours of daylight per day.

3.5 Record keeping

The importance of bookkeeping cannot be emphasized enough! Proper bookkeeping is vital to your business because good bookkeeping helps you make decisions. Only if you are up-to-date about the financial situation of your business, can you know whether you can afford certain expenses. Accurate bookkeeping is also necessary to determine the exact amount of profits or losses, which is necessary for the distribution of gains. Transparent record keeping is also needed to make sure nobody is stealing your products.

Proper bookkeeping is one of the most important aspect of any business.

4. MARKETING

4.1 Creating a marketing strategy

Objectives of the layer farm:

1. Impart skills on the pupils and the community
2. Fundraise to develop the school
3. Sell your eggs every day (chickens produce approximately 1 egg per day on average).



Some key questions you need to understand to develop your marketing strategy include:

- *Who is the target market?*
Your target market consists of all of the people who would want to buy your eggs.
- *How much money are people willing to spend on the product?*
Look at what your competitors charge per egg and per tray.
- *Does the target market have potential to grow in the future?*
You can expand your business if the demand turns out to be higher than the supply.

To make sure that everybody in the community knows about the new selling point for eggs you can put up posters. Furthermore, word-to-mouth marketing is very important.

Your target market is your community, but you can expand if demand is higher than supply. Posters and word-to-mouth marketing are important to keep the sale of eggs high.

4.2 Swot Analysis

When starting a business, it is very important to know your business's strengths, weaknesses, opportunities and threats. We call this a SWOT analysis.

Consider the strengths, weaknesses, opportunities and threats for your chicken business:

Strengths:

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Weaknesses:

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Opportunities:

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-

Threats:

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-
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It's important to know your business's strengths, weaknesses, opportunities and threats.

4.3 Competition

Another very important thing when starting and managing a business is to know your competition. Who are the competitors for your Happy Layer business? What are your advantages over them?

4.4 Pricing and sales

Asking the right price for your product is of great importance.

There are markets where the price is already fixed by others. In other markets, the dominant sellers may set the price, and you will just have to follow. Look at the competition to see what prices they are charging for their eggs.

What you need to know in all cases are your own running costs every month – and that whatever you do, you have to earn that much in order to make ends meet. The running costs for the Happy Layers are the costs for feed and Tetroxy (and Piperazine every six months). Add all of these monthly costs; the total is the minimum amount that you have to earn from your business. When you know how much you have to earn, you can figure out the minimum number of eggs you have to sell every month.

Every month you need to buy:

- Novatek Layer Feed: **K209** - **K220** per bag (Farmarama)
- Tetroxy: **K30** per sachet (Farmarama)

- Knowing these prices, what are your monthly running costs?

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This is the minimum amount you have to earn every month.

- The price per egg/tray is:

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- So how many eggs do you have to sell every month to cover your running costs?

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