

- Excessive treatment with antibiotics is harmful to birds and expensive, therefore constant unnecessary use of drugs and antibiotics can allow development of drug resistant strains of disease organism. Use a 5-day continuous application of anti-biotic as generated in the antibiotic sensitivity test result either at preventive or treatment level and should be repeated on a monthly basis e.g. every first week of each month using different antibiotic to avoid build-up of resistance.
- After working on known sick ducks, do not visit healthy birds unless you take a bath, change clothes and disinfect shoes/slippers. Preferably, a hospital pen be provided to isolate treatment. This can also be used for those with cases of pro-lapse problems.
- Replace or top-off rice hulls litter as deemed necessary to avoid built-up of wastes which can be a good place for virus and bacteria to thrive if the pen is "dalpak or litter type". For elevated buildings, feces are handled either with water under the building or thru rice hull or ash litter and collected at regular period. This can be converted into organic fertilizer which can be used for vegetable farming.
- Ducks should be de-wormed every 3 or 4 months as they are exposed to parasites from surrounding or from the shells taken from the sea or the bay.
- Sample of weak birds or abnormal drop in production and high rate of mortality should be sent to diagnostic laboratories for necropsy, bacterial isolation, fecalysis, and antibiotic sensitivity test to establish the best medication.

E. Lighting Management

- The primary action of light is the stimulation of the secretion of hormones that activate the ovary and initiates ovulation.
- To avoid pro-lapse problem during laying stage limit lighting exposure at grower stage limiting to 12 hours exposure. Main cause of pro-lapse is early maturity of layers which can lead to higher mortality. Lights on night can be limited for purpose of avoiding predators and a guide to feeders and waterer.
- Laying ducks require 12-14 hours of continuous light and artificial lights can be provided either before day breaks, in the evening or can be split.
- Providing too much light during the night is not advisable because it is expensive and will habituate the ducks to constant light which could reduce their photosensitivity.
- Even male ducks are influenced by natural or artificial lights in production of semen.
- Interior walls of the laying house should be white or light colored to reflect the light provided and reduce dark spots in the house.
- Any sudden decrease in hours of light per day will cause decline in egg production.
- Light stimulates bird activity, thus less cannibalism occurs with birds grown in dark-out housing.
- Use transparent curtain or white sacks or cut-out fiberglass roofing on the roof to allow light to come-in especially during cloudy days.
- Switch on the lights especially during dark days so as to provide light continuously.

RECOMMENDED MEDICATION AND VACCINATION PROGRAM			
*during laying period, sulfa drugs should not be given unless very necessary			
Age	Type of Medication	Preferred Admin.	Remarks
1-7 days	Antibiotic or Sulfa Drug e.g. Norfloxain	Drinking water	Prevention against bacterial infection such as salmonellosis callibacillus and staphylococcus
8-14 days	Antibiotic-Vitamin mineral mixture	Drinking water	To increase resistance of ducklings against bacterial infection
21-28 days	Multi-Vitamins	Drinking water	To increase resistance of ducklings
2 months	Antibiotic-Vitamin mineral mixture	Drinking water	May be given only during stressful condition e.g. change of climate
4 months	Antibiotic-Vitamin mineral mixture	Drinking water	May be given only during stressful condition e.g. change of climate
4.5 months	Ivermectin .6%	Drinking water	To remove parasites before start laying
Laying Mon.	Antibiotic-Vitamin mineral mixture	Drinking water	Given only when needed

Common Duck Diseases

COMMON LOCAL DUCK DISEASES PRESENT ARE EITHER BACTERIAL OR VIRAL TYPE.

Aspergillosis

Symptoms: laboured breathing, which can also be a symptom of pneumonia. **Cause:** spores from mouldy bedding, especially hay, which should be avoided.

Treatment: Aspergillosis can be treated with fungicides - but these are expensive and unlikely to be successful. Avoid this disease by good management.

Aflatoxin poisoning may show similar symptoms. In this case, the moulds that grow on cereal grains and oilseeds produce toxins which are very damaging for ducks. Store food in dry and cool conditions. Never use mouldy food.

Coccidiosis

Symptoms: red blood in the droppings; thin birds because coccidia attack the lining of the gut and nutrients from food are not absorbed. Birds may be ill for some time: weeks, not days.

Cause: ground dirty with droppings of birds which carry coccidia. Coccidia are protozoa and cannot therefore be eliminated with antibiotic. They are more common in summer in hot, wet conditions.

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Treatment: anticoccidial medication in the drinking water e.g. Harker's Coxoid, obtainable from your vet or Interhatch. Follow instructions about withdrawal times. The coccidiostat added to poultry (hen) grower pellets is not a suitable treatment. Avoid problems by growing young ducklings on clean ground, moving their protective coop on to a new patch each day. Coccidiosis is not a common disease with ducks, especially if you have clean water and feed wheat and pellets. Geese are more likely to get it from grazing on dirty grass.

G. Ventilation Management

- Draft or "sumpitting hangin" is the no. 1 stress for all birds and should be avoided from brooding even till they lay, immediately put wind breaker/curtain if you encounter this like used fish nets.
- Plastic canvass used in laying houses can be installed on the side of the building for environmental control with 6" clearance or opening at the top to serve as outlet to avoid ammonia build-up and respiratory problem. This can also address excess dust, moisture and hot air accumulation especially if roof monitor is not provided in the house.
- Always monitor the comfort of the ducks especially during cold season, the temperature as much as possible to be maintained at 70-80°F. Cold season affects egg production either a drop or reduction in egg size.

H. Culling Management

- Abnormal, defective and unprofitable or unproductive birds affect profitability or raising ducks and should be culled on a continuous basis to reduce cost to produce.
- Continuous or regular interval culling will keep egg production at optimum but can produce stress. Birds subjected to regular culling routine can be used to it thereby minimizing its impact
- One time culling reduces stress but could be expensive as unproductive ducks do not add value. The best way to avoid immediate culling is to grow our own pullets to assure healthy birds provided with the balanced nutrition ready for productive laying stages.
- Example of culling system for optimum egg production
 - 1st culling is during transfer of pullet to laying pens.
 - 2nd culling is one (1) month after ducks are put into the laying pens just about to lay to catch unproductive bird.
 - Succeeding culling every 4 to 5 months or selective culling as deemed needed.

I. Waste Disposal Management

- The waste disposal depends on building type. Litter or dalpak type should be regularly disposed of and replaced by new stocks of rice hulls. For elevated type, water is used underneath the pens for waste disposal. The disadvantage of this system is the formation of wastewater which could be an issue of water pollution. Another option is the use of either rice-hull or ash and should be regularly collected to produce organic fertilizer.
- Manure disposal remains to be a challenge for raisers both for elevated and litter type buildings. Those using water for elevated buildings can consider converting the waste to biogas or FPJ (Fermented Plant Juice) can be applied to minimize odor.
- Program in bio-security is very important in handling waste disposal as bacteria, virus, parasites are present.

J. Record Keeping Management

- If you have the production data needed, it is easier to decide and come-up with solutions with better result especially in monitoring production and diseases.
- Egg production per pen would give you better scenario of what's happening in the flock.
- All expenses, production and sales expenses should be recorded to see the profitability of the business.
- Medication and sanitation plan should be clear with the laborers.
- A very important record-keeping task is determining our cost to produce.

SPECIAL NOTES ON PRO-LAPSE MANAGEMENT

Pro-lapse "blowout" of the oviduct results when the duck ruptures the muscle in her vent while laying and egg. Pen mates seeing the blood usually pick the bird to death. De-beaking or pick guards will reduce picking, but will not remove the underlying cause. Obesity (excess fat) and early sexual maturity contribute to this condition.

Common causes of early sexual maturity are increasing day lengths during the growing period, obesity and switching to the laying ration too early. To prevent obesity in pullets, monitor their body weight and condition. Restrict their energy intake if they are putting on too much fat. Pro-lapse prevent them from laying.

Ducks that show signs of pro-lapse can be helped by preventing them laying. However, if there is any small pro-lapse gently push it back into the duck with your fingers. The chicken should then be put on a maintenance diet of wheat and water and put in a dark cage. Leave the duck there for a week.

In severe pro-lapse a purse suture and maintenance diet with the duck kept in the dark, as above, works well. However, it is important to restrict its diet to maintenance only for a couple of months. This does work!! Alternative to maintenance diet is feeding the duck enough to keep it alive, moving and keeping warm plus enough extra feed for it to produce eggs.

Pls. Contact us at:



www.chexerlayers.co.nr

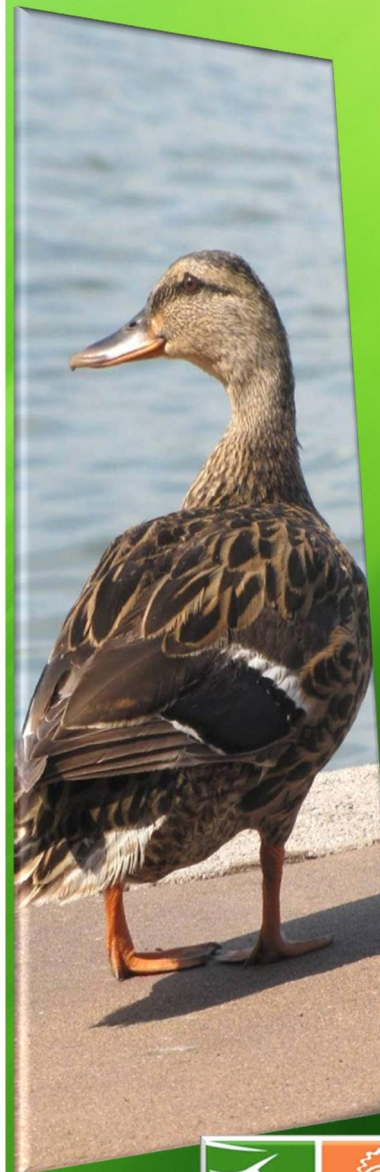
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PROFITABLE DUCK-RAISING



Agrichexers Corporation
Tabing Bakod, Sta. Maria, Bulacan

CRITICAL FACTORS IN DUCK RAISING

	Performance Impact	Cost Impact
Management	40 %	5 %
Facilities	20 %	25 %
Breed	10 %	5 %
Feeds/Nutrition	30 %	65 %
	100 %	100 %

- The difference with good management and poor management is the difference between a profit and a loss. Over 80% of all health problems brought to diagnostic laboratories could have been prevented by giving closer attention to sound basic principles of management and small daily details.

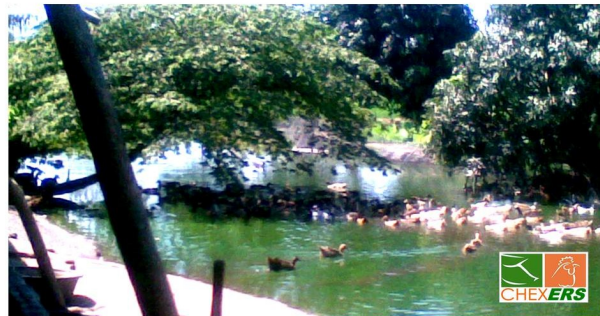


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A.- Brooding and Pullet Management – Current and Proposed Improvements

- Ducklings are brooded or warmed either by natural or artificial method until they are one month old.
- Brooder heater should be switched on after at least half an hour before the duck chicks arrived so as to pre-condition the brooder and keep the water warm.
- As after hatching and handling are stresses to duck chicks, water should be made available to them and should either be given with sugar, electrolytes, multivitamins or dextrose.
- Brooder Temperature Guide

Age	Temperature
Day old – 1wk	90-95°F
2 weeks	85-90°F
3 weeks	80-85°F
4 weeks	75-80°F



- Chicks have difficulty self regulating their body temperature the first 10-12 days of life losing significant quantities of heat through their feet, the reason why temperature should be maintained at 90-95°F.
- Brooding rings made of metal or cardboard can be used so as to keep the chicks in the vicinity of the heat, water and feed.
- A good brooding area is at least 0.5 square foot per duckling during the first week and to be increased by about 1 square foot every week until the fourth week.
- It is advisable also to give anti-biotic like Norfloxacin or Enrofloxacin on the first 4 days for health protection and can be repeated with a different medication on preventive level after a month and repeated thereafter.
- Draft should be avoided as this could lead to death due to stampede. The same is true with overheating or under heating.



- Anytime when ducklings are sick, heat should be provided regardless of weather and should be given antibiotics.
- Replace on a daily basis rice hulls to avoid collection of feces/droppings which could create a problem of caking which can cause respiratory problem due to ammonia build-up.. Place fresh feeds on feeder daily.



- Good sanitation should be overemphasized.
- Conventionally, they are transferred to different rice field once available palay and other feed source will not be enough. This is a great stress for the ducklings which can affect their growth. Our RECOMMENDATION is to grow it in confined areas where animal feeds will be given to them to address nutritional requirements and avoid stress and provide them the nutritional foundation they need when they start laying (please refer to the Proposed Feeding Program). A place to range the ducklings in the perimeter of the pen should also be provided to exercise them and avoid lameness.
- Vegetables and snails can also be given to them while in the open part of the confined area.



B. Feeding Management

PROPOSED FEEDING PROGRAM:

I. Chick Booster Crumble	Day 1-7
II. Duck Starter Pellet	Day 8-30
III. Duck Grower Pellet	Day 31-159
IV. Duck Pre-Lay Pellet	Day 160-180
V. Duck Layer Pellet	Day 181 onwards

NOTES:

- It is a common practice to feed duck pullets with cheap and low quality ingredients to save on cost not withstanding the effect on the animals when they start laying.
- Since ducks are stressed and not fully supplied with the right nutrition, most often than not they are starved and when they are placed in the laying houses, raisers need to feed them more to offset nutritional deficiency and uniformity in sizes.
- The recommended feeding program assures that balanced nutrition is given and the basic foundation for the laying period is addressed.
- Uniformity and bigger sizes of duck are expected which can lead to bigger egg sizes, higher livability of ducklings and lessen the molting period during the ninth up to the tenth month old.
- As ducklings are also ranged except it is confined, vegetables can also be given as source for fiber and oyster shell as source of calcium.
- Providing with vitamins and preventive level of antibiotics can easily be done on a regular basis for better health condition and better preparation for laying period.

SPECIAL NOTATIONS

- Feed consumption is influenced by the following factors:
 - Age, size, and egg production rate
 - Energy level of feeds.
 - Environmental Temperature >65°F<85°F.
 - Health Condition of the ducks.
- Feed consumption for duck layers should average to 125-150 grams/day-head. Feed at least 2 times a day assuring that there should always be there in the feeder at any given time. Check feed consumption in case of drop in production or egg size as this critically reflects performance.
- Feeders should be cleaned at least once a week.
- Feeders can either be automatic or manual
- Nutrient deficiencies may lead to feather picking, lameness, sore and even death.



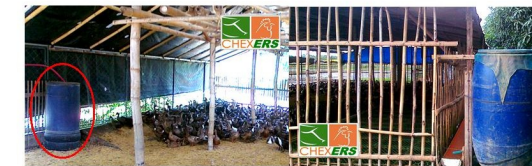
C. Water Management

- Drinking water as fresh, cool and clean must be available to the birds at all times as duck eggs contains 70-75% water.



- At warm or elevated temperature, ducks drink more essential for thermo-regulation. Electrolytes can be mixed with drinking water during hot months to encourage feed intake so as not to affect egg production.
- Ducks can take short period of starvation of feeds when water is available but egg production can easily be affected.

- Water deprivation for a few hours even when fed adlib, will result in lower egg production.
- Clean waterer on daily basis and disinfect as much as possible. Calcium hypochlorite can be added to disinfect and avoid moss build-up.
- Unclean water is detrimental to the birds' health and can adversely affect their performance



D. Sanitation & Biosecurity Management

Ducks are most resistant to diseases than chicken and other fowls. Losses from various causes can be minimized thru proper management, adequate appropriate feeding and housing, strict sanitary practices and effective prevention medication and vaccination program. Duck diseases are those caused by pathogenic viruses, bacteria, fungi and parasites while infectious types are due to chemical poisons, toxins, inferior feeds and environmental factors.

Please consider the following tips to handle the challenges:

- Purchase healthy stock from reliable sources.
- Feed ducks with balance nutrition as poor nutrition causes unhealthy birds and uneven sizes.
- When brooding, pens should be cleaned & disinfected two to three days prior to actual brooding.
- Avoid people coming in and out of the duck houses as they may carry diseases.



- Sanitation should be considered as a daily management activity. Proper disposal of dead birds and other wastes must be strictly observed, either be burned or buried.
- Sanitation or bio-security are inexpensive forms of insurance. Bio-security includes measures that prevent the entry and survival of viruses, bacteria, parasites, fungi, insects, rodents, etc.
- Provide cool, fresh and clean drinking water at all times
- When feeding & cleaning etc., start with the youngest birds & finish with the oldest, as this will less likely that disease may be transmitted.
- Disinfect the waterer by using calcium hypochlorite to kill bacteria and avoid formation of moss and minimize effects of toxins coming from poor quality shells.
- Use of FPJ (Fermented Plant Juice) to kill odor and prevent ammonia build up.
 - Preparation: Mix one kilo of molasses to one kilo of ground Banana Stalk (saha ng saging) and ferment in a clay jar and cover with cheese cloth or katsa for one week. Filter liquid from solids. Mix in water at a ration of one (1) teaspoon of this liquid to one (1) liter of water to be applied early in the morning.
- Rodent control is an important bio-security aspect. It can destroy and contaminate feeds attack & panic the birds, introduce diseases especially Salmonella, leptospirosis, Coccidiosis & other parasites and protozoa.
- Stress greatly affects egg production as well as it weakens the body defenses which could increase susceptibility to diseases. Unnecessary stress like overcrowding, can lead to cannibalism and disease outbreak, and the same with inadequate food and/or water, improper brooding, and sudden big variation of environmental temperature. Therefore, keeping stress to a minimum as part of good management is one of the best way in controlling disease problem.