

# Small Flock Poultry: Pet or Food Animal?

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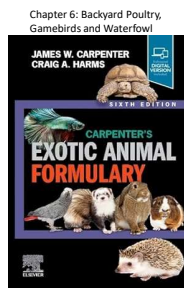
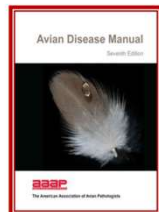
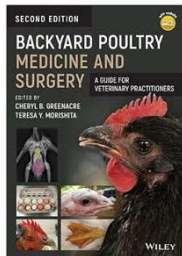
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## RESOURCES



Chapter 6: Backyard Poultry, Gamebirds and Waterfowl



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## Acknowledgements

Karen Burns Grogan,  
DVM, MAM, dACPV

Clinical Associate Professor  
UGA Poultry Diagnostic & Research Center



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## FIRST THINGS FIRST

**NEVER PRESCRIBE  
ENROFLOXACIN FOR  
POULTRY!!!!**

**And, caution with chickens &  
cephalosporins**



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**Why is the integrated poultry  
industry so important?**



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## Per Capita Meat Consumption

Average lbs. consumed/person in US

Year	Beef	Pork	Total Red Meat	Broilers	Other Chicken	Total Chicken	Turkey	Total Poultry	Total Red Meat & Poultry
2022	59.1	51.1	111.6	98.9	1.7	100.6	14.6	115.2	226.8
2023 estimate	57.6	49.8	108.7	100.1	1.6	101.7	15.5	117.2	225.9
2024 forecast	53.8	49.8	105	100.6	1.7	102.3	15.6	117.9	222.9

Source: National Chicken Council



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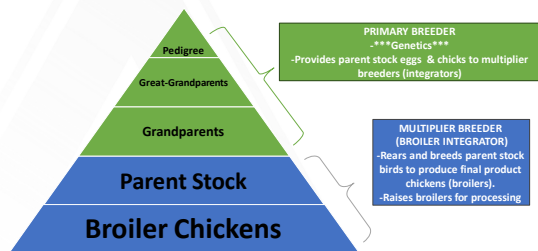
So, how do we meet the consumer demand for poultry?



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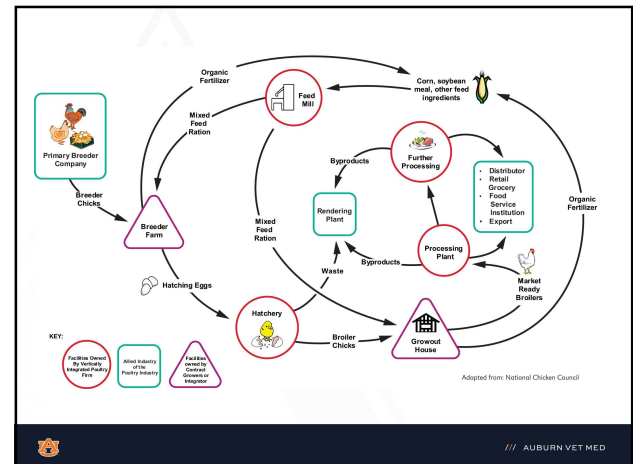
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## Integrated Broiler Production



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## Integrated Poultry Production

- Comprised of the following:
  - Broilers → “meat chickens”
    - Top 3 Broiler States = Georgia, **Alabama**, Arkansas
  - Table egg layers → “egg chickens”
    - Top 3 Table Egg States = Iowa, Ohio, Indiana
  - Turkeys
    - Top 3 Turkey States = North Carolina, Minnesota, Indiana



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## Economic Impact

2 million jobs

\$125.6 billion in wages

Overall impact \$555.9 billion/yr

Source: US Poultry & Egg



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## Biosecurity & US Industry

- Biosecurity defined as procedures implemented to protect animals (or humans) from disease or harmful biological agents
- Fundamental Principle → “ALL IN, ALL OUT”
  - Single species on premise
  - All birds from same point-source
  - All birds of same age
  - All birds leave premise together



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## Biosecurity & US Industry

- Limit traffic onto farm
- Visitor logs; proper PPE
- Use of disinfecting boot powder/spray disinfectant
- Closed feeding/drinking systems
- Prompt disposal of mortality (incineration, composting, burial, etc.)



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## Biosecurity & US Industry

- NPIP participants
- Routine disease surveillance and monitoring
  - Ex: Avian Influenza, MS/MG
  - Tested prior to bird movement
  - Hens/roosters tested throughout production cycle



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## Vaccination Programs

- Consist of recombinant, modified live and inactivated vaccines
- Breeders are long-lived, receive multiple vaccines
- Broilers vaccinated once
- Common diseases vaccinated against:
  - Viral: Marek's, IBD, CAV, Fowl Pox, ILTV, Reovirus, Newcastle, IBV, AE
  - Bacterial: Salmonella, Fowl Cholera, E. coli, etc.



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## Overarching Goal

- Integrated Poultry Industry:
  - To provide high quality, safe and affordable protein for both US and global consumers
- Backyard/Small Flock Segment:
  - To provide protein for individual persons/families in a very small geographic region
  - To rear chickens for companionship, exhibition or youth projects (4H, FFA, etc.)



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**Ultimately, both segments want to raise healthy birds**

**Doing so requires cooperative efforts!**



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# Small Flock Poultry

Small & Backyard Flock



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## Biosecurity for Backyard Flocks

- Aim for “all in/all-out”
  - At the least, quarantine new birds for 3 weeks
  - Do not intermingle different avian species!!
- Isolate sick chickens
- Use of boot dip/disinfecting spray at entrances/exits
- Limit animal movement/interaction
- Purchase feed from credible sources



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## Beware!

- Many “resources” exist...not all are credible
- Management and husbandry okay
- Caution with...
  - Disease diagnosis
  - Disease prevention
  - Disease treatment
- \*\*\*In the eyes of the FDA....a chicken is a major species and food animal\*\*\*
  - NOT A PET



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## Navigating The Regulatory World



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## Defining “Poultry”

### USDA Definition

“Poultry is any **domesticated bird used for food**. Varieties include chicken, turkey, goose, duck, Rock Cornish hens, and game birds such as pheasant, squab and guinea fowl. Also included are huge birds such as ostrich, emu and rhea (ratites).”



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## Defining “Poultry”

### WOAH Definition:

- “all birds reared or kept in captivity for the production of any commercial animal products or for breeding for this purpose, fighting cocks used for any purpose, and all birds used for restocking supplies of game or for breeding for this purpose, until they are released from captivity.
- Birds that are kept in a single household, the products of which are used within the same household exclusively, **are not considered poultry**, provided that they have no direct or indirect contact with poultry or poultry facilities.
- Birds that are kept in captivity for other reasons, including those that are kept for shows, racing, exhibitions, zoological collections and competitions, and for breeding or selling for these purposes, as well as pet birds, are not considered poultry, provided that they have no direct or indirect contact with poultry or poultry facilities”



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## Defining "Poultry"

### FDA Definition

- "Defined in 9 CFR 381.1 as any **domesticated bird** (chickens, turkeys, ducks, geese, guineas, ratites, or squabs, also termed young pigeons from one to about thirty days of age), **whether live or dead.**"
- FDA Major Species:
  - Horses, dogs, cats, cattle, pigs, **chickens and turkeys**
  - **Therapeutics** are highly regulated for major species



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## What does this mean?

Definition of "poultry" depends on which regulatory agency is involved and/or purpose of bird(s) in question

Ex: FDA → Chickens are a **major species**, regardless of purpose (pet or for food production)

**When treatment is involved, must adhere to FDA guidelines!**



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## Animal Movement

Health Certificates....



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## ANIMAL MOVEMENT

- Each state may have different requirements for movement of poultry within and between states.
- Health certificates and/or VS 9-3 often required for interstate movement
- **ALL AVIAN SPECIES, INCLUDING POULTRY**
  - **USDA Accreditation Category II**
- Always contact State Veterinarian for guidance



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## NPPI

National Poultry Improvement Plan



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## National Poultry Improvement Plan

- Is a voluntary state-federal testing/certification program
- Established in 1930's to control/eradicate Pullorum Disease in the integrated industry
- Now includes **Pullorum, Fowl Typhoid, Avian Influenza, virulent Newcastle Disease (formerly Exotic), Mycoplasmosis**
- Each state has an Official State Agent (OSA) for program supervision



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## NPIP & Small Flock Poultry

- “Hobbyist Poultry” – domesticated fowl bred for purpose of meat and egg production on small scale as determined by OSA
- “Exhibitionist Poultry” – domesticated fowl which are bred for combined purpose of meat and egg production and competitive showing
- Guidelines for participation are included in **9 CFR Part 145 Subpart E**
- Contact your OSA for guidance.....



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## NPIP & Backyard Poultry

- Strongly encouraged to participate if involved in “commerce”
  - Hatching eggs for sale, donation, etc...
- Often, NPIP provides framework for inter/intrastate bird movement
  - Ex: Exhibitions often require that poultry participants are tested prior to/upon arrival
- Hatchery NPIP Participants
  - Extra assurance; inquire about NPIP participation
  - Ex: Meyer Hatchery, Freedom Ranger Hatchery, Inc., Murray McMurray Hatchery



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## Questions to Ask re: NPIP

- Do you participate in NPIP?
  - If so, when was the flock last tested and for which diseases?
  - Were these [sick] birds tested or others within the flock?
- Did you acquire these chicks/chickens from an NPIP participant?
  - If so, what diseases are tested for and when was the last time the flock(s) were tested?
- Did these chicks/chickens receive any vaccines?
  - If so, when and which vaccines were administered?



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## NPIP in Alabama & Georgia

- Alabama Official State Agency
  - Dr. Tony Frazier, State Veterinarian
  - Allie Grooms, Poultry Unit Supervisor, Alabama Dept. Ag & Industries
- Georgia Official State Agency
  - Dr. Louis Dufour-Zavala, Georgia Poultry Laboratory Network
  - Jeff Spivey, GPLN
- Will provide more information on participation requirements, testing intervals, etc.



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## DIAGNOSTIC LABS

- State veterinary diagnostic labs → invaluable resource!
- Offer diagnostics & necropsy evaluations
- Nominal fees

**Alabama**  
Auburn  
Elba  
Boaz  
Hanceville

**Georgia**  
Gainesville (GPLN)  
Tifton (GPLN)  
Forsyth (GPLN)  
Athens (UGA)  
Tifton (UGA)



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Regulatory Aspect Of

## ANTIMICROBIALS



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## FIRST THINGS FIRST

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**And, caution with chickens &  
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## FDA CLASSES OF POULTRY

MAJOR SPECIES	
<b>CHICKENS</b> •Broiler chickens •Laying chickens •Replacement chickens	<b>TURKEYS</b> •Growing turkeys •Poults •Replacement turkeys •Breeding Turkeys
MINOR SPECIES	
Ducks, Pheasants Guineas, Quail Etc.	



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### CHICKENS – DEFINITIONS OF USE CLASSES

Eggs	Includes all developmental stages - in ovo until hatching
Chicks	Chickens from day of hatch until able to survive in ambient temperature (no longer brooded)
Broiler Chickens	Chickens grown to marketable weight and intended for meat production. Includes Rock Cornish game hen or Cornish game hen, broiler or fryer, roaster or roasting chicken and capon
Replacement Chickens	Female chickens intended to become laying hens (replacement layers) and male and female chickens intended to become breeding chickens (breeder replacements)
Laying Hens	Hens that produce non-fertilized eggs for human consumption
Breeder Chickens	Sexually mature male or female chickens intended for the production of fertile eggs for hatching into broilers, broiler breeder replacements, laying hen replacements, or layer breeder replacements. These eggs are NOT intended for human consumption

Source: FARAD



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### TURKEYS – DEFINITIONS OF USE CLASSES

Eggs	Includes all developmental stages - in ovo until hatching
Poults	Turkeys from day of hatch until they are able to survive in ambient temperature (no longer brooded)
Growing Turkeys	Turkeys grown to a marketable weight, intended for meat purposes. Includes fryer-roaster, young turkey and yearling turkey
Replacement Turkeys	Turkeys intended to become breeding turkeys
Breeding turkeys	Sexually mature male or female turkeys, intended for the production of fertile eggs for hatching into growing turkeys or breeder replacement turkeys

Source: FARAD



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## Antibiotics & Poultry

- Antibiotics used for treatment, control and prevention of disease
- **Never** used for growth promotion!!
- ELDU is common in poultry

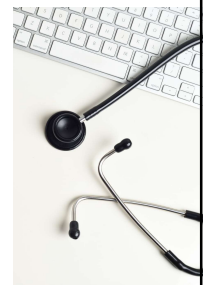


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## Extra-label Drug Use (ELDU)

- ELDU permissible under Animal Medicinal Drug Use Clarification Act (AMDUCA) of 1994
- Refers use to use of an approved drug in a manner that is not in accordance with approved label directions
- ELDU must be under supervision of a licensed veterinarian and within context of a **VCPR**
- Before RX'ing ELDU – should provide diagnosis, rationale for use and a substantial withdrawal period
- More information in [21 CFR 530](#)



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## PROHIBITED DRUGS - AMDUCA

**Group I:** Drugs with NO ELDU in ANY food-producing animal species

CHLORAMPHENICOL	CLENBUTEROL
DIETHYLSTILBESTEROL (DES)	GLYCOPEPTIDES (Vancomycin)
FLUORQUINOLONE-CLASS ANTIBIOTICS (Enrofloxacin, Ciprofloxacin, etc)	MEDICATED FEEDS (antibiotics)
NITROIMIDAZOLES -Dimetridazole -Iprnidazole -Metronidazole -others	NITROFURANS -Furazolidine -Nitrofurazone -others



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## PROHIBITED DRUGS - AMDUCA

**Group II:** Drugs with NO ELDU in POULTRY

- Adamantane & Neuraminidase Inhibitors --**antivirals**
  - Tamiflu® (oseltamivir)
  - Relenza® (zanamivir)
  - Rapivab® (peramivir)
  - Symmetrel® (amantadine hydrochloride)
  - Flumadine® (rimantadine hydrochloride)



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## RESTRICTED DRUGS - AMDUCA

- **CEPHALOSPORINS (Group II)**
  - Restricted use in major food animal species (cattle, swine, chickens, turkeys) for all cephalosporins except cephapirin
  - ELDU of cephalosporins is permissible ONLY for therapeutic indications not included on product label
- **HOWEVER,**
  - **PROHIBITED** to alter the dose, route of administration, frequency of administration for all cephalosporins
- So...just avoid use in poultry
  - (Injectable cephalosporins can only ever be injected....)



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## RESTRICTED DRUGS - AMDUCA



- **CEPHALOSPORINS (Group II)**
- Naxcel (ceftriaxone sodium):
  - Only cephalosporin with label indication for poultry
  - Only for subcutaneous injection in day old chicks or poults



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## Judicious Use

- Since June 2012, FDA emphasis on judicious antibiotic use in livestock
- Increasing veterinary oversight for antimicrobial use
- **FDA CVM GFI #153** → categorization of antimicrobials based on importance in human medicine
- **FDA CVM GFI #263** → June 2023
  - Removal of all OTC antibiotics!!
  - Veterinary prescription required to obtain & administer



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MEDICALLY IMPORTANT (SHARED CLASS)	NON-MEDICALLY IMPORTANT
Fluoroquinolones (Enrofloxacin)	Ionophores
Cephalosporins	Othosomycins (Avilamycin)
Penicillins	Bambermycins
Tetracyclines (CTC, OTC)	Carbadox
Macrolides (Tylosin, Erythromycin)	Polypeptides (shared-class)*
Streptogams (Virginiamycin)	Pleuromutilin (shared-class)*
Lincomamides (Lincomycin)	
Aminoglycosides (Neomycin, Gentamicin, Streptomycin)	
Sulfas + potentiated sulfas (SMZ-TMP)	
Quinolones	
Glycopeptides	

Slide: Dr. Jenny Nicholds, UGA PDR



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## Veterinary Feed Directive

- Implemented on January 1, 2017
- **In-feed antimicrobials require veterinary oversight**
  - *No top-dressing feed with antibiotics!*
- **NO ELDU for in-feed antimicrobials!!!**
- No growth-promotion use; only for prevention, treatment and control of disease
- No commercially available (OTC) feeds contain antibiotics
  - “medicated feed” refers to chemical anticoccidial, not antibiotic!
- More details under **FDA CVM GFI #213**



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## Minor Use Minor Species (MUMS)

- **Minor species:** a drug is used to treat disease in a minor species
  - Minor species: quail, pheasants, guineas, etc.
  - Major species: dogs, cats, horses, cattle, pigs, turkeys & chickens
- **Minor use:** a drug is used to treat a rare disease in a major species
  - Ex: Blackhead in Turkeys
- Always consult FARAD
- **REMEMBER: Chickens are major species!**



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## ANTIMICROBIAL USE

- **Prescription required** for all antibiotics!
- **VFD** required for antibiotics administered in feed
- FDA has **ZERO TOLERANCE** for residues found in meat, milk or eggs resulting from extra label drug use.
- **Withdrawal times are important!**
  - ....and especially for eggs!
- **FARAD** is your friend!



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## Treating The Backyard Flock



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## Treating Poultry

- Flock vs. individual treatment
- Ease of administration → drinking water
  - Versus injectable antibiotics
- Communal water/feed
  - Should use closed drinking systems, clean often



Source: Amazon



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## Treatment Considerations

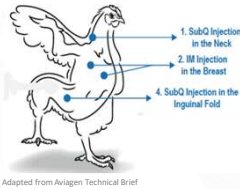
- **Laying chickens drink a lot of water**
  - egg is 65% water
- **Meat chicken & turkeys → 2x water v. feed**
  - Flock consumes 5 lbs feed/day, will drink 10 lbs. (1.2 gallons) water/day
- **Body temperature regulation**
  - High ambient temp... ↑ H<sub>2</sub>O intake
  - Caution with sulfa drugs and hot weather



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## Parenteral Administration



- Routes: Intramuscular (IM) or Subcutaneous (SQ) injection
- Needle size: 18 gauge, 1/4 inch
  - 20g & 22g also
- Locations:
  - Breast (IM)
  - inguinal fold (SQ)
  - Neck (SQ)
- Often repeated q48-72 hours
  - **CAUTION** – local tissue reaction

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## ANTIMICROBIAL NUANCES - TET

- Tetracyclines (TET) are bacteriostatic → slow growth
- Broad spectrum activity
  - Gram +/- and *Mycoplasma*, *Chlamydia*, *Rickettsia*, etc.
- Do not readily enter CSF or synovial spaces (think **bumblefoot**...)
- Calcium can chelate TET.
  - Don't mix with electrolytes or high calcium diet/supplements
- Poor solubility in alkaline pH → "gum up"
- Addition of citric acid to water soluble TET:
  - enhances solubility and absorption

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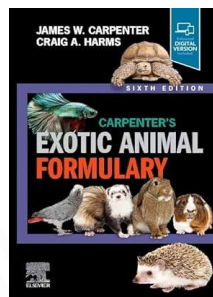
## ANITMICROBIAL NUANCES

- Penicillins
  - Beta-lactam antibiotic, bactericidal → gram-positives
  - Also efficacious for *Pasteurella multocida*
  - **HUMAN ALLERGY RISK**
- Aminoglycoside (AMG) antibiotics
  - (streptomycin, neomycin, gentamicin)
  - Poorly absorbed from GI tract
  - Gentamicin has long withdrawal time (35 days) → only approved for day old injection

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## Reminders...

- Chapter 6
- Resource for therapeutics, dose, routes of administration, etc.
- Caution that doses are still listed for prohibited drugs!



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## Just a reminder.....

- Again, FARAD is your friend
- WITHDRAWAL TIMES!
  - Poorly understood for eggs – CAUTION!
- Backyard Poultry & Egg Consumption
  - Swapping eggs, donating eggs, selling eggs at local markets.....
- **CHICKEN = MAJOR SPECIES!!!!!!**

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# Vaccination



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## POULTRY VACCINATION

- Why don't small flocks vaccinate?
  - No history of disease
  - Risk of disease low?
- Sourcing vaccines can be tedious
  - A lot of live vaccines stored in liquid nitrogen
  - Vaccines often sold in 1000 dose lots → large-scale application
- Can be done --- just takes legwork!
- Most common vax → Marek's & Fowl Pox

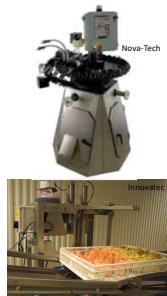


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## POULTRY VACCINATION

- Hatchery Vaccinations
  - Applied in-ovo or at hatch
  - Best way to administer Marek's vaccine
  - Can also be used for Newcastle, IBV
  - +/- coccidiosis vaccine
  - Inquire w/ hatchery prior to purchase



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## POULTRY VACCINATION

- Withdrawal Times for Vaccination:
  - Live vaccines – 21 days
  - Inactivated vaccines – 42 days
- Some vaccines require state vet approval before use
  - Ex: Infectious Laryngotracheitis, Mycoplasma
- When in doubt, contact State veterinarian



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## SUMMARY – FINALLY!

- Biosecurity, Biosecurity, Biosecurity!!!
- NPIP participation → good idea
- Where applicable, vaccination encouraged
- Backyard/Small Flock Poultry:
  - MAJOR SPECIES!!!
  - FARAD, FARAD, FARAD



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The integrated industry works hard to prevent disease and control spread to other flocks (backyard, too).

Backyard/small-flock producers can do the same

It takes all of us working together to ensure the safety of the food supply (large & small)....and of our pets.



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## Additional Resources

- Disease Prevention & Control, Diagnostics, Biosecurity
  - Dr. Maggie Thompson
- Biosecurity, Husbandry, Behavior, Diet, 4-H, etc...
  - Dr. Brigid McCrea ([mccreba@aces.edu](mailto:mccreba@aces.edu))
  - Cooperative Extension websites



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## Questions?

**THANKS FOR YOUR  
ATTENTION!**

**Maggie Thompson, DVM, MAM, dACPV**  
**[maggie.thompson@auburn.edu](mailto:maggie.thompson@auburn.edu)**



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