

# Pests and Disease Control and Management in Organic Poultry Value Chain

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# INTRODUCTION

The idea of raising organic poultry on our farm was conceived way back in early 2015.

We also knew that existing indigenous knowledge inherited from past generations has sustained the local poultry production system in Uganda.



# INDIGENOUS CHICKEN AND THEIR MAJOR THREAT



Diseases are the main constraints of indigenous poultry production in Uganda where indigenous poultry farming is an integral part of mixed farming. The birds are raised mostly on low input extensive free-range system of production.

# WHAT SCIENCE SAYS

- Since the creation of this earth, plants and plant parts have been an indispensable source of medicine for indigenous poultry production.
- Although modern medical science has developed to a great extent, many farmers in Uganda depend on plant parts and herbal remedies for indigenous poultry's health management. Unfortunately, local medical traditions are being lost because they are communicated orally from generation to generation and are largely undocumented.
- Research carried out by Makerere University in 2005 revealed that about 80% of poultry farmers know how to use medicinal plants to treat poultry diseases. Prof. Bukenya Ziraba from Makerere University Department of Botany who headed this research in Mbale, Rakai and Mbarara districts, says that many farmers were using medicinal plants to treat cough, diarrhea, swollen eyes, mites, worms and lice as well as Newcastle prophylaxis and coccidiosis.

# WHY WE USE POULTRY HERBAL MEDICINE AND ITS CHALLENGES

- **Saving Money:** You just have to walk to your garden or the nearby bushes and get the herbs you want.
- **Easy Access:** In our area, its not easy to get a veterinary person and a veterinary shop is 5km away.
- **Side Effects:** There is a growing demand for organic products especially in Europe, and among a group of Ugandans that are concerned about food safety & poultry products are not spared.
- **Dosage:** Dosage is one of the challenges of using herbal medicine to treat chicken.
- **Slow Acting:** Compared to conventional medicine, herbal medicine is slow acting.
- **Worm infestation:** When we pick herbs from the bushes / gardens, they come tainted with worms and other disease-causing organisms.
- **Storage:** Conventional medicines come in sachets or bottles. While for herbal medicines one has to improvise.

# POULTRY DISEASES ON P&V ORGANIC FARM

OBSERVED SYMPTOMS	SUSPECTED DISEASE	RANK
Whitish diarrhea that is associated with dry seasons, after purchases of feeds or cocks from market and festivities, accompanied by high mortality.	Newcastle disease	1 <sup>st</sup>
Noisy breathing and coughing, nasal discharge, watery eyes which spreads slowly within a flock	Chronic respiratory disease	2 <sup>nd</sup>
Whitish diarrhea in chicks less than 2 weeks old with high mortality	Pullorium	3 <sup>rd</sup>
Pox lesions on combs and wattles	Fowl pox	4 <sup>th</sup>
Coughing, gasping in young chicks and sneezing	Infectious bronchitis	5 <sup>th</sup>
Swollen heads and eyes	Infectious coryza	6 <sup>th</sup>
Bloody diarrhea	Coccidiosis	7 <sup>th</sup>
Feather picking and extreme sand bathing	Poultry louse	8 <sup>th</sup>

# DISEASE CLASSIFICATION @ P&V ORGANIC FARM

- Diseases at the farm are classified into four categories.
- **RESPIRATORY INFECTIONS:** These are viral diseases. They include: Newcastle Disease, Fowl Pox, Avian Influenza, Infectious Bronchitis, Infectious, Infectious Coryza, Swollen Head Syndrome.
- **NON RESPIRATORY:** These are also viral diseases. They include: Marek's Disease, Infectious Bursal Disease.
- **BACTERIAL INFECTIONS:** These include: E.Coli, Salmonera, Coccidiosis etc...
- **PARASITIC INFECTIONS:** The common parasites in poultry are: mites, lice, ticks, worms, and protozoa.



# PREVENTING POULTRY DISEASE

There is a common saying in health care that **PREVENTION IS BETTER THAN CURE.**

Hence, though you may want to know the herbal remedies for the treatment of poultry diseases, it's more important to know how to prevent these diseases.

You have to: **Read a lot – Invest in visits to other practitioners – Use herbal periodically.**





# 1<sup>st</sup> Biosecurity

- Biosecurity is a set of management practices which when followed, collectively reduce the likelihood of introducing or spreading disease causing organisms onto and between sites.
- **Common biosecurity measures**; **Location**: Avoid locations close to existing premises (between farms 500m-1 km);
- **All-in-all-out**: Reduce buildup of disease-causing organisms by breaking the rearing cycle for different ages.
- **Wind**: Use prevailing wind directions when planning to minimize risk of airborne infection.
- **Litter disposal**: Remove used litter and properly dispose and disinfect it.
- **Site security**: Reduces possible introduction of infection to premises mainly from personnel moving between houses and flocks, equipment and other objects.

## 2<sup>nd</sup> Poultry housing

Though many poultry keepers rear their chicken on free range, it's important to keep the chicken in a poultry house or fenced off to prevent them from being infected by other chicken from the neighborhood.

Fencing off will also prevent exposure of the chicken to predators like snakes, wild cats, dogs, etc.



### 3<sup>rd</sup> Cleanliness

Cleanliness is one way of preventing your chicken from becoming sick. This involves cleaning the chicken house regularly, washing the feeders and drinkers and all the equipment used in the chicken house.

For some small-scale farmers especially those who look after our local breeds, when they give chicken feeds or food leftovers, they throw it on the floor which is wrong.





## 4<sup>th</sup> Balanced Feeds

Good feeding is one way of preventing disease because apart from your chicken not getting nutritional diseases, they will also have a high immunity.

Some farmers think that its enough to give chicken maize bran alone.


Chicken should be given feeds with a balance of nutrients especially proteins & carbohydrates and food leftovers and greens should act as supplements and not the main meal.



# HOW WE DEAL WITH POULTRY DISEASES

Vaccines teach the immune system how to create antibodies that protect the chicken from diseases.

Without the use of vaccines, chickens would be susceptible to contagious and severe diseases which could impact bird health, production, and welfare, and ultimately affect the food supply.



IMPROVED LOCAL CHICKEN VACCINATION SCHEDULE

Age	Name of Vaccine	Mode of administration
1 day	Newcastle	Eye Drop
1-3 days	Marek's	Injection
14 days	Gumboro	Drinking water
15 days	Deworming(Ascarex,Nilzem)	Oral in drinking water
21 days	Newcastle	Eye Drop
6 weeks	Fowl pox	Injection (wing stab)
8weeks	Fowl Typhoid	Intramuscular Injection (Breast muscle)
15weeks	Deworming	Drinking water

# USE OF HERBAL MEDICINE

Herbal medicinal herbs as a feed additive are given to poultry.

They give a better response for the better progress of the birds (low mortality & rare illnesses); and, as a result, the ammonia production around the cage is also decreased.





# HOW WE PREPARE THE HERBAL MEDICINE



Water is the main solvent used in preparation of herbal medicine. Concoctions involve mixing water with an assortment of different plant parts. We often use more than one ingredient in the concoctions to make the concoction as broad as possible. This is due to the fact that clinical symptoms of many poultry diseases are so closely related that sometimes it is difficult to distinguish between specific diseases.

# PROCESS & PACKAGING

We harvest herbs and kill the worms, then squeeze out the green solution into water.

We can also boil the leaves for 15-20 minutes and give the chicken to drink.

Another method is to put them in a shade to air dry, then pound them into powder.

**WE THEN PACK IN  
CONTAINERS**





THANK YOU

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