

POULTRY
MANAGEMENT
GUIDE



Introduction

This manual was designed to be used as a guide for the rearing of poultry by small farm holder farmers. Our goal was to compile a guide that is comprehensive yet easy to understand. With any manual, changes will be made periodically. This guide was not designed to teach anyone everything they need to know, just to help answer some of the questions about the basics.

Floor Space

Age	Floor Space
0-8 Weeks	700 cm ² /bird (0.75 ft ² /bird)
8-17 Weeks	1394 cm ² /bird (1.50 ft ² /bird)
17+ Weeks	1858 cm ² /bird (2.0 ft ² /bird)

Feeder Space

Type	Feed Space
Supplemental Feeders* (0-14 Days)	1,350 cm ² /50 chicks (2.25 ft ² /50 chicks)
Hanging Feeder Pans	1 pan per 30 birds (45cm diameter)
Trough Feeders	9 cm/bird (3.5 in/bird)

* Supplemental feeders should only be about 3-4cm (1.25-1.5 inches) deep

Diets 0 Weeks to 2% Production **

	Diet	Starter	PulletGrower	Layer
	Units	0 - 8weeks	8 - 18 weeks	18 - 72 weeks
Metabolisable energy	kcal/kg	2950-2975	2850-2875	2750-2850
	MJ/kg	12.3-12.4	11.9-12.0	16.5
Crude protein	%	20.5	19	16
Methionine	%	0.52	0.45	0.33
Methionine + Cystine	%	0.86	0.76	0.60
Lysine	%	1.16	0.98	0.74
Threonine	%	0.78	0.66	0.50
Tryptophan	%	0.217	0.194	0.168
Digestible amino acids				
Dig. Methionine	%	0.48	0.41	0.30
Dig. Meth. + Cystine	%	0.78	0.66	0.53
Dig. Lysine	%	1.00	0.85	0.64
Dig. Threonine.	%	0.67	0.57	0.43
Dig. Tryptophan	%	0.186	0.166	0.145
Major minerals				
Calcium	%	1.05 - 1.10	0.90 - 1.10	3.8-4.0
Available Phosphorus	%	0.48	0.42	0.36
Chlorine minimum	%	0.15	0.15	0.14
Sodium minimum	%	0.16	0.16	0.15

** ISA Brown Recommendations. If you are using a different breed follow their recommendations.

Body Weight Recommendations**

Age	Feed Intake per Bird per Day (g)		Body Weight (g)	
	Minimum	Maximum	Minimum	Maximum
1	10	12	64	67
2	16	18	114	122
3	24	26	186	197
4	31	33	268	283
5	36	38	360	380
6	41	43	459	483
7	45	47	564	591
8	49	51	671	702
9	53	55	776	811
10	57	59	876	913
11	60	52	969	1009
12	63	65	1054	1099
13	66	68	1136	1186
14	69	71	1210	1265
15	72	74	1277	1338
16	75	77	1344	1411
17	83	85	1402	1477
18	84	86	1455	1545

**** ISA Bovan Brown Recommendations. If you are using a different breed follow their recommendations**

Water Space

Type	Water Space
30 cm Water Fountains (12 in) diameter	2 per 50 birds
45 cm Water Fountains (18 in) diameter	2 per 100 birds

Perch Space

Floor Space	Perch Length per Bird
1625 cm²/bird	10 cm (4 in)
1150 cm²/bird	15 cm (6 in)



Nest Space

Type	Birds per Nest
Individual Nest Holes 30 cm x 30 cm	5 birds per nest



Temperatures

Age	Temperature
0-3 Days	33-35°C (91-95°F)
4-7 Days	31-33°C (88-91°F)
8-14 Days	29-31°C (84-88°F)
15-21 Days	27-29°C (81-84°F)
22-28 Days	24-27°C (75-81°F)
29-35 Days	22-24°C (72-75°F)
36+	21°C (70°F)

Brooder Space

Age	Space
0-3 Weeks	50 birds per brooder pot (31 cm diameter)
3+ Weeks	Enough brooder pots to maintain temperature



Lighting*

Age	Hours of Light
0-7 Days	20
8-14 Days	16
15 Days – 18 weeks	(Natural)
18 Weeks	13
19 Weeks	13.25
20+ Weeks**	13.50

* Use lighting schedule only if you have reliable power and can give the birds light per the schedule!!!

** This will ensure that birds do not see a light decrease in the fall and winter months. In Rwanda the day length decreases from the 21st of December until 21st of June. If you have the ability to give them reliable, consistent light give use the above schedule and they will never see a light decrease.

Minimum Ventilation*

Age	Minimum Curtain Opening
0-21 Days	2.5 cm (1 inches)
22+	5 cm (2 inches)

* This is a minimum suggestion! Minimum ventilation is only used when temperatures are cooler than the recommended temperatures for the age of the birds. If birds are lethargic or not active more opening should be given. The purpose of minimum ventilation is to allow carbon dioxide and carbon monoxide to be removed and fresh air (oxygen) to enter the coop. Carbon dioxide is produced by the chicks and the brooders. Carbon monoxide is produced by the brooders. Both gasses are harmful to the chickens.



Vaccination(likely to change based on local availability)

Vaccine Type	Route/Method	Day 1	Day 7	Day 14	Day 21	Day 24	8 Weeks	Every 3 Months (*4)
MD (*1)	Subcutaneous Injection	x						
NCD - I2 strain (*2)	Eye Drop		x		x		x	x
IBD	Eye Drop			x		x		
POX	Wing Web						x	
Cocci - Amprolium (*3)	Drinking Water (DW)				As Needed			
Vitamins	DW	x		x				
Antibiotics	DW or injections				As Needed			

Notes:	
(*1)	Both cell associated and cell-free vaccines Marek's vaccines given by injection under the skin (subcutaneous) or in the muscle (intramuscular)
(*2)	Local heat stable Newcastle Vaccine strain
(*3)	Severe outbreaks use high level for 3 -4 days in drinking water, for moderate outbreak, use the medium level for 3 days
(*4)	Every three months booster after the 8th week vaccine

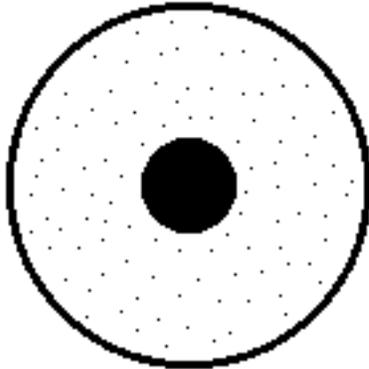
Ventilation

1. Minimum Ventilation curtains should be open at least 5cm (2 inches)
2. Ammonia smells strong and stings your eyes when it is present. As the flock age progresses and floors become wetter minimum ventilation needs to ensure that the build-up of ammonia gas does not become excessive and damage the birds. Ammonia gas can burn the feet, eyes and respiratory tract of the birds causing stress, infection and blindness.
3. Carbon Dioxide is an odorless gas is released when animals and humans breathe out. Too much of this gas causes the chickens to become tired and can suffocate them.
4. The gases mentioned above are the reasons we need the minimum ventilation curtain openings.

Pre-placement

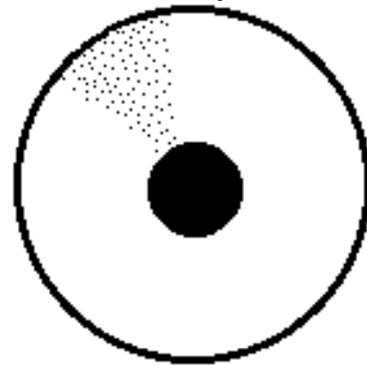
1. Bedding Material
 - a. Bedding material should always be dry.
 - b. Bedding material that is not dry can contain mold and/or fungus which are detrimental to the chickens.
 - c. Suggested bedding materials:
 - i. Dried rice hulls (preferred)
 - ii. Dried wood shavings (preferred)
 - iii. Dried and chopped peanut hulls
 - iv. Dried grasses
 - v. Dried and chopped maize husks
2. Heat
 - a. Pre-heat coop 24-hours prior to placing chicks.
 - b. Pre-heat bedding material to maintain 32°C (90°F) about 0.33 M (12 in) away from the brooder pot.
 - c. Place clay pots about 0.5M off of the ground so that the chicks do not jump into the pots.
 - d. Chicks cannot maintain their own temperature for at least 14 days. Pre-heating the coop allows the floor, water and feed to be at a temperature that will help keep the chicks' body temperature normal. If the young chicks' body temperature drops below its normal range of 39-40°C (103-104°F), stress will occur and will affect the immune system and future growth. The same is true if the chick gets too hot. It is best to maintain the temperatures in the coop that are specified for the age of the birds.
 - e. Comfort Zone for chicks

Content



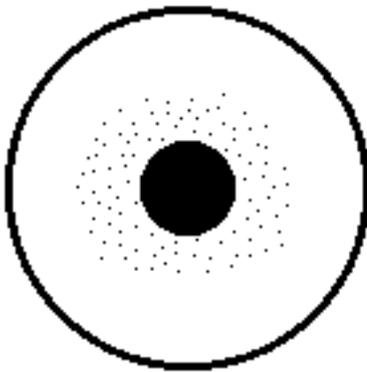
Lightly cheeping chicks
Evenly spread

Too drafty



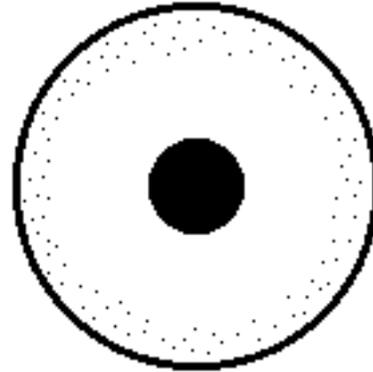
Noisy chicks huddled together
moving away from air movement

Too cold



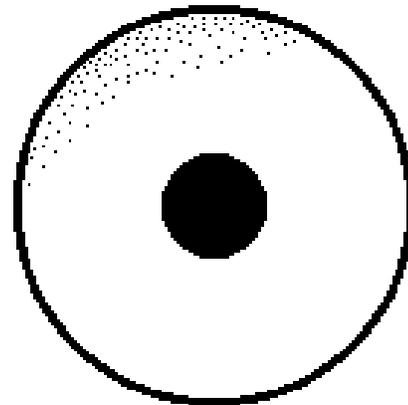
Noisy chicks huddled
Under brooder

Too hot or too cold



Drowsy chicks spread
around perimeter

Influence of bright light, draft or noise



Key:

	Chicks
	Brooder

3. Water
 - a. Boil enough water to fill enclosed water jugs at least 24 hours prior to placing birds. Boiling the water will sterilize the water. Chicks will perform better with sterilized or treated water.
 - b. Water should be kept in sealed containers to ensure that bacteria and debris is kept out of the water as much as possible.
 - c. During times of cold/cool weather place the sealed water containers into the coop 24 hours prior to placement. This will allow the water to warm to the same temperature as the coop. If a chick drinks cold water the chicks body temperature will drop. A chick is not able to maintain its own temperature for at least 14 days.
 - d. An hour before placement, fill the waterers with the warmed, sterile water and any medication or vitamins that are needed. Ensure that the mixing of the medication or vitamins is per the manufactures label for the product.
 - e. Keep enough boiled/sterile water in sealed containers in the coop to refill the drinkers.
 - f. Use sterile water for 7 days.
 - g. You can use iodine to disinfect the water as well.
 - i. If you are using 2% Iodine tincture use 8-10 drops of iodine in 1 Liter of water.
 - ii. If you are using 10% Iodine use 2 drops of iodine in 1 Liter of water.
4. Feed
 - a. Fill the supplemental feeders and regular feeders when you start pre-heating the coop 24-hours prior to placement.
 - b. Only fill supplemental feeders half full. This will keep the chicks from scratching the feed out of the feeder.
 - c. Keep supplemental feed lids out for 14-days.
 - d. Pre-heating the feed will allow it to be as warm as the coop. This will help the chick maintain body temperature.

Care for Flock

1. Placement
 - a. Place chicks directly onto supplemental feeders.
 - b. Record any chicks that are dead on arrival and document that to the chick supplier.
2. Water
 - a. Water should always be available.
 - b. Waterers should be placed on the ground until 14 days of age.
 - c. Waterers should be hanging so that the top of the water is level with the top of the bird's wing. If birds begin to play in the water you may raise the water so that the birds can still drink with their feet flat on the floor, but reaching into the drinker to get water.
 - d. Water should be clean. When water gets dirty it needs to be removed from the coop and replaced with clean, sanitized water. Examples of water sanitizing agents would be household bleach and iodine. Do not mix these with vitamins, medications or vaccines.
 - e. Dump dirty water away from the coop.

- f. Water can be sanitized by boiling. Do not boil too long. When water is boiled too long the water is evaporated and the minerals concentrate into the remaining water. This could cause a mineral imbalance.
 - g. Water can also be treated to reduce bacterial level. If you are going to treat the water make sure it is labeled for animal or human use.
 - h. If using household bleach when birds are present mix 10 ml of bleach to 1 liter of water.
3. Feed
- a. Feeders should be placed on the ground until the birds are 14-days of age.
 - b. Feeders should be hanging or on stands after 14-days of age so that the top of the edge of the feeder is level with the top of the birds wings.
 - c. Feed birds according to the weight and feed guide of the particular breed of bird.
 - d. For pre-laying birds feed to maintain a weekly weight guide. The following concepts are for reference if you are fleshing birds or weighing birds. You need to **flesh** or **weigh** the birds weekly and make weekly adjustments. These are just ideas/concepts!
 - i. If you have bird weighing scales, weigh birds weekly on the same day of the week. Preferably on their weekly birthday. Use this weight to determine how much to feed them the following week. **(This is the preferred method)**
 - 1. If the birds' **weight** is on target with the breed's weight guide for the age, give the suggested weekly feed increase in the breed's guide.
 - 2. When birds do not have the breed's recommended body weight for age, feed amounts will need to be changed. Underweight birds will need more feed and overweight birds will need less feed. The following are examples:
 - a. If the birds weigh 45 grams (0.1 pounds) less than the breed's guide, give the birds 45 grams (0.1 pounds) more than the guide says for the following week.
 - b. Example: If the guide says feed 4,082 grams/100/day (9 pounds/100/day) the next week, feed them 4,127 grams.
 - 3. If the birds weigh 45 grams (0.1 pounds) more than the breed's guide, give the birds 45 grams (0.1 pounds) less than the guide says for the following week.
 - a. Example: If the guide says feed 4,082 grams (9 pounds) the next week, feed them 4,037 grams.
 - ii. If you do not have scales use the recommended feed guide and keep them within the breed's guide on weekly **fleshing** scores.
 - 1. If the birds flesh the amount the breed's guide suggests for the week, give the birds the weekly feed increase the breed's guide suggests.
 - 2. When birds do not have the breed's recommended fleshing scores for age, feed amounts will need to be changed. Underweight birds will need more feed and overweight birds will need less feed. The following are examples:

- a. Eggs should be collected at least 3-4 times a day. If too many eggs are being laid too many per nest, being broken or hens are becoming broody, you should increase the number of collections.
- b. The last egg collection should be in the later afternoon so that all eggs that will be laid that day are picked-up. As hens get older they will tend to lay later and later each day.
- c. Eggs should be collected and kept in a clean, cool and dry place.
- d. Eggs should be sold as soon as possible, preferably within 3-4 days.
- e. If eggs are eaten, they should be eaten within 21 days. Eggs should always be well cooked, especially for young children or elderly.

Vaccination

1. Vaccination with Freeze-Dried Vaccine – Water Administration

- a. Purchase vaccine only from a trusted supplier. Buy enough doses to cover every bird in the area and do not provide less than 1 full dose per bird. It is better to over-vaccinate than to under-vaccinate. Make sure that the vaccine stays cool at 2 to 7 Celsius (45 degrees F) or below. A common method would be to fill a thermos with ice and put the bottle of vaccine in the thermos for a long travel. Recommend use within hours of return from the shop where the vaccine was purchased. If there is refrigeration on hand in the village and the vaccine can be stored, recommend store entire ice filled thermos in the refrigerator if you are experiencing frequent power outages and use the vaccine the next morning.
- b. Do not open and mix the vaccine until ready to vaccinate.
- c. Remove all medication, sanitizers and disinfectants from the commercial drinking water lines 72 hours prior to vaccination. It would be OK to use a vitamin in a single bell drinker or mini-drinker inside a chicken pen the days before vaccination, but make sure the drinker is washed out and clean prior to use. Do not use a disinfectant or sanitizer to clean the drinker.
- d. Provide sufficient waterers so that all of the birds can drink at one time. Clean and rinse the waterers thoroughly.
- e. Withhold all water from the birds for four (4) hours to (8) hours prior to vaccination to stimulate thirst.
- f. If you are using water from a tap that contains chlorine, add nonfat dry milk to the water at the rate of one (1) ounce per gallon (8 milliliters/L) before mixing the vaccine. If you are using rainwater, or water from a stream or water pan, boil the water to be used for vaccine the day prior to vaccination to sanitize it prior to use, and make sure that the water is cool before you include any vaccine into the water.
- g. Remove the aluminum seal and rubber stopper from a vaccine vial.
- h. Fill the vaccine vial two-thirds (2/3) full with clean, cool water and mix gently.
- i. Mix the dissolved vaccine with water as shown below:

Age of birds	Water per 1,000 doses vaccine
2-4 weeks	2.5 gallons (9.9 L)
4-8 weeks	5 gallons (18.9 L)
8 weeks or older	10 gallons (37.9 L)

- j. Distribute the vaccine solution among the waterers. Avoid direct sunlight.
- k. Do not provide any other drinking water until all of the vaccine mixture has been consumed. The amount of water diluted with the vaccine should be enough to satisfy the birds thirst for up to 1 hour after mixing. After a period of 2 hours, the vaccine in the mixed water is no longer viable.
- l. Other precautions
 - i. Store at 35-45°F (2-7°C). Do not freeze.
 - ii. Do not vaccinate diseased birds.
 - iii. Birds should be free of respiratory diseases and parasite infestations.
 - iv. Vaccinate all of the birds on the same premises at the same time.
 - v. Administer the proper number of doses to the proper number of birds
 - 1. 5,000 doses to 5,000 birds
 - 2. 50 doses to 50 birds.
 - vi. Avoid stress conditions prior to, during and following vaccination.
 - vii. Do not place chickens on contaminated premises.
 - viii. Exposure to disease must be minimized as much as possible.
 - ix. Use the entire contents when first opened.
 - x. Burn the container and all unused contents.
 - xi. Since Newcastle disease virus can cause inflammation of the eyelids of humans lasting up to three days, care should be taken to avoid contamination of the eyes, hands and clothing with the vaccine.
 - xii. The capability of these vaccines to produce satisfactory results depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and the responsiveness of individual animals and the degree of field exposure. Therefore, directions for use should be followed carefully.
 - xiii. The use of these vaccines is subject to applicable federal laws and regulations.
 - xiv. Do not vaccinate within 21 days before slaughter.
- 2. Vaccination with Thermal Stable Newcastle
 - a. Purchase vaccine only from a trusted supplier. Buy enough doses to cover every bird in the area. Make sure that the vaccine stays in a dark, room temperature place 7-23°C (45-75°F). A common method would be to fill a thermos with ice and put the bottle of vaccine in the thermos for a long travel
 - b. Do not open vaccine until ready to vaccinate.
 - c. Place one eye drop in every chicken's eye. Ensure this is done by marking the birds or moving them from one pen to the other.
 - d. Vaccine can be stored for up to 2 weeks in the refrigerator once it has been opened. It must be used within the 2 weeks. After this is must be discarded. The best method to discard unused vaccine is to burn it.
 - e. Vaccine can be stored unopened for up to 3 months or its expiration date.
 - f. Vaccinate all birds within the surrounding area (the entire village if you can)!
- 3. Vaccination with Freeze Dried Wing Web (AE/Pox)
 - a. Purchase vaccine only from a trusted supplier. Buy enough doses to cover every bird in the area and do not go less than 1 full dose per bird. It is better to over-vaccinate than to under-vaccinate. Make sure that the vaccine stays cool at 2 to 7

Celsius (45 degrees F) or below. A common method would be to fill a thermos with ice and put the bottle of vaccine in the thermos for a long travel. Recommend use within hours of return from the shop where the vaccine was purchased. If there is refrigeration on hand in the village and the vaccine can be stored, recommend store entire ice filled thermos in the refrigerator if you are experiencing frequent power outages and use the vaccine the next morning.

- b. Do not open and mix the vaccine until ready to vaccinate.
- c. Mix vaccine with stable, sterile water that is provided with vaccine.
- d. Dip the pronged vaccination wing web needles into the vaccine completely.
- e. Stick both prongs into the wing web of every chicken.
- f. Ensure every chicken has been vaccinated by either marking the chickens or picking them up and placing them in a separate pen once vaccinated.

Biosecurity

1. Bird Contact
 - a. No avian species should be allowed on the farm except for birds placed by the farmer.
 - b. Wild birds should be deterred.
 - c. Persons entering a farm should not own any avian species.
 - d. Every person entering a farm must not have been close to any type of bird for a minimum of 3 Days. During times of known disease situations and/or outbreaks in the area, the 3-Day Rule will be extended to five (5) to seven (7) days.
2. Clothing
 - a. Clothes worn into the coop should not be worn anywhere, but the coop.
 - b. Do not wear clothes into the coop that have been worn to the market.
3. Shoes
 - a. Rubber boots or waterproof boots are preferred due to the foot pan disinfectant.
 - b. These boots should not be worn anywhere except to the coop and in the coop.
 - c. DO NOT WEAR the boots to the market or around the village.
4. Foot pans
 - a. Foot pans are to be located in front of the coop entrance, just outside the door.
 - b. Foot pans must contain 4+ inches of water and disinfectant, mixed per the manufacturer's label.
 - c. Foot pans must be changed when they are dirty, but must be changed at least once daily.
 - d. Every time a person enters or exits the coop they should step into the foot pan wearing waterproof boots.
5. Dead Bird Disposal
 - a. Dead birds must be disposed of at least once daily. Birds must be incinerated completely. This is to help in the spread of disease.
6. Pets and Wild Animals
 - a. No pets or livestock should be allowed into the coop.
 - b. Wild animals should be deterred as much as possible. The coop should be constructed to keep rodents and wild birds out at all times.
 - c. Dead birds must be placed in a secured container until they can be disposed of so that they will not attract wild animals and pets.

- d. Any feed spills must be clean-up immediately so that such spills do not attract wild animals and pets.
- 7. Perimeter Fencing
 - a. If you can afford to do so some type of fencing to keep neighbors birds (chickens, ducks, etc...) away from your property would be preferred.
- 8. Equipment
 - a. Do not borrow equipment from another person in the village that has birds if you can help it. Example: shovels, knife, swing blade, wrench, etc..
 - b. If you have to borrow equipment from another person make sure it is well disinfected and fully dried after disinfection. If this equipment can be disinfected and set in a dry place for 7 days this would ensure that all disease dies on the equipment before you use it in the coop.
- 9. Visitors
 - a. Limit all people who enter your coop to those that need to go into the coop.
 - b. Again everyone entering the coop should follow the 3-Day or more rule.
- 10. Visitation Log Book
 - a. Everyone entering the coop that is a visitor should sign a logbook.
 - b. A log book helps understand what has happened if your birds get sick
- 11. Security
 - a. All doors should remain locked to keep anyone from entering your coop that you do not want in your coop.
 - b. Keeping doors locked will ensure people that have come into contact with diseased birds do not enter your coop.

Coop Cleaning Between Flocks

- 1. After birds go out
 - a. Remove litter.
 - b. Remove any leftover feed.
 - c. Remove any leftover litter, feathers and debris by scraping and sweeping.
 - d. Scrape off perches.
 - e. Remove any nest box bedding material.
 - f. Sweep off the tops of nest boxes.
 - g. Dust off/out any thermostats and electrical devices if any.
 - h. Remove and dispose of all leftover paper products.
 - i. Wash waterers and plastic feeders (if you have plastic feeders) with hot water and soap. Disinfect them per the label of the disinfectant that you are using. Let the waterers and plastic feeders soak in the disinfectant for 24 hours. After 24 hours, thoroughly rinse waterers. Let them dry. After they are dry store them in a plastic bag.
- 2. Cleaning
 - a. Wash the Coop with soap and water to remove any debris.
 - b. Wash from the top and work down.
 - c. Wash ceiling, sidewalls, wire, curtains, drinkers, water lines, wooden feeders, nest boxes and anything else in the coop.
 - d. Make any necessary repairs to coop, equipment and curtains after washing, but prior to disinfecting.

- e. Mow and trim all grass and weeds around Coops and in the perimeter area.
 - f. Completely allow coop to dry after washing.
3. Downtime
 - a. After all birds are removed from the coop there should be a minimum of 14 days before any chicks or adult birds are brought into the pen.
 4. Disinfecting
 - a. Extremely Important- Once the disinfecting process has begun, the coop is considered to be clean. This means all visitors as well as caretakers must follow all bio-security procedures (as if the farm had birds).
 - b. Keep all doors locked when not in use.
 - c. Keep all doors sealed and make sure no wild birds or pets can enter the coops.
 - d. Fill and use foot pans.
 - e. All equipment that you plan to use in the coop should be in the coop at disinfection time.
 - f. Materials and rates of application for disinfecting should be done according to manufactures recommendations.
 - g. All safety requirements for the use of those materials must be used.
 - h. Apply disinfectant evenly to the point of run-off on all surfaces including the floor.
 - i. Do not leave mixed chemicals in the sprayer tank overnight. Chemicals are to be used the same day they are mixed. This will eliminate separation of the chemical and water as well as meet the safety requirements.
 - j. Allow coop to completely dry again before bringing in any bedding material.
 - k. The coop is now considered biosecure. Anything or anyone entering the coop should follow the biosecurity rules.

Molting

1. At 70 weeks you may choose to molt the birds (take them out of production)
2. Molting is a natural process that can help the birds produce more again later in life.
3. The recommended molting process is:
 - a) At 70 weeks start feeding only maize bran
 - b) Always keep water available
 - c) Feed the maize bran until the birds lose body weight to equal that of the recommended 18 week weight (approximately 20%).
 - d) After the weight loss has been achieved give them full feed of the layer diet for the remaining life of the birds. The recommended duration of the flock after the molt is about 110 weeks.

Keeping Records

1. Records should be kept on:
 - a. Number of birds/Inventory by day
 - b. Mortality by day and total
 - c. Feed Consumption by day
 - d. Egg Production by day
 - e. Weight or Fleshing by week

- f. Medications
 - i. Type
 - ii. Date
 - iii. Manufacturer
 - iv. Serial Number
 - v. Reason for Medication
- g. Vaccinations
 - i. Type
 - ii. Date
 - iii. Manufacturer
 - iv. Serial Number
- h. Vitamins
 - i. Type
 - ii. Date
 - iii. Manufacturer

Tanzania Poultry Health		Causes	Possible Signs	Possible Lesions	Control	Treatment	Diagnosis
Neurasthenic Disease (ND) or w/ND	  	Virus	<ul style="list-style-type: none"> - Sudden Death - Star-Gazing - Decreased Egg Production - Green diarrhea - Fever 	<ul style="list-style-type: none"> - Cyanosis - Hemorrhage of glandular stomach - Abscesses 	<ul style="list-style-type: none"> - Vaccination - Biosecurity 	<ul style="list-style-type: none"> - Supportive - Antibiotics only if there is secondary bacterial infection 	<ul style="list-style-type: none"> - PCR - IFA card - Virus isolation - Serology - ELISA - Post Mortem lesions
Coccidiosis	 	Parasite	<ul style="list-style-type: none"> - Weight Loss - Ruffled Feathers - Pale legs - Pale head - Bloody fecal droppings - Diarrhea 	<ul style="list-style-type: none"> - White patches in intestine - Sloughing gut - Bloody or hard content caecum - Enteritis 	<ul style="list-style-type: none"> - Proper husbandry - Dry floors - Ample litter - Sanitation - Don't "over-medicate" 	<ul style="list-style-type: none"> - Anticoxidant (Amprolium) - Antibiotics only if necrotic enteritis 	<ul style="list-style-type: none"> - Post mortem lesions - Microscopic examination of abnormal tissue
Marek's Disease (MD)	 	Virus	<ul style="list-style-type: none"> - Paralysis - Alopecia - Depression - Enlarged feather follicles 	<ul style="list-style-type: none"> - Tumors in organs (liver, spleen) - Swollen atratic nerve - Abnormal pupil shape (eye) 	<ul style="list-style-type: none"> - Vaccination - Biosecurity 	<ul style="list-style-type: none"> - Supportive - Antibiotics will not be effective as secondary bacterial infection is uncommon 	<ul style="list-style-type: none"> - Post Mortem Lesions - Microscopic Examination of abnormal tissue
Pox	 	Virus	<ul style="list-style-type: none"> - Nodules or scabs (Pox) on skin, scabbles, comb - Papules (Pox) in side mouth and throat - Conjunctivitis (eye) 	<ul style="list-style-type: none"> - Nodules or scabs (Pox) on skin, wattle, comb - Papules in side mouth and throat - Conjunctivitis (eye) 	<ul style="list-style-type: none"> - Vaccination - Biosecurity - Mosquito control 	<ul style="list-style-type: none"> - Supportive - Antibiotics only if there is secondary bacterial infection 	<ul style="list-style-type: none"> - Post Mortem Lesions - Microscopic Examination of abnormal tissue
Infectious Bursal Disease (IBD)	 	Virus	<ul style="list-style-type: none"> - Ruffled Feathers - Unhappiness - High mortality - Diarrhea - Weight loss - Immunosuppression - Occurs in young birds (< 6 weeks) 	<ul style="list-style-type: none"> - Swollen or bloody bursa in early stages - Small bursa in recovery stage - Bloody/bruised thigh 	<ul style="list-style-type: none"> - Vaccination - Biosecurity 	<ul style="list-style-type: none"> - Supportive - Antibiotics only if there is secondary bacterial infection 	<ul style="list-style-type: none"> - PCR - IFA card - Virus isolation - Serology - ELISA - Post Mortem lesions