



College of Veterinary Medicine
Department of Pathology & Poultry Diseases



Poultry epidemiology ,Health and welfare

مختبر الدواجن العملي / الفصل الدراسي الأول

2023-2024

Lecturer Zahraa adel dawood

Lecturer Sodad ahmed mohamed

Lecturer Aymen abdullah ali

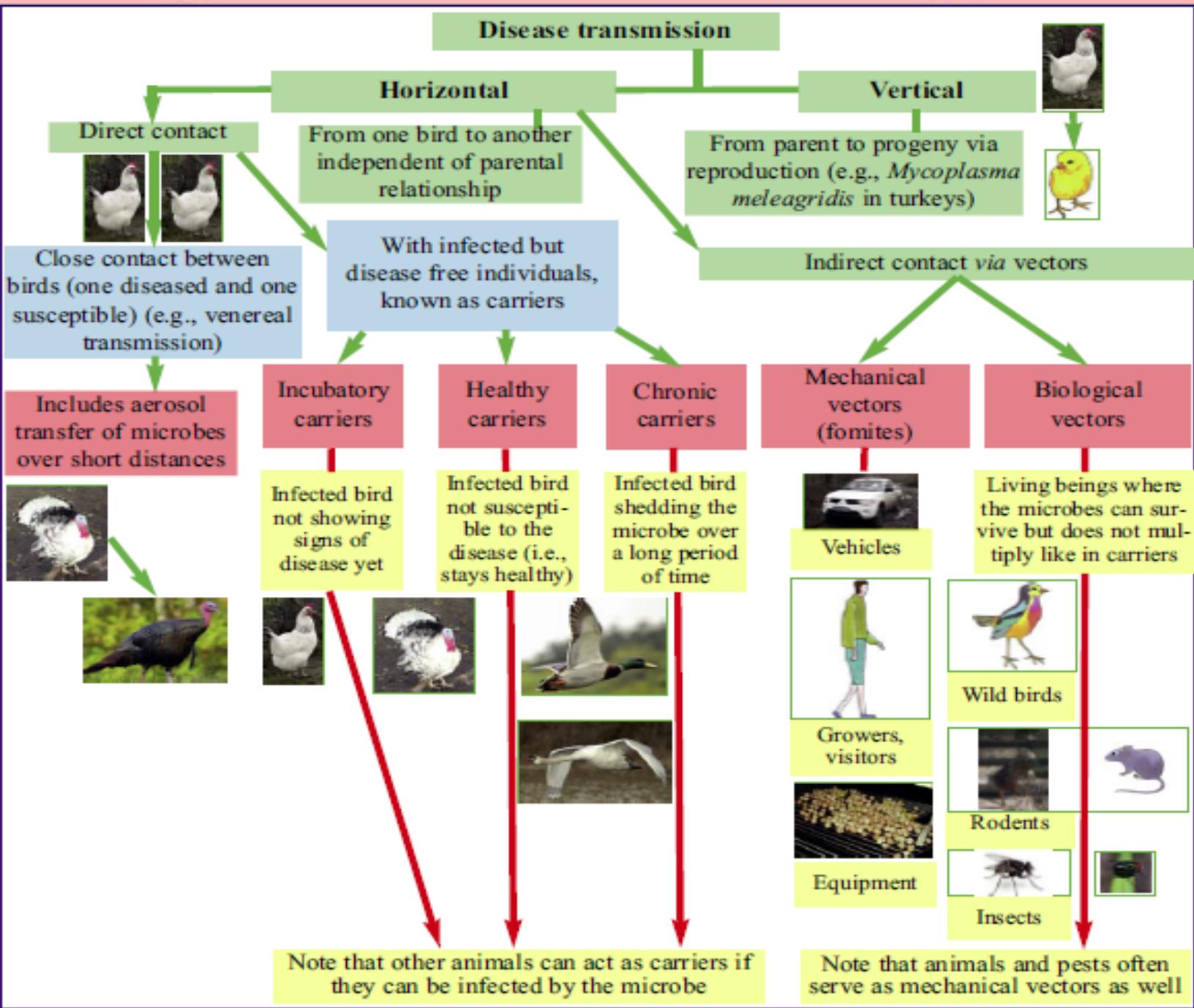


Fig. 13.1: Disease transmission.



College of Veterinary Medicine

Department of Pathology & Poultry Diseases



The different phases of a disease (e.g., Mycoplasmosis caused by *M. gallisepticum*)

Magnitude of
clinical signs

Very
elevated
Elevated
Obvious
Weak
No signs

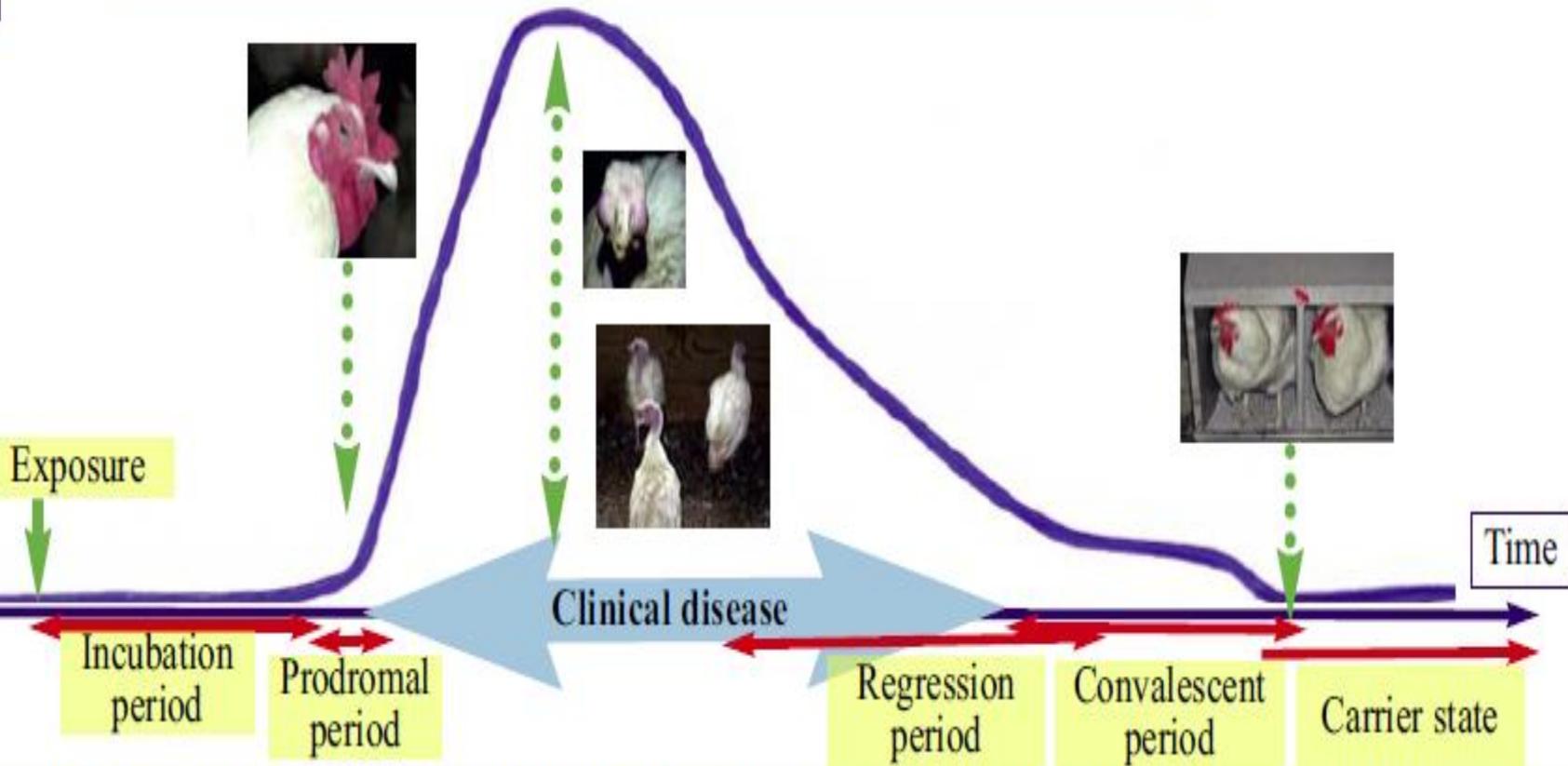


Fig.13.2: The different phases of a disease (adapted from Le Glossaire d'Epidémiologie Animale, 1999).

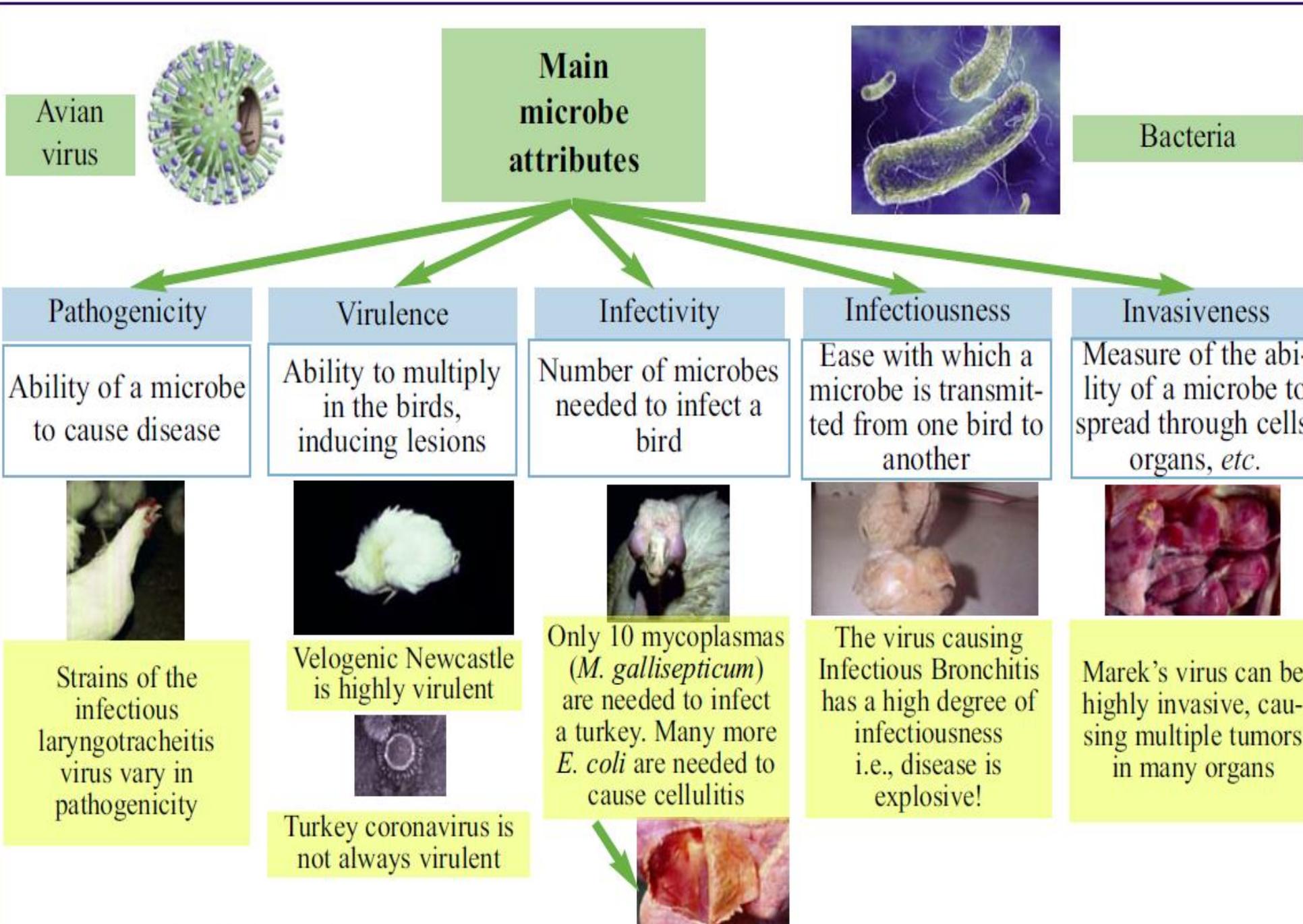


Fig.13.4: Characteristics of pathogens.

Infection

Invasion by microbes capable of reproducing in sensitive individuals

Reinfection

Second infection by same microbe in same individual

Infection by *E. coli* causing airsacculitis followed by another infection by *E. coli* causing cellulitis

Secondary infection

Second infection following another caused by a different microbe

Infection by *E. coli* and turkey coronavirus causing severe enteritis in 4-week-old turkeys

Subclinical

Cannot be clinically detected

Clinical disease

Detectable signs

Silent infection

No clinical signs & performance losses

Chickens infected with the West Nile virus

Impaired production

No clinical signs BUT performance losses detectable

Infection by the chicken anemia virus. Although this infection can lead to disease, many cases without clinical signs have been reported. Although signs are not observed, a difference of 14.5% in revenue from infected, but clinically diseased free flocks are seen. The main cause of this difference is higher body weight variability and an overall mean weight at slaughter slightly less than non-infected birds

Laryngotracheitis, infectious bronchitis, aspergillosis, etc.

Relapse

Reoccurrence of signs after birds had improved clinically

Infection with *Mycoplasma gallisepticum* in turkeys where clinical signs subsided in a flock after treatment, but the disease reoccurred in the same flock soon after medication was stopped



College of Veterinary Medicine

Department of Pathology & Poultry Diseases



The Poultry Signals Concept

You don't manage a farm behind a desk. You have to go into the houses and see what is happening there, think what it means and act accordingly. For good observation take your time and use all your senses.

Look



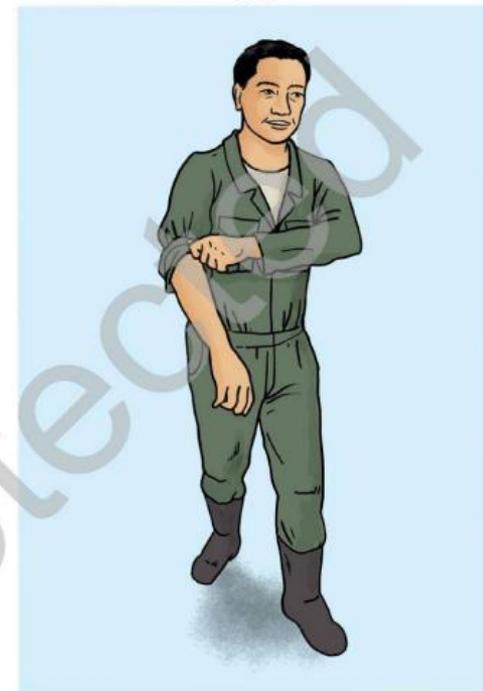
What do I see?

Think



Why is this happening?

Act



What should I do now?

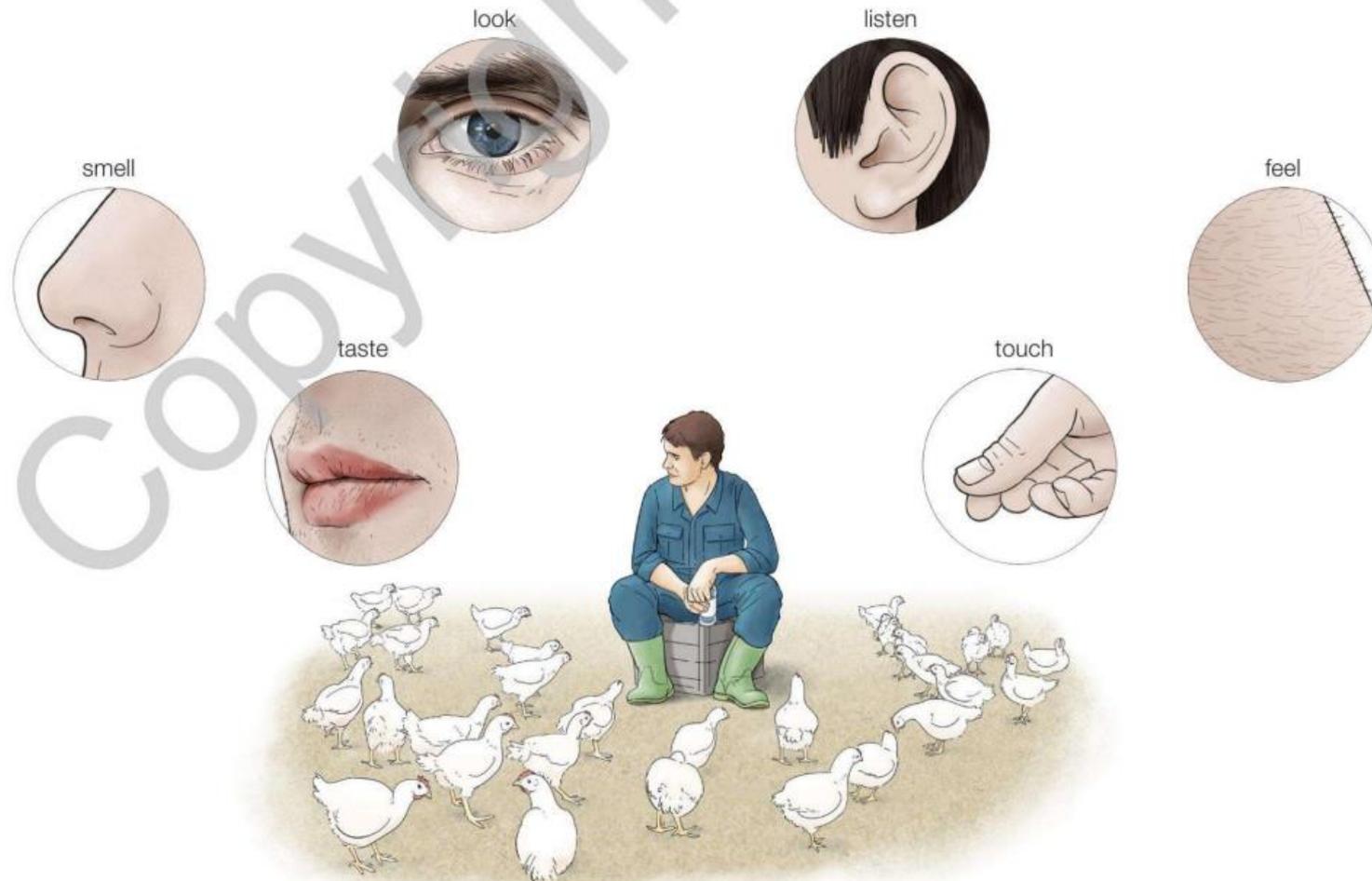


College of Veterinary Medicine

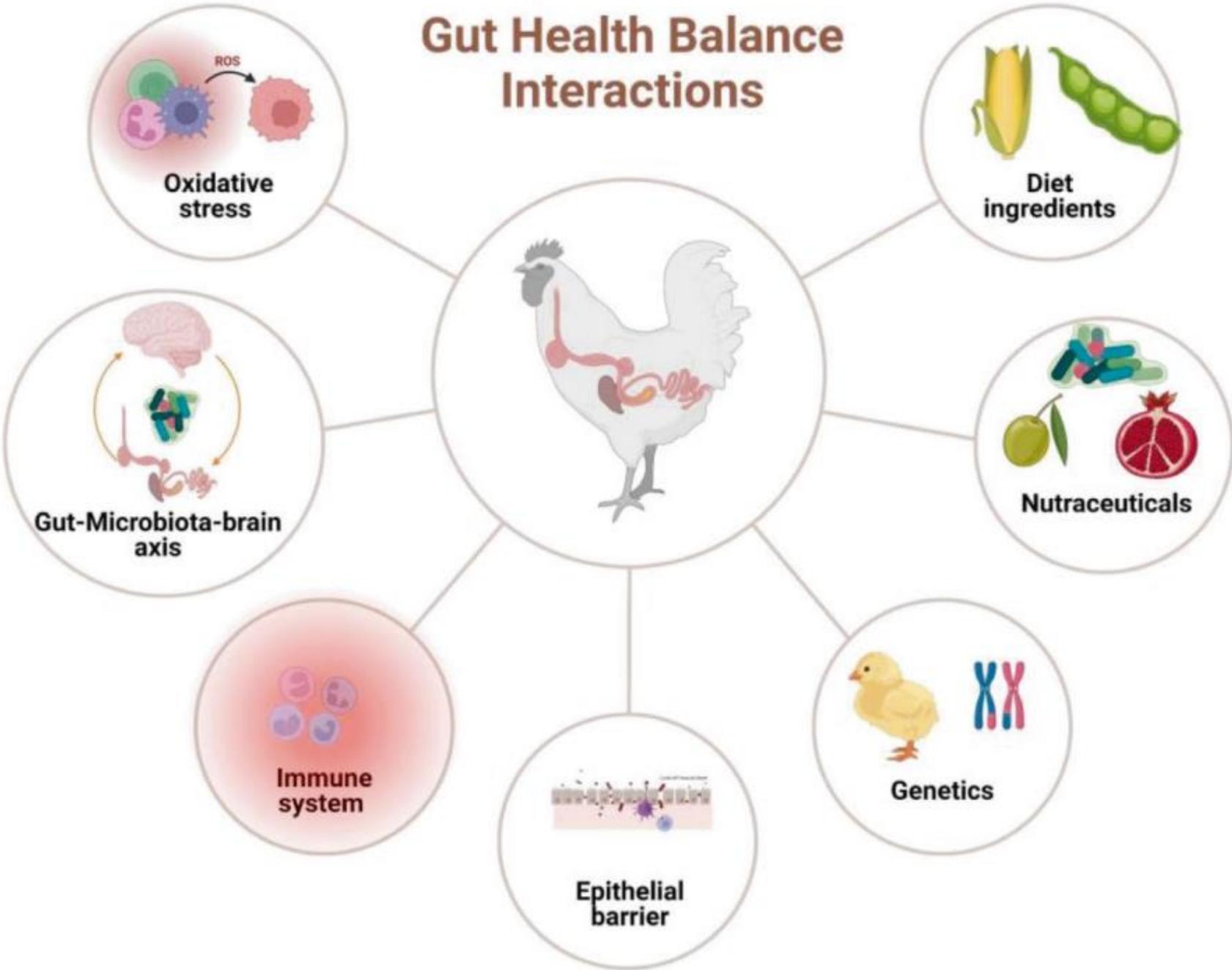
Department of Pathology & Poultry Diseases

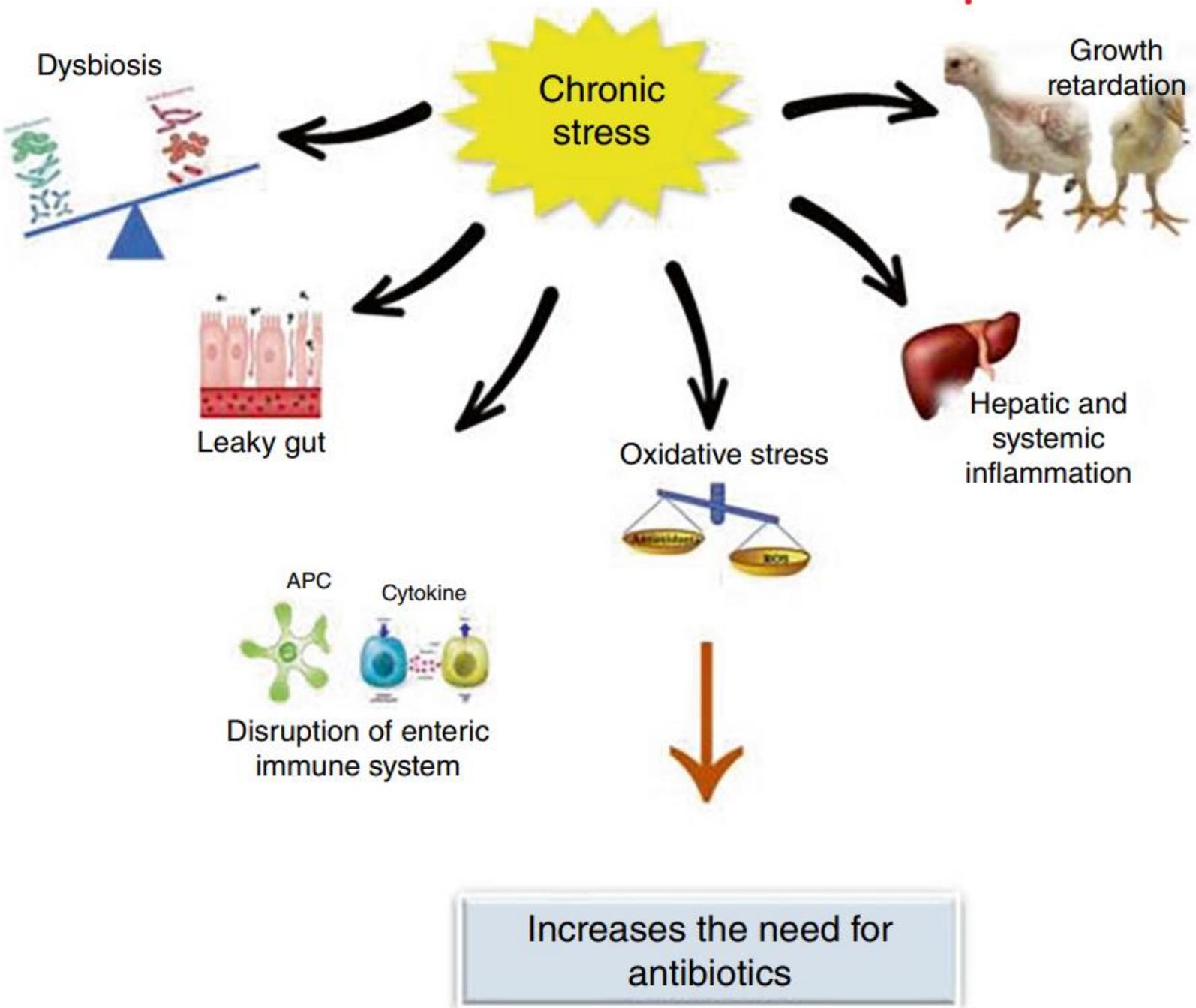


Use all your senses



Gut Health Balance Interactions







College of Veterinary Medicine

Department of Pathology & Poultry Diseases



Focus Points in a Broiler's Life

Broilers grow very rapidly in a short time. When you take action, don't think in days but in hours or even less. The slightest interruption can disrupt the delicate process. So it's all the more important to prevent problems, or at the very least react quickly to the signs.

Day 1

- day-old chick quality
- body temperature
- eating and drinking
- crop fill
- distribution



Week 1

- growth
- distribution
- crop fill



Week 2

- organ development
- bone development
- muscle development
- growth





College of Veterinary Medicine

Department of Pathology & Poultry Diseases



Week 3

- intestinal health
- droppings
- clean feathers



Week 4

- respiratory health
- change from requiring heat to excess heat
- panting, sniffing, sneezing





College of Veterinary Medicine

Department of Pathology & Poultry Diseases



Week 5

- litter quality
- overheating
- footpad lesions
- mobility (lameness)



Week 6

- leg problems
- skin damage
- heat stress



nice and cheerful sound



red and clear comb and wattles

behaviour: alert, stands up when approached

clear eyes

clean nostrils

pink and moist mucous membranes

straight neck

concave back

closed beak, normal breathing

no injuries to head, neck, back and tail

proudly upright posture

filled crop

full muscled breast

straight keel bone

pink, undamaged breast skin

clean, smooth and even plumage

wings well positioned along her body

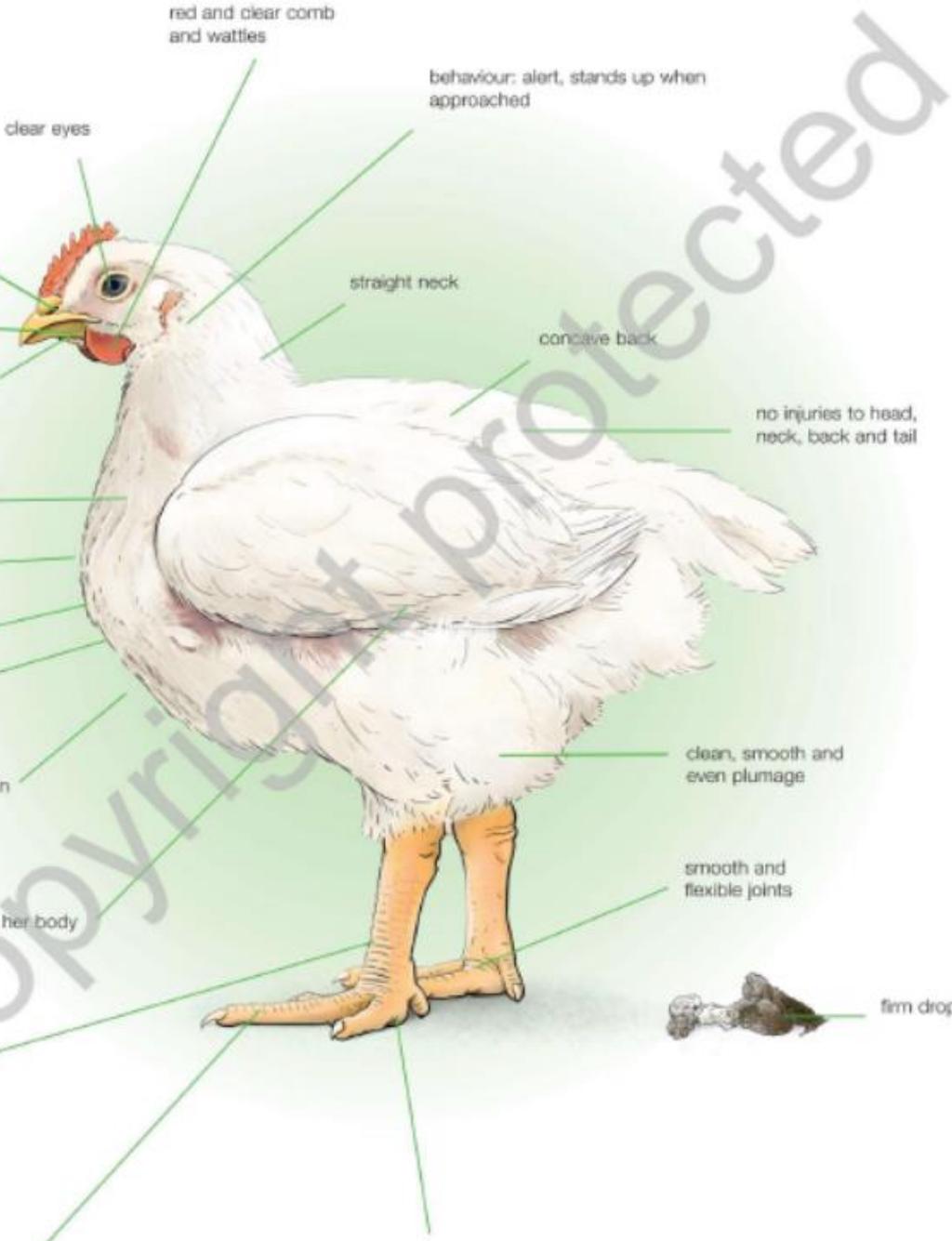
smooth and flexible joints

straight, yellow legs, and not overly warm

firm droppings

straight toes

smooth footpads



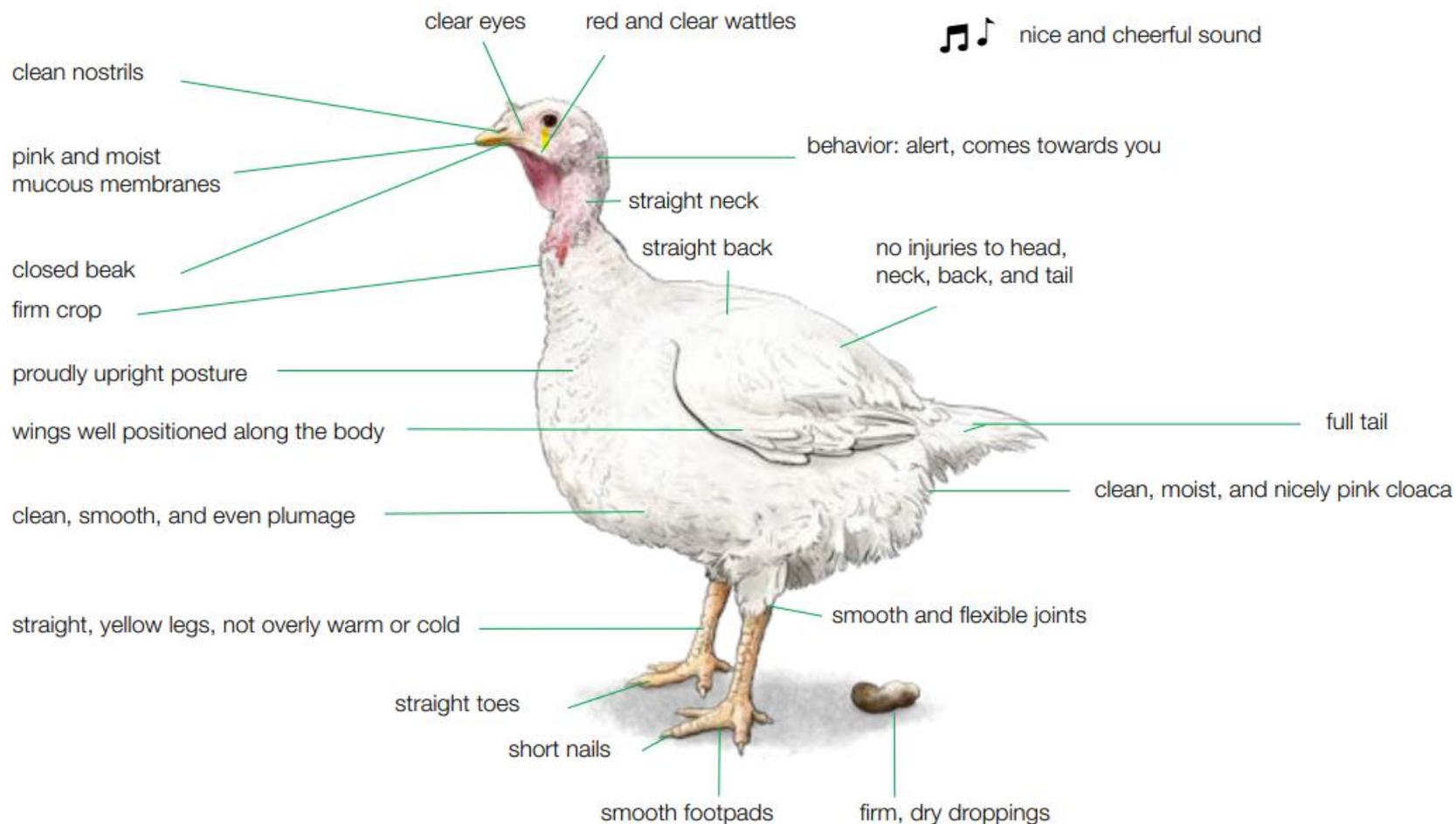


College of Veterinary Medicine

Department of Pathology & Poultry Diseases



Healthy turkey



screaming, squeaking,
congested sound

eyes: mucus, semi-closed, frothy, swollen,
white eye, dry, dull/pale in colour



comb/wattles:
pale, purple

behaviour: sits still in a
corner, lethargic and slow

swollen nasal
cavity

dirty,
moist nostrils

open beak,
gasping

tongue and mucous
membranes pale, dull and dry

skinny breast,
under-developed muscles

damaged breast skin: ammonia
burn, litter spots, breast blisters

hot legs (fever)

lame, crooked legs, pulled up

foot pad lesions

empty crop

neck feathers
standing out

convex back

pecking and
scratching injuries

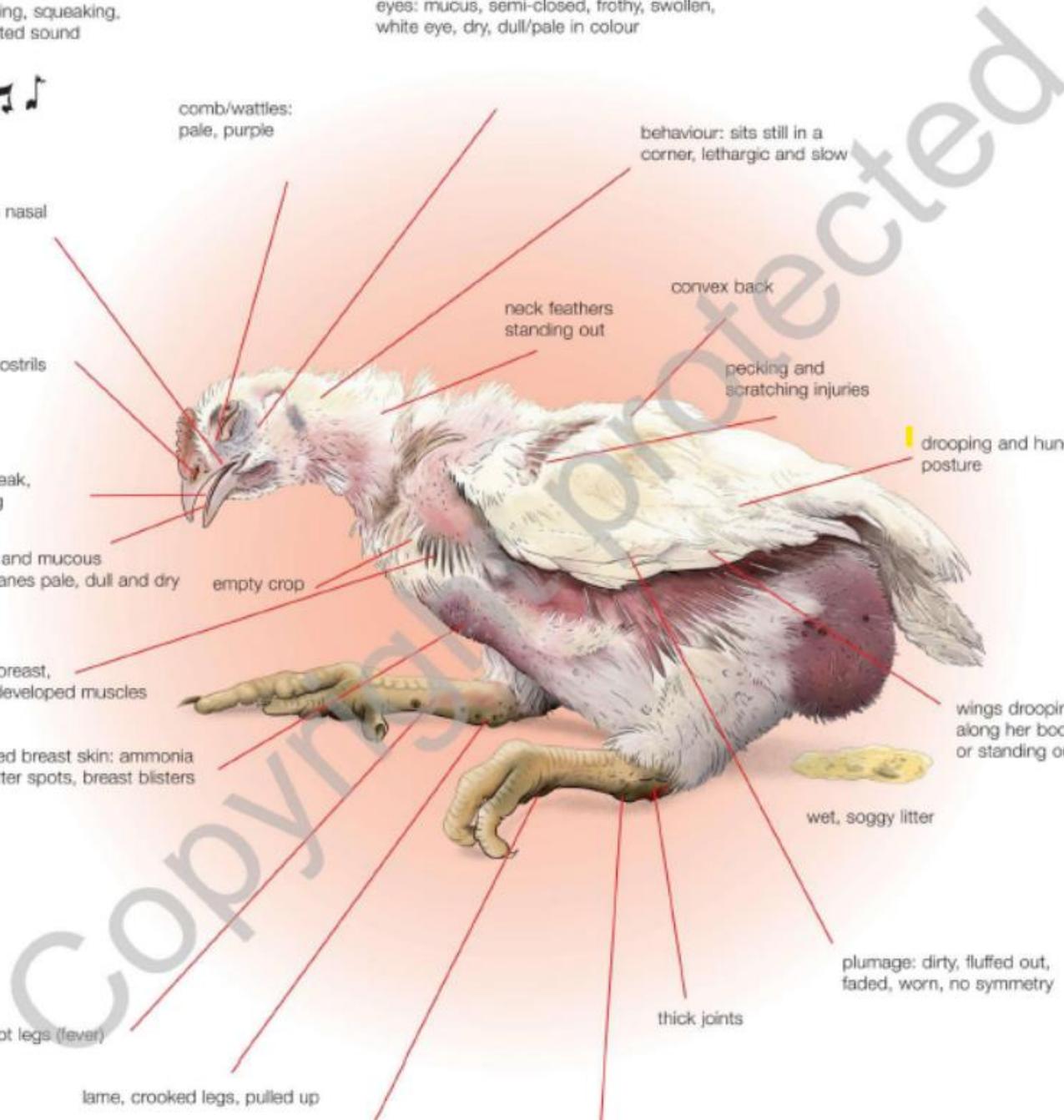
drooping and hunched-up
posture

wings drooping
along her body
or standing out

wet, soggy litter

plumage: dirty, fluffed out,
faded, worn, no symmetry

thick joints



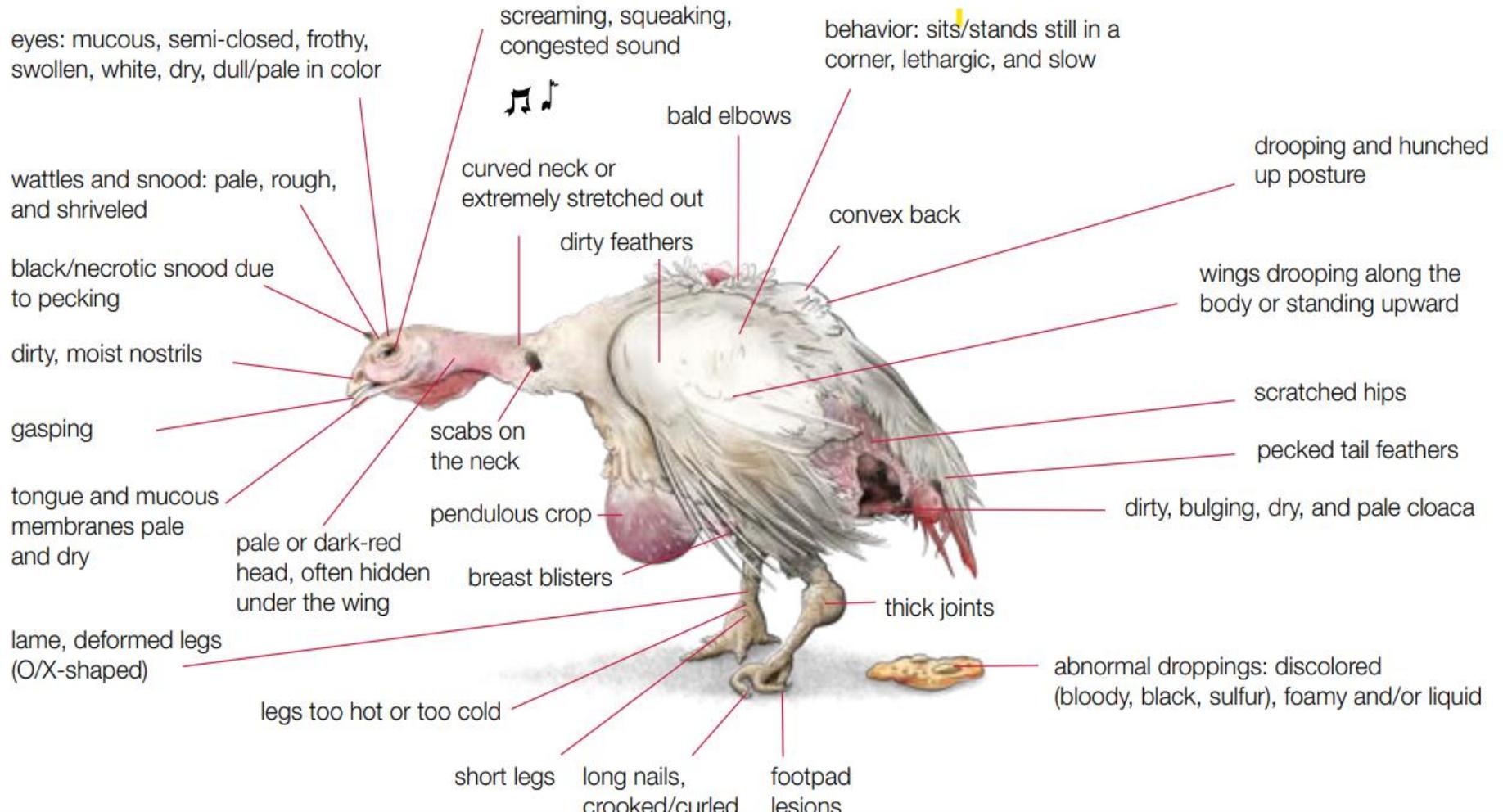


College of Veterinary Medicine

Department of Pathology & Poultry Diseases



Unhealthy turkey





College of Veterinary Medicine

Department of Pathology & Poultry Diseases



What is animal welfare?

Physical attributes of animal

Culling/Euthanasia

Nutrition

Handling

Daily care

**Animal health
(physical)**

**Animal well-being
(behavior)**

Health status
(vaccination and
disease freedom)

Equipment (set-up
and maintenance)

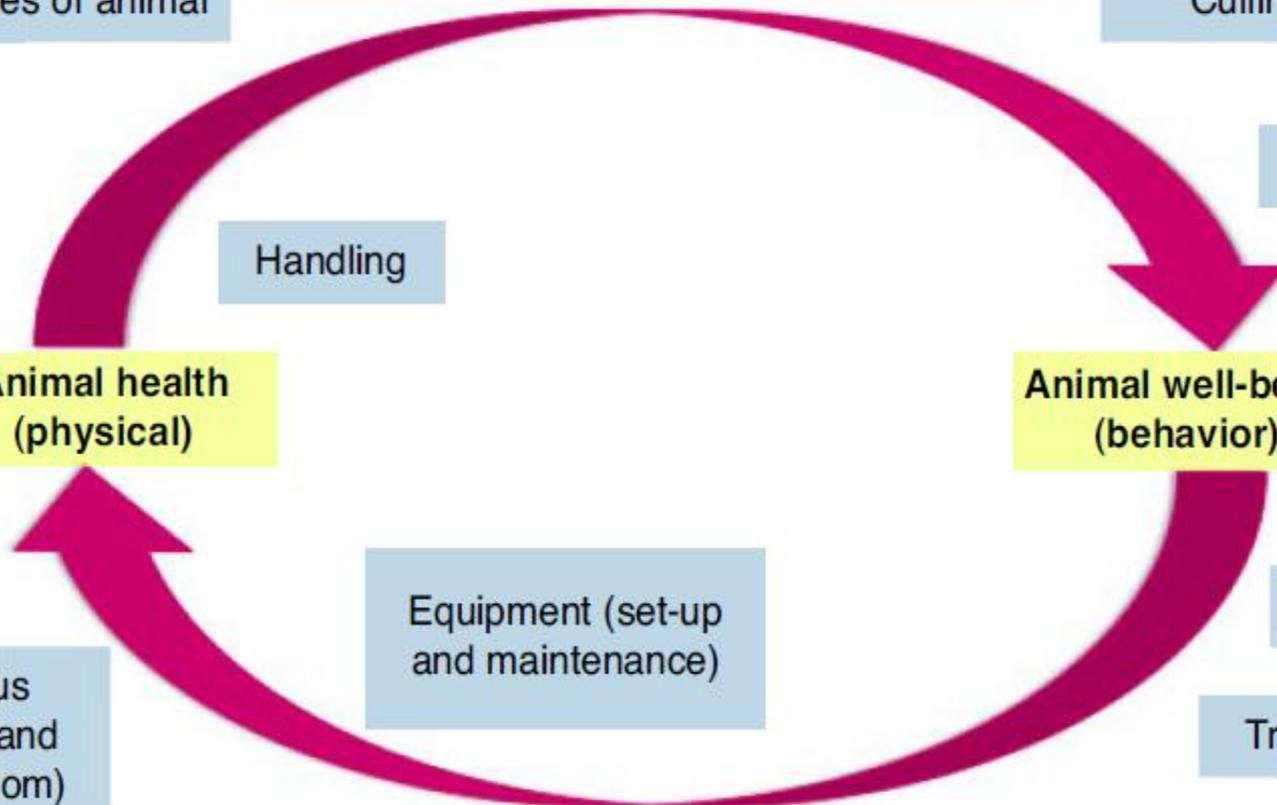
Genetics

Transportation

Robustness

Environment

Sustainability





College of Veterinary Medicine
Department of Pathology & Poultry Diseases



Thank you

ZAS