



PRACTICAL APPROACHES FOR DIAGNOSIS AND TREATMENT OF POULTRY DISEASES

POULTRY DISEASES FIELD DIAGNOSTIC TREE

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ON THE FARM LEVEL

■ WHAT DO YOU SEE?

1. Something is wrong in the flock

2. Affected birds

- - < 2 weeks old

- >2 weeks old or multiple age

- Mortality rates (<50 % or >50%)

3. Skin disorders

4. Respiratory signs

5. Digestive disturbances

6. Nervous disorders

7. Reproductive disorders

8. Others – skeletal/joints, muscular, etc

SCENE A

What is seen at farm level	age	species	Mortality	DDX
<p>Sudden mortality, often with few or minimal signs</p> <p><u>Nervous</u>: Balance & walking problems, twisted necks, tremors, inability to fly</p> <p><u>Respiratory</u>: gasping, difficulty breathing, swelling of the head & neck; pasted eyelids, nasal discharge</p> <p><u>Digestive</u>: diarrhea, decreased appetite, thirst</p> <p><u>Reproductive</u>: decreased egg numbers, soft-shelled or shell-less eggs</p>	any	<p>Most domestic birds or Wild domestic water fowls Or Pigeons</p>	<p>Mortality 100% often lower in ducks Or 5- 100%, more older birds</p>	<ol style="list-style-type: none"> 1. VVN D 2. HPAI 3. Duck viral enteritis 4. Pigeon PMV
Causative agent = Virus				

Category 1 Diseases

Disease	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Control
1. Velogenic viscerotropic Newcastle Disease (VVND)	Virus	Any	Most domestic birds	Mortality may reach 100% but often lower in ducks	Sudden mortality, often with few or minimal signs <u>Nervous</u> : Balance & walking problems, twisted necks <u>Respiratory</u> : gasping, difficulty breathing, swelling of the head <u>Digestive</u> : diarrhea <u>Reproductive</u> : decreased egg numbers	Vaccination, biosecurity
2. Highly Pathogenic Avian Influenza (HPAI)	Virus	Any	Most domestic birds	Mortality may reach 100% but often lower in ducks and pigeons	Sudden mortality, often with few or no signs <u>Respiratory</u> : gasping, swelling of wattles & combs <u>Nervous</u> : tremors of the head and neck <u>Digestive</u> : diarrhea, thirst <u>Reproductive</u> : soft-shelled or shell-less eggs, decreased egg numbers	Biosecurity, depopulation, (vaccination)
3. Duck viral enteritis (duck plague)	Virus	Any, although adults more severely affected	Wild and domestic ducks and geese	5-100% with the highest mortality in older birds	Sudden mortality, often with few or no signs <u>Digestive</u> : watery diarrhea, decreased appetite, thirst <u>Reproductive</u> : decreased egg numbers <u>Nervous</u> : difficulty walking, tremors <u>Respiratory</u> : pasted eyelids, nasal discharge	Biosecurity, (vaccination)
4. Pigeon Paramyxovirus (PPMV)	Virus	Any	Pigeons	Mortality may reach 100%	Adults neglect squab, resulting in their deaths. <u>Nervous</u> : Balance & walking problems, twisted necks, head tremors, inability to fly <u>Digestive</u> : diarrhea, thirst	Vaccination, biosecurity

Group 2

What is seen at farm level	age	species	Mortality	DDX
<p>Signs vary by species (no signs in waterfowl). Birds may be depressed with ruffled feathers.</p> <p>Death may be the first sign of disease.</p> <p><u>Nervous</u>: twisted necks, paralysis (leg & wings), pale eyes, tremors</p> <p><u>Respiratory</u>: sneezing, coughing, difficulty breathing, wheezing, nasal discharge, wet eyes</p> <p><u>Digestive</u>: loss of appetite (diarrhoea)</p> <p><u>Reproductive</u>: decreased egg numbers (thin-shelled, rough and misshapen eggs)</p> <p><u>Skin</u>: scabby, raised pocks on the face;</p> <p><u>Others</u>: Unthriftiness, weight loss or poor wt gains</p>	Any	Most domestic birds (Mostly chicken)	Usually 0-25% but in some cases, may be low or up to 100%	5.L,M ND 6.LHPAI 7. ILT 8. IB 9. MD 10. AL 11. DVH 12. IBD 13. AE 14. FP
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Category 2 Diseases

Disease	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Control
5. Newcastle Disease (lentogenic or mesogenic)	Virus	Any	Most domestic birds	Low, except in very young birds where mortality may reach 20%	Signs may vary by species. There may be no signs in waterfowl. <u>Respiratory</u> : sneezing, coughing, difficulty breathing <u>Nervous</u> : twisted necks <u>Reproductive</u> : decreased egg numbers	Vaccination, biosecurity
6. Low Pathogenicity Avian Influenza (LPAI)	Virus	Any	Most domestic birds	Usually <5% but may be up to 60% in turkeys.	Signs vary by species and infecting virus. There may be no signs in waterfowl. <u>Respiratory</u> : sneezing, coughing, wheezing <u>Reproductive</u> : decreased egg numbers	Biosecurity, depopulation, (vaccination)
7. Infectious Laryngotracheitis (ILT)	Virus	Any but mostly in adults	Chickens	Usually 10-20% but may be very mild <2% mortality or very severe >50% mortality	<u>Respiratory</u> : nasal discharge, difficulty breathing, coughing, bloody mucus <u>Reproductive</u> : decreased egg numbers	Vaccination, biosecurity
8. Infectious bronchitis virus	Virus	Any but most severe in chicks	Chickens	0-25%	Birds may be depressed with ruffled feathers. <u>Respiratory</u> : gasping, coughing, sneezing, wet eyes <u>Reproductive</u> : thin-shelled, rough and misshapen eggs, decreased egg numbers	Vaccination, medication for secondary bacteria
9. Marek's Disease	Virus	Usually 3-30 weeks of age	Chickens	0-30% in unvaccinated flocks	Unthriftiness, failure to gain weight. <u>Nervous</u> : paralyzed in one or both legs or wings, difficulty standing. Pale eyes.	Vaccination
10. Avian Leukosis	Virus	>30 weeks of age	Chickens	Usually <3% although it may exceed 20% in some cases	Unthriftiness, weight loss, enlarged abdomen <u>Reproductive</u> : decreased egg numbers	Chicks from clean flocks, biosecurity
11. Duck virus hepatitis	Virus	Young, <6 weeks	Ducks	Close to 100% in ducklings <1 wk old. 50% in 1-3 wk old, very low in >4 wk old	Death may be the first sign of disease. <u>Nervous</u> : birds fall on their sides, kicking	Isolation of young ducks, (vaccination)
12. Infectious bursal disease	Virus	Mostly 3-6 weeks	Chickens	Usually 0-25% but in some cases, may be up to 100%	Prostration and death <u>Digestive</u> : vent picking, soiled vent feathers, whitish or watery diarrhea	Vaccination, biosecurity
13. Avian Encephalomyelitis	Virus	Mostly 1-3 weeks	Chickens	May reach 50% in young birds	<u>Nervous</u> : difficulty walking, paralysis, tremors	Vaccination
14. Fowl Pox	Virus	Any, except newly-hatched	Chickens, turkeys	<5% in skin form; 10-50% in respiratory form.	Poor weight gain. <u>Skin</u> : scabby, raised pocks on the face <u>Digestive</u> : Loss of appetite <u>Respiratory</u> : nasal discharge, difficulty breathing	Vaccination, biosecurity

Group 3

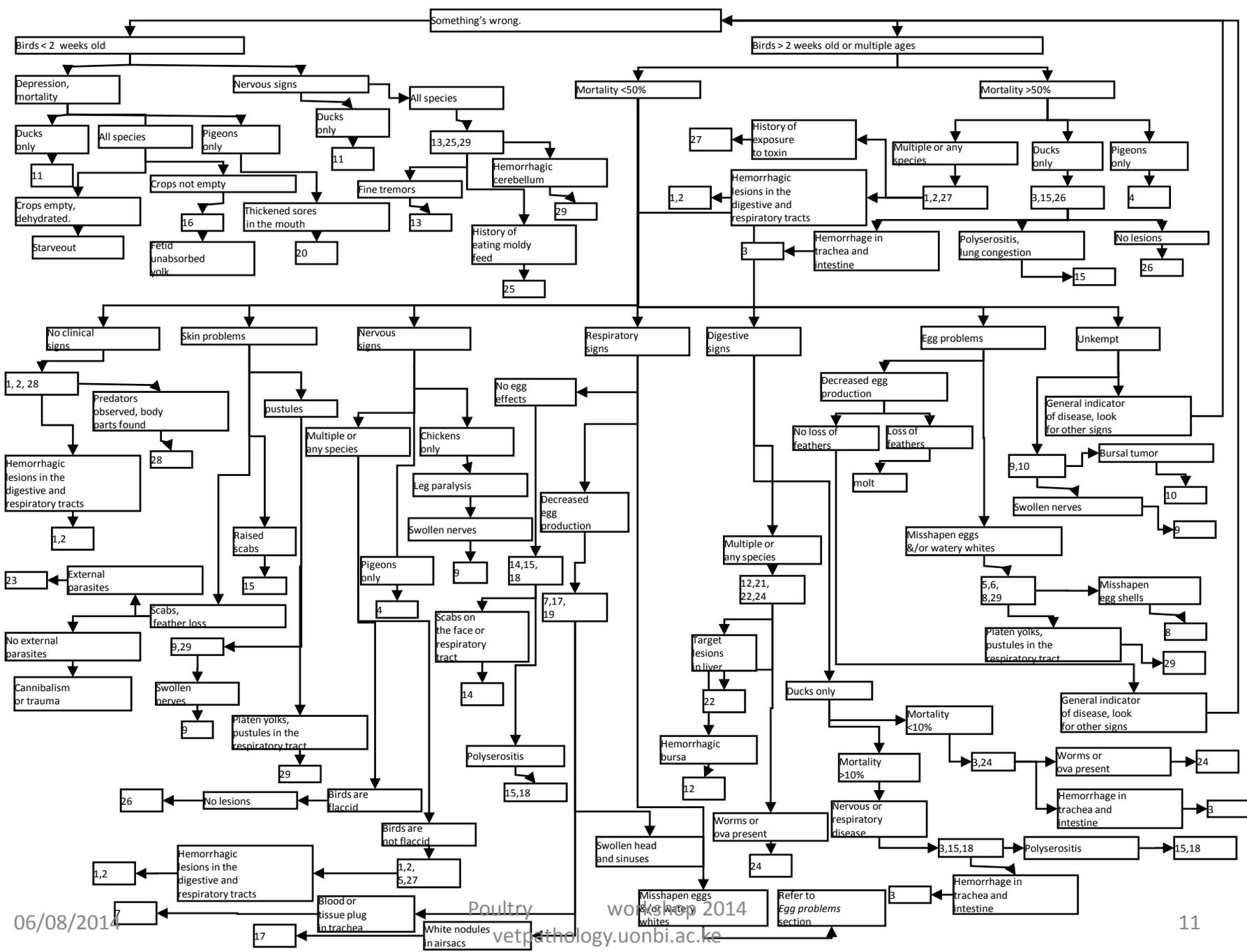
What is seen at farm level	age	species	Mortality	DDX
<p>Depression, weakness, lost or decreased weight gain, unthrifty dehydration, anemia, injury</p> <p><u>Nervous</u>: trembling, imbalanced gait, difficulty walking, convulsions, feather picking, neck paralysis</p> <p><u>Respiratory</u>: swollen eyelids, nasal & eye discharge, gasping, difficulty breathing, facial swelling & eyelids,</p> <p><u>Digestive</u> : loss of appetite, diarrhea (variable)</p> <p><u>Reproductive</u>: decreased egg numbers, reduced fertility and hatchability.</p> <p><u>Skin</u>: parasites, itching, loss of feathers.</p> <p><u>Others</u>: swollen joints,</p>	Any	Any (variable according to agent)	Variable. May reach 100% or it may be small.	15.FC 16.Omp 17. Myco 18. Chyla 19. Cory 20. Tryc 21. Cocc 22. Histo 23. ecto 24. endo 25.Afla 26.Botu 27.pois 28.pred 29.Vit De
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15. Fowl cholera	Bacteria	Birds > 4 weeks are most susceptible	Chickens, ducks, geese, most birds	10-90% mortality. Mortality is highest in turkeys, ducks.	Death may be the first sign of disease. <u>Respiratory:</u> Gasping, difficulty breathing <u>Digestive:</u> diarrhea, especially in ducks	Medication, remove reservoirs, vaccination
16. Septicemia, omphalitis	Bacteria	Birds less than 2 weeks old	Any	Variable. May reach 100% or it may be small..	Late incubation mortality. Navel is inflamed and the abdomen is distended.	Medication, hatchery sanitation
17. Mycoplasmosis	Bacteria	Any	Chickens, pigeons, turkeys	Very low.	<u>Respiratory:</u> Facial swelling, nasal discharge, coughing, foamy eyes <u>Reproductive:</u> Decreased egg numbers, decreased hatchability <u>Skeletal:</u> joint swelling	Vaccination, biosecurity
18. Chlamydiosis	Bacteria	Any	Ducks, pigeons, turkeys	Variable, but severe cases may have 5-30% mortality	Depression, weakness. <u>Nervous (young ducks):</u> trembling, imbalanced gait <u>Respiratory:</u> swollen eyelids, nasal discharge, difficulty breathing <u>Digestive (young ducks):</u> yellow-green diarrhea.	Medication, biosecurity
19. Infectious Coryza	Bacteria	Any, disease most severe in mature birds	Chickens	Rapid onset and high mortality.	<u>Respiratory:</u> Facial swelling, especially around the eyes, nasal discharge, rales <u>Digestive:</u> Loss of appetite, sometimes diarrhea. <u>Reproductive:</u> decreased egg numbers	Vaccination, remove reservoirs, biosecurity.
20. Trichomoniasis	Protozoa	Young birds	Pigeons	Can be up to 50% without treatment	Young birds lose weight and may die. <u>Digestive:</u> thick, yellow areas inside the mouth, difficulty closing mouth	Sanitation, medication
21. Coccidiosis	Protozoa	Young birds, older birds become immune	Most, although the coccidia of one species do not infest other birds	Variable depending on how severe the case is and the type of coccidia.	Depression, weakness, decreased weight gain, dehydration. <u>Digestive:</u> may have mucoid or bloody diarrhea.	Self immunization, medication
22. Histomoniasis	Protozoa	Turkeys: 3-12 weeks. Chickens: 4-6 weeks	Turkeys, chickens	Mortality is generally low in chickens <30% but higher in turkeys (up to 70%)	Depression, weakness <u>Digestive:</u> loss of appetite, yellow feces in turkeys, bleeding droppings from chickens.	Medication, put birds on wire or cement

Category 3 Diseases

Condition	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Control
23. External parasites	Insects, arachnids	Any	Any	Usually low unless infestations are severe	Birds can become weak and unthrifty if heavily infested. <u>Skin:</u> Mites, ticks, fleas and lice can cause itching, loss of feathers. <u>Reproductive:</u> decreased egg numbers	Cleaning of environment between flocks, pesticides applied to the bird and the environment
24. Internal parasites	Various worms	Any but the most severe disease is in young birds	Any	Mortality is variable depending on the age of the birds, type and severity of infestation	Depression, failure to gain weight, anemia. <u>Digestive:</u> Diarrhea	Medication. sanitation
25. Aflatoxicosis	Toxin from fungus	Young birds more severely affected	Any although signs more severe in ducks	Variable	<u>Nervous:</u> difficulty walking, convulsions, feather picking <u>Reproductive:</u> Reduced fertility and hatch rates. Decreased egg numbers.	Remove contaminated food
26. Botulism	Toxin from fungus that grows in rotting material	Any	Any, although more severe in ducks and geese	It depends on how many birds consume the toxin	<u>Nervous:</u> paralysis, especially of the neck. Birds will be flaccid.	Remove source of toxin, pick up carcasses, control flies, fix leaking water
27. Chemical toxins	Pesticides, disinfectants and other	Any	Any	Depends on the toxin, the amount consumed or inhaled, and the number of birds exposed.	Signs vary depending on the toxin.	Remove source of toxin, may need to clean environment
28. Predators	Wild and domestic predators	Any	Any	Predators usually kill a few birds but do not cause the deaths of large flocks	Missing birds or eggs. Occasionally, injured birds may appear or body parts may be discovered after an attack.	Secure housing can reduce losses to flocks.
29. Vitamin deficiency	Lack of complete nutrition	Any	Any	Usually low in free-ranging birds. May be moderate to high in young, confined birds.	<u>Vitamin E:</u> Death before 4 days of age <u>Nervous:</u> difficulty walking and standing, 15 - 30 days of age <u>Reproductive:</u> Decreased hatchability. <u>Vitamin A:</u> Slow growth, drowsiness, and mortality. <u>Respiratory:</u> Discharge from nose and eyes. <u>Reproductive:</u> decreased egg numbers and hatching, increased blood spots in eggs.	Supplement vitamins in the water or feed. Add antioxidants to feed. Rotate feed.

**ALL THESE CAN BE PRESENTED
DIAGRAMMATICALLY FOR FIELD DIAGNOSIS**





THANK YOU AND GOD BLESS YOU

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