

Commercial rearing poultry for captive raptor diets



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Falconry Diets - History

- ▶ Commercial avian food historically from industry by-products
 - ▶ Male day old chicks
 - ▶ Ex-layer quail
 - ▶ Turkey necks
- ▶ Benefits
 - ▶ Cheap
 - ▶ Generally safe
 - ▶ Good biosecurity
 - ▶ Consistent



Recent Industry Supply Issues

- ▶ Brexit
- ▶ Day old chick legislation
- ▶ Avian influenza
- ▶ Cold chain logistics - seeking supplies further afield
- ▶ Heatwaves - southern Europe quail production

- ▶ Suppliers missing deliveries
- ▶ Refusing new custom
- ▶ Zoos/clients running out of food
- ▶ Quality deteriorated



Clients - commercial falcon breeders

- ▶ Producing falcons for Middle East
- ▶ Favorable UK climate for falcon breeding
- ▶ Hybridization Gyr:Peregrine - requires artificial insemination
- ▶ Est 3000 falcons produced each year



Specialist food production

- ▶ Predominately quail - some pigeon
- ▶ 2-3000 birds / week
- ▶ On-site blast freezer
- ▶ Control nutrition
 - ▶ Customize
- ▶ Manage biosecurity/disease risks



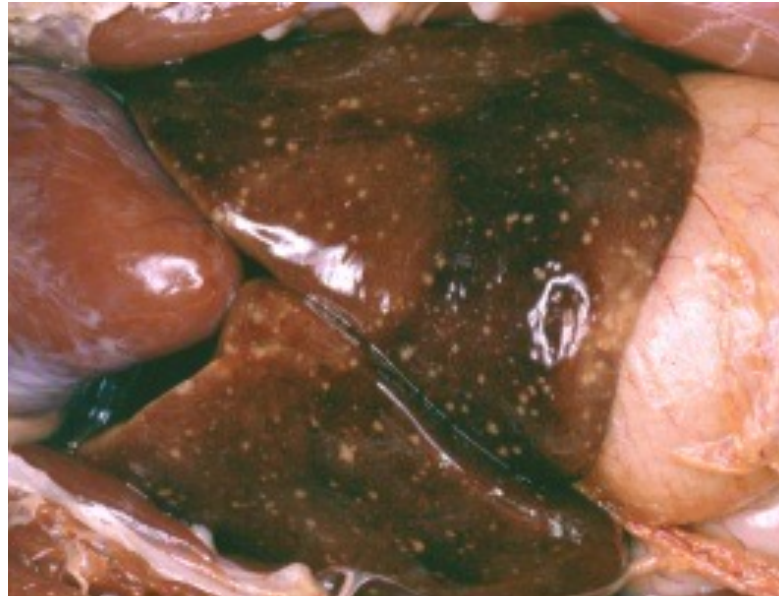
Disease risks associated avian food production

- ▶ Bacterial infections
 - ▶ Clostridia
 - ▶ Campylobacter
 - ▶ Mycoplasma
 - ▶ Chlamydia psittaci
 - ▶ Salmonella
 - ▶ Colibacillosis
- ▶ Viral infections
 - ▶ Herpes virus
 - ▶ Adenovirus
 - ▶ West Nile Virus (Eastern Europe and North America)
 - ▶ Avian influenza (wild caught pray)
 - ▶ Paramyxovirus
 - ▶ What else?



Herpes virus

- ▶ Carried by and generally asymptomatic in pigeons
- ▶ Also transmitted from other poultry species
- ▶ Columbid-herpes virus 1
- ▶ Lack of sequencing performed
- ▶ Closely related
 - ▶ Galid-herpes virus 2 (Mareks)
 - ▶ Galid-herpes virus 1 – (ILT)
- ▶ Species sensitivity
 - ▶ Gyr falcons
 - ▶ Merlin



- ▶ 30% wild injured birds tested are seropositive - mount immune response and clear virus
- ▶ Clinical signs
 - ▶ lethargy
 - ▶ weakness,
 - ▶ malaise,
 - ▶ lime green staining of the urates
 - ▶ anorexia



> [Vet Res Commun.](#) 1983 Mar;6(2):145-51. doi: 10.1007/BF02214907.

Susceptibility of day-old chicks and ducklings, goslings and quails to pigeon herpes encephalomyelitis and pigeon herpesviruses

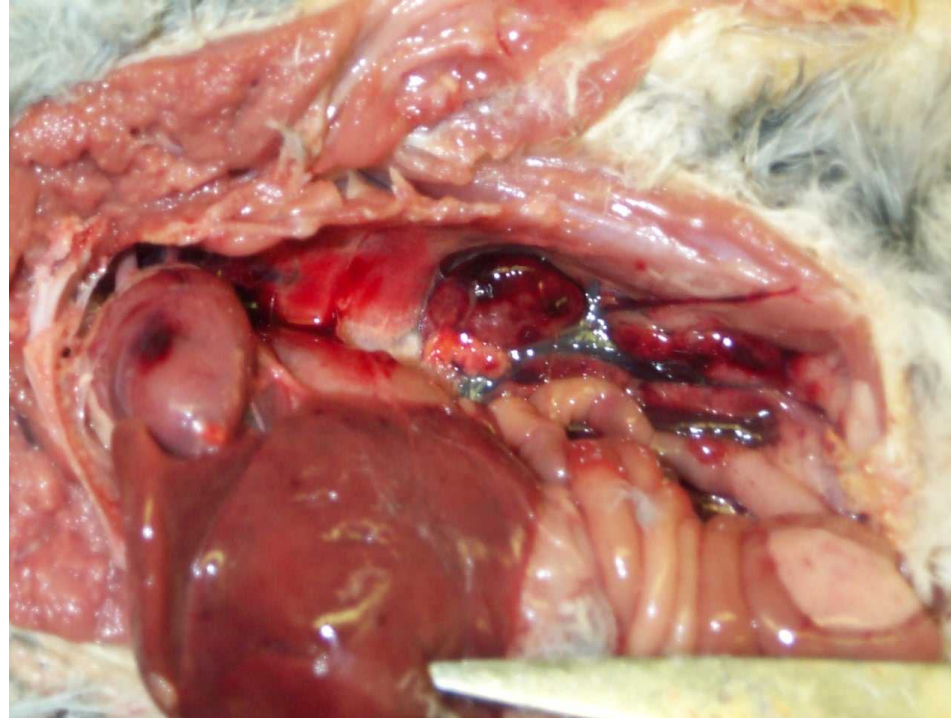
H H Tantawi, Y I Youssef, M Bastami, J M Al-Abdulla, N Amina

PMID: 6306904 DOI: [10.1007/BF02214907](#) 



Adenovirus

- ▶ Fowl adenovirus 2, 6 reported as cause of death in falcons
- ▶ Aviadenovirus 4 - emerging in backyard poultry flocks and caused death in Black kites.
- ▶ Siadenovirus - cause mortality in Harris hawks
- ▶ Falcon adenovirus
 - ▶ Distinct species
 - ▶ Most similar to *Fowl aviadenovirus E* strain HUNG6
 - ▶ Inoculated into Japanese quail - no clinical disease



Adenovirus

- ▶ Last summer three falcon facilities had outbreaks falcon adenovirus
- ▶ 80% mortality juvenile birds
- ▶ Only commonality was food source
- ▶ Testing for aviadenovirus negative falcons and quail
- ▶ Falcon-adenovirus positive falcons
- ▶ Change to mammalian diet - stopped mortality

Problem

- ▶ Develop a testing strategy to screen quail for raptor pathogenic virus (and bacteria)
- ▶ Cost?
- ▶ Sensitivity of the testing
- ▶ Lack of published sequence's
- ▶ Significance of risk?



Questions?

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