

# BACKYARD CHICKEN BASICS

Joshua Campbell, Oklahoma County Extension Educator Urban Agriculture



**EXTENSION**

# Egg and Meat Consumption

- The average American consumes about 250 eggs per year and purchases more than 2-dozen eggs per month (American Egg Board)
- The average American eats 93 pounds of chicken per person per year (National Chicken Council, 2018)



# Urban Backyard Chickens

**Small backyard flock production is a popular hobby for many in urban and suburban areas.**



- Roughly 8% of all U.S. Households (10-12 million) raise backyard according to a 2019 CBS news report.
- A 2015 study found that 93% of the top 150 U.S. cities by population had adopted ordinances allowing backyard chickens and this is expected to increase.
- Websites like Realtor.com and Zillow.com advertise backyard chicken ordinances as a selling feature for some suburban listings.

# Selecting Breeds



## Layer Breeds:

- Ameracauna
- Ancona
- Hamburg
- Leghorn
- Minorca

## Meat Breeds:

- Brama
- Cornish
- Naked Neck

## Dual-Purpose Breeds:

- Australorp
- Jersey Giant
- New Hampshire
- Orphington
- Plymouth Rock
- Rhode Island Red
- Sussex
- Wyandotte

## Game Breeds:

- Cochin
- Malay
- Nankin
- Old English
- Shamo
- Silkie



# MEAT PRODUCTION

# Meat Production

## Confinement:

### ➤ Hybrid Cornish Cross

- Very efficient meat producer

## Free Range Appropriate:

### ➤ White Cornish Cross, Gray Meat Bird, Freedom Ranger

- Slightly less efficient
- More durable in outdoors
- Can be hard to find



Source: USDA  
photo gallery



# EGG PRODUCTION

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# Leghorn Chickens

- Most common laying breed
- Utilized commercially for egg production
- White eggs
- Variety of colors: White, black, brown, buff, and more
- Depending on color 280+ eggs/year
- Weight: Small @ 6 lbs.
- Very good flyers – enclosure important





# Ameraucana

- Ameraucanas – Layer Breed (also dual-purpose)
- Variety of colors: Black, Black-Red, Golden and more
- Various shades of blue and green eggs
- Lays 240 – 280 eggs/year
- Good disposition
- When Araucana's are crossed with other breeds = Ameraucana
  - With this cross, colored eggs are produced

Purebreds  
are  
Rare



# Easter Egger

- Crossed breed
- If the coloring of the Ameraucana meets American Poultry Association Standards, the chicken will be an Ameraucana
- If not, then the chicken is considered and Easter Egger
- Produces various shades of blue, green, and pink eggs





# DUAL PURPOSE

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# Dual Purpose Breeds

- Rhode Island Red
- Brahma
- Orpington
- Wyandotte
- Araucana



- Australorp
- Sex Link Crosses



# Rhode Island Red

- Dual purpose breed
- Confinement/free range
- Dark Red
- 200+ light brown eggs/year
- Weight: ~ 6 lbs.
- Roosters can be aggressive



# Rhode Island White



Heritage  
Breed

Source: Jen Warmblood, American Livestock Breeds Company



# Brahma Chickens

- Dual purpose breed
- Confinement/free range
- Variety of colors: buff, dark, light
- Depending on color 150 – 180 eggs/year
- Weight: larger @ 8 lbs.
- Good disposition





# Orpington Chickens

- Dual purpose breed
- Confinement/Free Range
- Black, Buff, Blue, and White
- Depending on color 100 – 150 eggs/year
- White – most productive @ 160 eggs/year
- Weight: large @ ~8 lbs.
- Good disposition
- Popular show bird



# Wyandotte

- Dual purpose breed
- Confinement/Free Range
- Variety of colors: Barred, Blue laced, black, blue, buff laced, gold laced and more.
- Depending on color 100 – 200 eggs/year
- Weight: ~6.5 lbs.
- Good disposition

Heritage  
Breed



# Australorp

- Dual purpose breed
- Confinement/free range
- Variety of colors: Black, Blue & White
- Weight: ~6.5 lbs
- 300 eggs/year
- Docile



Heritage  
Breed

# Sex-Link Crosses

- Red or Black Sex-linked crosses
- Egg production breeds
- At hatch:
  - males will be white and will feather white/black
  - females hatch buff or red and will be the same color as a mature hen



Source: efowl.com

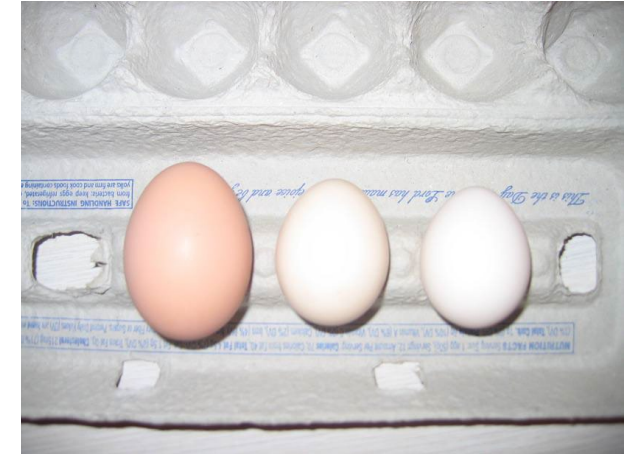
# What is a bantam?

## 1) A smaller version of a standard breed

- Many common standard breeds can be found as bantams
  - Barred Rock Bantam
  - Buff Brahma Bantam
  - Buff Orpington Bantam
  - Rhode Island Red Bantam
  - Leghorn Bantam

## 2) True Bantams

- Those with no large counterpart
  - Dutch Bantam
  - Belgian Bantams
  - Japanese Bantams





# Purchasing Poultry

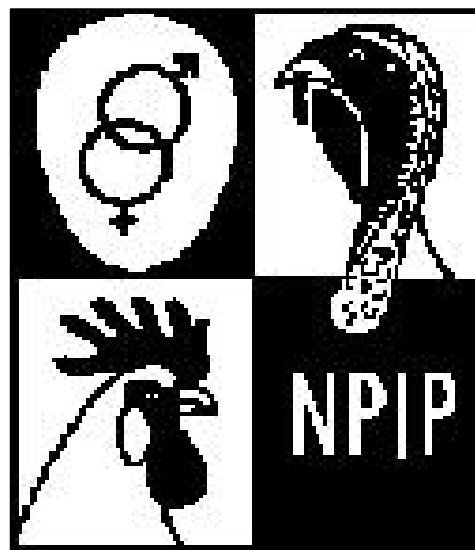
1. Incubate and hatch eggs
2. Obtain day-old chicks
  - Reputable Breeders
  - Local farm stores
  - Major Chicken Hatcheries
    - Country Hatchery – Wewoka, OK - [www.countryhatchery.net](http://www.countryhatchery.net)
    - Hoover's Hatchery - Iowa - [www.hoovershatchery.com](http://www.hoovershatchery.com)
    - Murray McMurray's - Iowa - [www.mcmurrayhatchery.com](http://www.mcmurrayhatchery.com)
3. Adult Chickens





# Goals when Purchasing Chicks

- 1) Obtain chicks and pullets from Pullorum-typhoid clean stock
- 2) Vaccination for Exotic Newcastle disease and bronchitis is a plus
- 3) Ask for chicks to be vaccinated for Marek's disease
- 4) Buy from a reputable dealer



# CHICK CARE



# Brooders

- Materials needed:
- Box / plastic tub / container
- Newspaper
- Wood shavings/ straw
- Thermometer
- Heat lamp
- Chick feeder
- Waterer



- Clean/ disinfect brooding area
- Free of air drafts
- Fresh bedding material



# Bedding or Litter Material

Readily Available  
Absorbent

Non-toxic  
Inexpensive

Can be re-purposed later in compost

## Recommended:

- Pine shavings
- Rice hulls
- Peanut hulls
- Sand – reduction of odor

## Not Recommended:

- Newspaper clippings
- Cedar mulch
- Weather treated wood chips





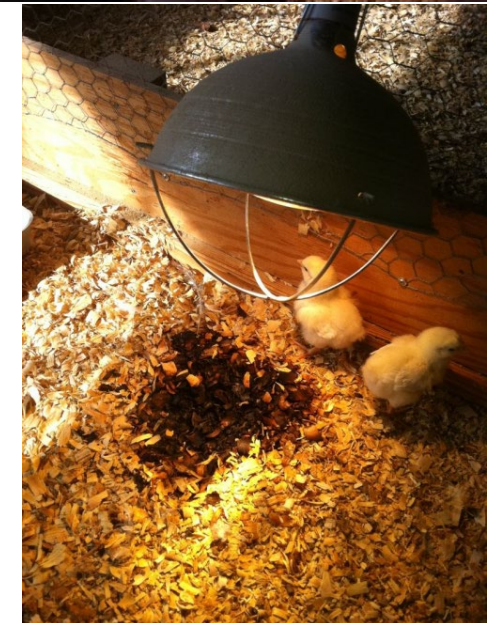
# Heat

- For 25-75 chicks, heat lamp is fine
  - Place lamp 18" from litter
- Week 1: 90-95 F
  - Week 2: 85-90 F
  - Week 3: 80-85 F
  - Week 4: 75-80 F
  - Week 5: 70-75 F
  - Week 6: 70 F
  - After week 6, you shouldn't need additional heat, unless extremely cold.

Heat lamp correctly placed



Heat lamp placed too close



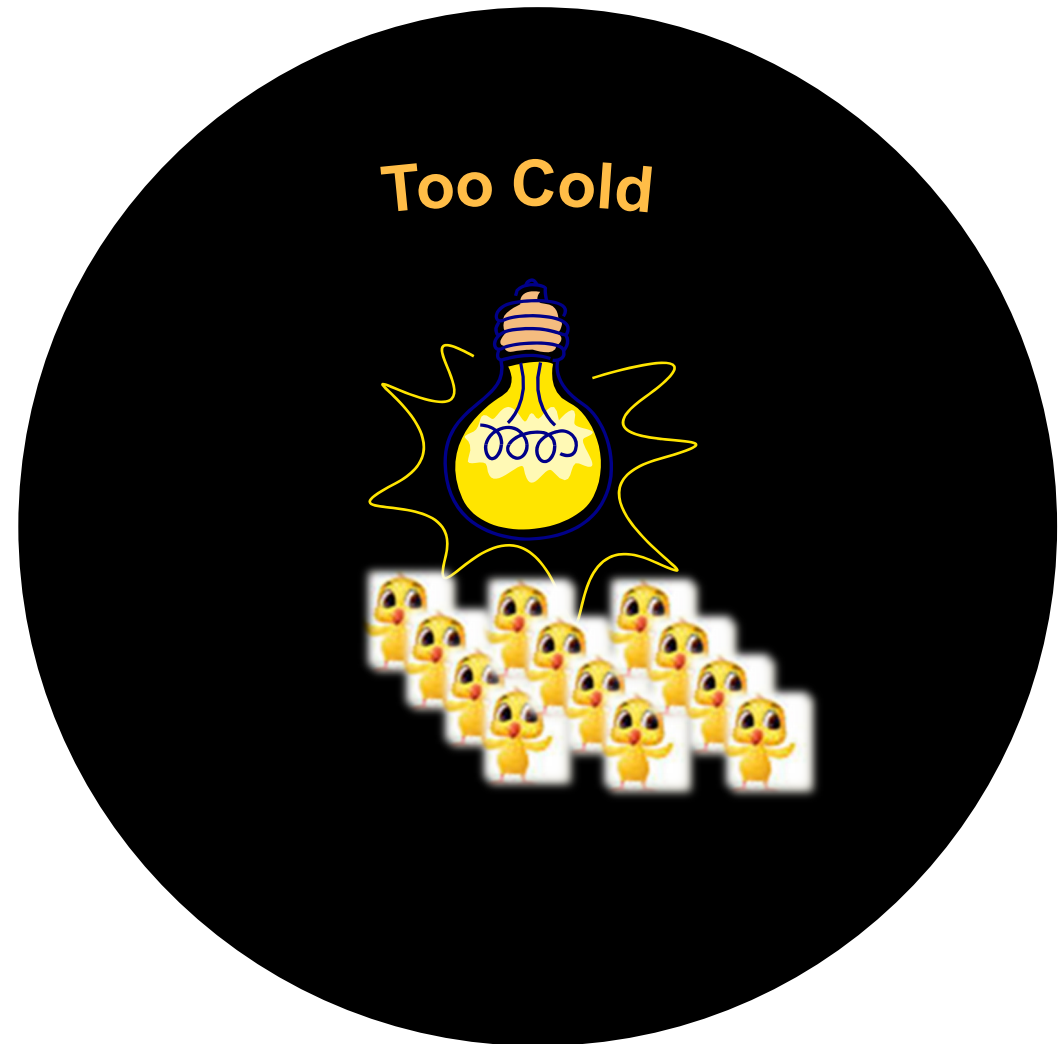
# Heating

## Indications:

- Huddled under heat sources
- Piled on top of one another (risk of suffocation)

## Solutions:

- Move heat source closer to chicks
- Increase output from heat source



Source: Jon Moyle Ph.D.



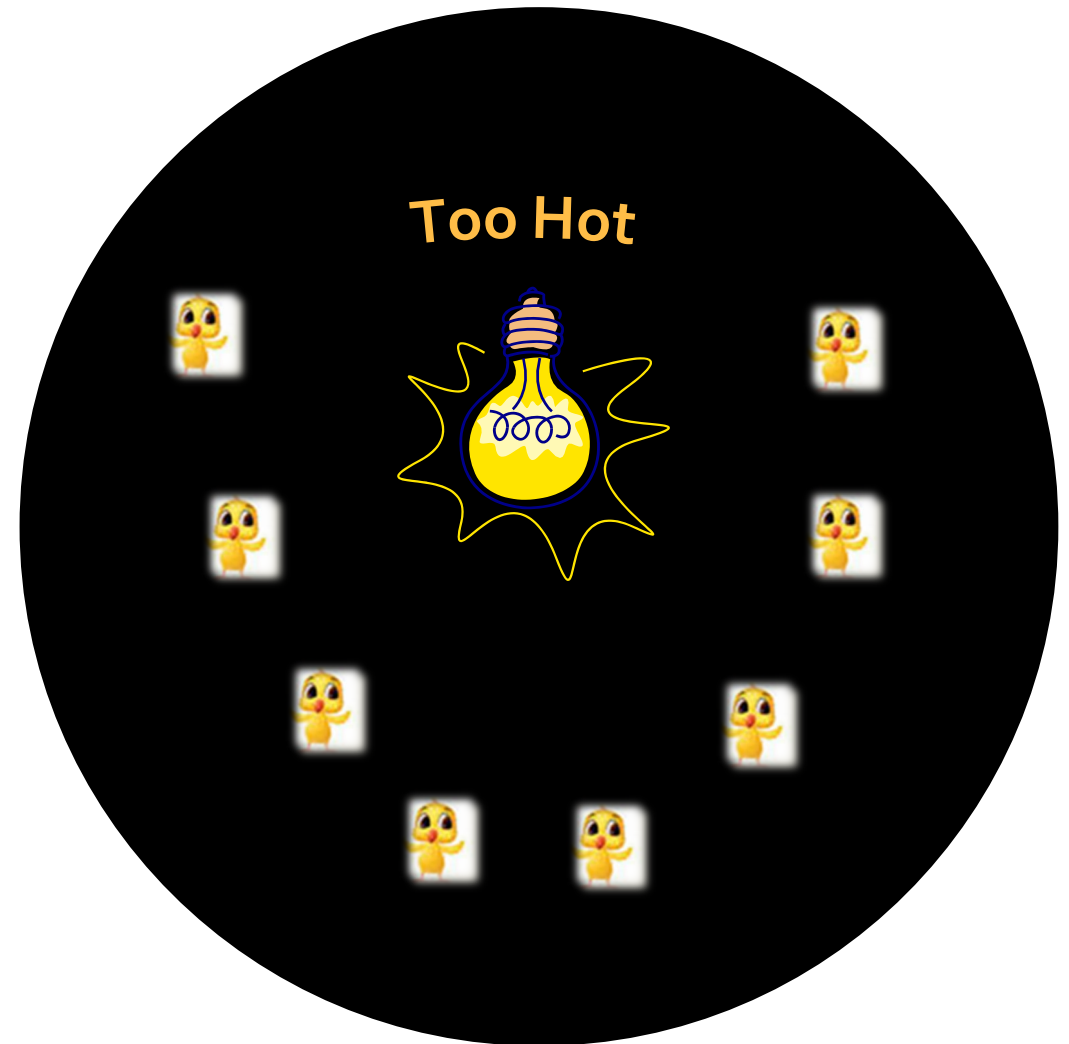
# Heating

## Indications:

- Movement away from heat and one another
- Panting
- Wings spread

## Solutions:

- Move heat source further from chicks
- Decrease output from heat source



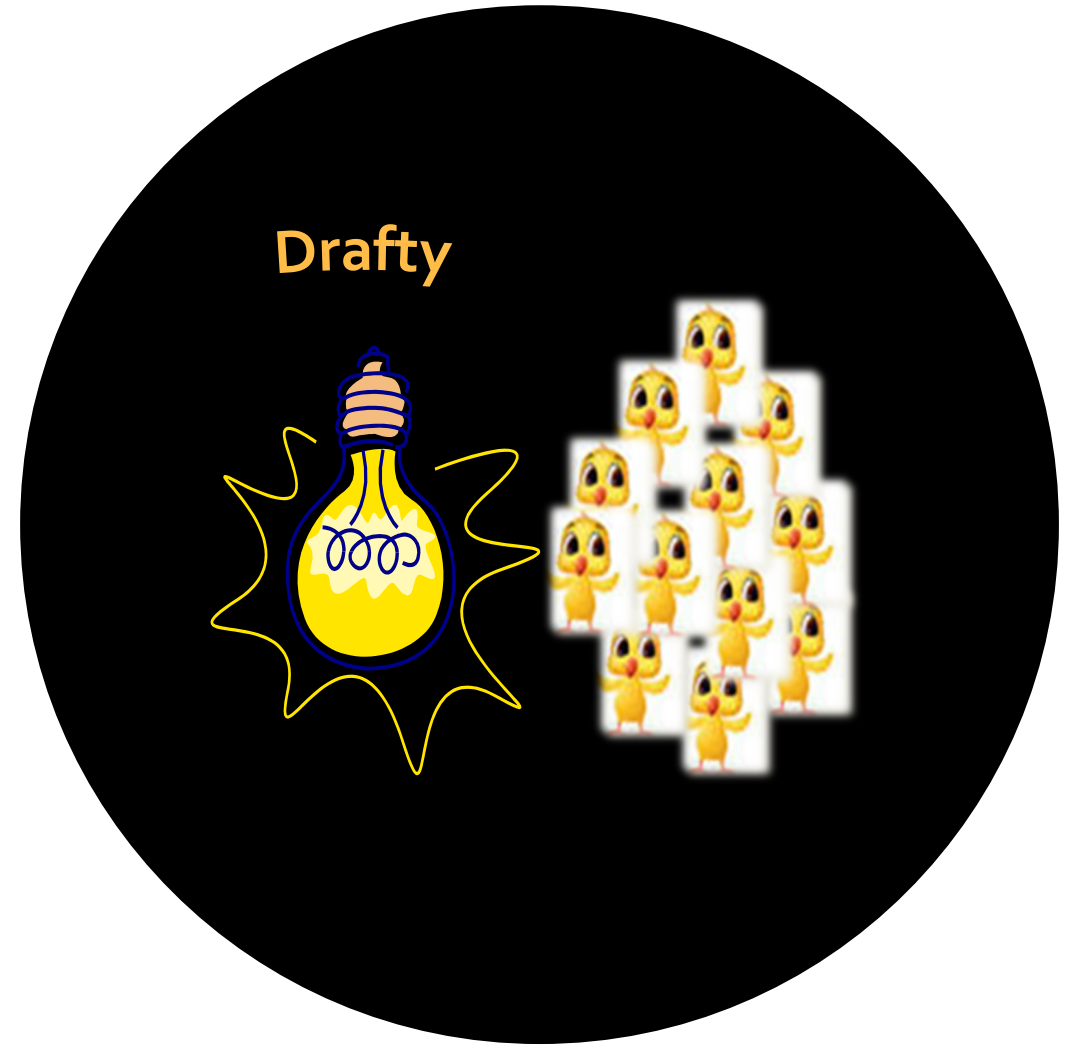
# Heating

## Indications:

- Movement as a group, away from draft

## Solutions:

- Identify draft source and eliminate it
- Use brooder ring



# Feeding Chicks



- 1) Start by feeding on small squares of cardboard or clean egg flats in brooder for first 3 days**
- 2) Introduce proper feeders to chicks**
- 3) After 3 days, remove messy cardboard once you are sure chicks have learned to eat from feeders**
- 4) Graduate to feeders elevated off the ground – minimize standing on/in feeders**

# Chicks –Feed and Space Needs

- Space required
  - First 4 weeks –0.5 sq ft
  - 5-8 weeks—1 sq ft
  - 8-12 weeks– 2 sq ft
- Water (day 1 dip beak) –need 1 qt. fount/25 chicks
- Feeder Space
  - Weeks 0-2 - 1 inch/chick
  - Weeks 3-6 - 2 in/ chick
  - Weeks 7-12 - 4 inches /chick



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# BASIC NUTRITION



## Nutrients of Concern

- Protein
  - Amino Acids
- Energy
- Vitamins
- Minerals
- Grains are low in minerals so vitamin/mineral supplements are needed

## Other Feed Options:

- Scratch
  - Combination of whole or rolled corn, milo, oats, wheat
- Kitchen Waste
  - Vegetable and fruit peelings/scraps
  - Bread
  - Some exceptions
- Plant waste
  - Lawn clippings
  - make sure it hasn't been treated with pesticides in recent past





# How much will they eat?



## How much will a young chick eat?

Hatching – Laying age:

- ~0.10 lb./day
- /or 13 – 15 lbs.

## How much will a laying hen eat?

- ~0.25 lb./hd./day
- Consumption will increase in winter and decrease in summer

# Feed and Nutrition

## Dual Purpose Chickens

- 0 to 6 weeks 20-21% protein chick starter
- 6 weeks to prior to egg production 15-19% protein pullet grower or developer
- At onset of egg production 16-18% protein layer diet

## Broilers

- |                   |                              |
|-------------------|------------------------------|
| 0-2 weeks         | 22-24% protein chick starter |
| 2-4 weeks         | 20-21% protein grower        |
| 4 weeks to market | 18-20% protein finisher*     |

# Mistakes in Feeding

## 1. Wrong Feed

- Do not give young birds a layer ration
- Do not give chicks a layer ration
- Do not mix scratch grain in a complete commercial ration
  - Dilutes the necessary nutrients
  - Scratch and kitchen scraps should account for no more than 10% of total diet
- Birds will not grow or produce to their full potential

## 2. Not Feeding Enough Feed

- Provide feed to chicks ad-libitum



# Water

## The Most Important Ingredient

- Makes up ~70% of total body wt. and 65% total wt. of eggs
- Dry feed
- Chickens have no sweat glands
- Cooled by water intake



## Water Requirement

- Drinkers should be filled 2x's/day
  - Warm weather
- Laying hen will drink 25% of daily water need in last 2 hrs. of day
- Rule of thumb: chicks and adults will drink ~ twice as much water as feed they eat



# Feeding and Watering Equipment



- Equipment can be purchased from local farm supply stores
- Adjust equipment height as birds grow
- This will improve cleanliness of equipment
- DIY equipment



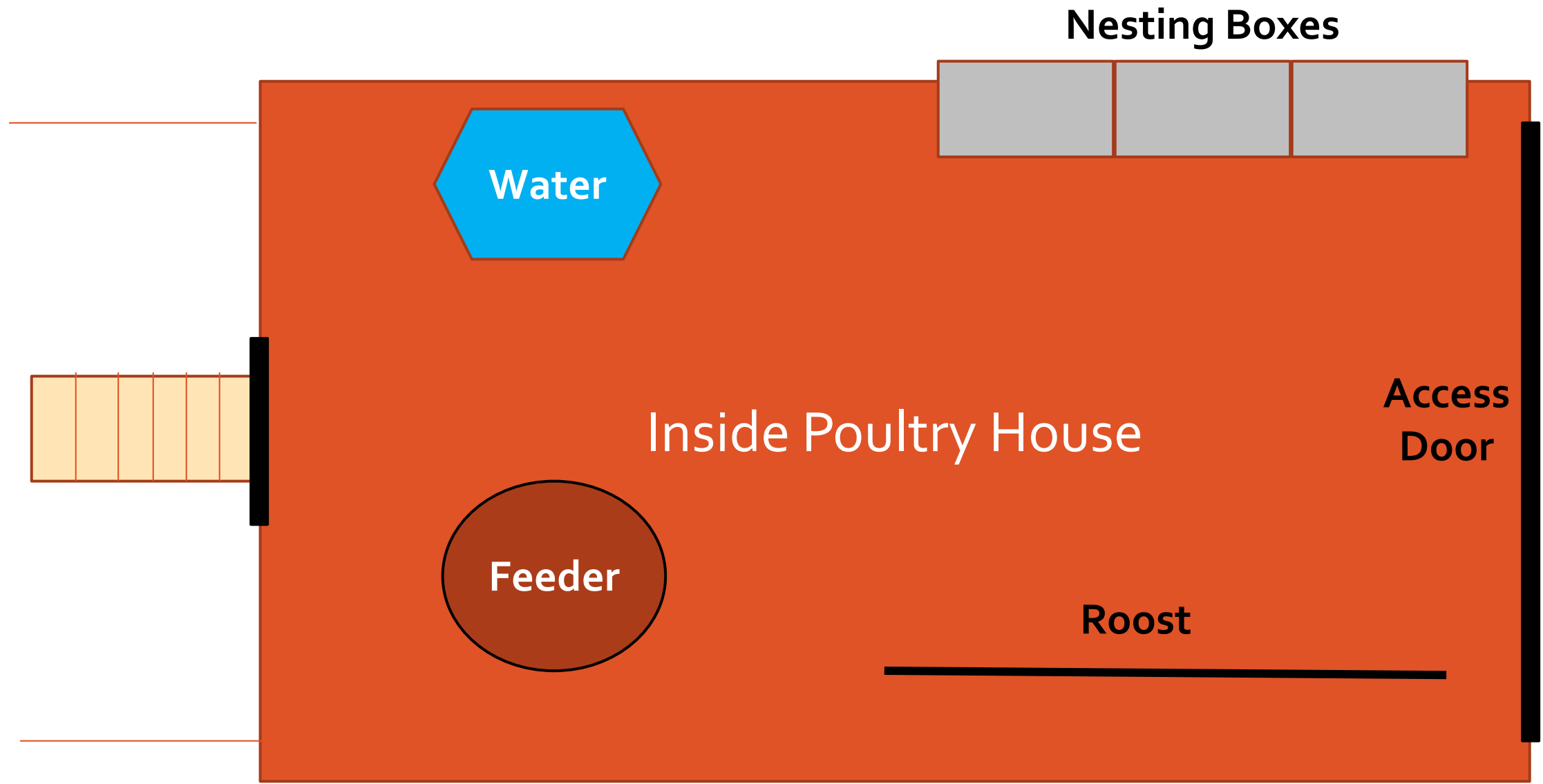
# Equipment for the House

- Roosts- 6-10 inch/bird
  - 24 inches off floor , 12 inches apart
- Nests-1 nest / 4-5 layers
  - 12inch x 12 inch nests
  - 24inches off floor
- Waterers - 5 gallon/100 birds
- Feeders - 3 inches space / bird
- Electric - lights , fans, heat lamps



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# EGGS



# No Rooster Necessary!

## When will they begin laying?

- 18 – 20 weeks of age (5-6 mo)
- Can continue for 5-10 yrs.
- Peak production first two years



## How does light affect my hens laying ability?

- Light is critical for egg laying
- Need to have around 14-16 hrs. of day length to be most efficient
- Laying will slow down when day length is less than 12 hrs.
- An incandescent 40 watt or LED 9-13 watt bulb can be utilized to 'increase' day length



# Nests

- Make sure there are enough suitable nest boxes
  - 1 nest/4-5 hens
- Fill nests with clean bedding
  - Reduce breakage/keeps eggs clean
- Collect eggs **at least** 1 time/day
  - Eggs stay cleaner
  - Less breakage



## Roosts

- Provide roosts that are higher than nest boxes
  - Do not place perches directly over nests
  - Are not essential





# To Wash or Not to Wash

- A big debate
- Wash eggs gently in water that is of similar temperature or slightly warmer than the egg
- Do not use cleaning agents!
- Sandpaper for small soiled spots
- Do not attempt to clean excessively dirty eggs

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## Refrigeration

- Store eggs at 45-55°F ASAP
- Use clean cartons on the refrigerator shelf rather than door
- Store eggs large end up
- Use within 4 – 5 weeks of laying



# Oklahoma Egg Law

## No License Required:

- Oklahoma Producer of eggs shall sell ungraded eggs from hens managed on their own farm - No Fee
- Sale may be made directly to consumers directly from the farm they were raised
- Ungraded eggs may not be sold at other outlets
- Required to remain in compliance with all guidelines in Title 2 Article 10 of Poultry and Poultry Products

## Egg License Required:

- Sale of eggs off farm (grocery stores, restaurants etc.) - \$50/year



# Molting

- Occurs when daylight hours decrease
- Hens will loose their feathers and replace with new at each molt
- Egg production will drop and may even cease
- Occurs 1-2 times/year and lasts 4-12 weeks (7 - 8 weeks)
- Head – neck – breast – body – wings & tail



# POULTRY HOUSING CONSIDERATIONS





# Practical Aspects of Housing Poultry on Your Property

1. Do city ordinances allow you to have chickens?
2. What do the city ordinances entail?
3. How close are you to your neighbors?





# Practical Aspects of Housing Poultry on Your Property

4. Do you want a portable house? – free range/pasture raised
5. Do you need fixed housing? – backyard production
6. Can you utilize an existing building or structure?
7. How will the structure be designed for your convenience?
  - Feeding/watering
  - Egg collection
  - Cleaning
  - Accessing electrical components
  - Catching birds



# Well-Being and Productivity of Your Flock

1. What species or breed will you raise?
  - Broiler chickens, Egg layers, ducks, other species
2. What stage of production will you start with?
  - Eggs, chicks, pullets, mature birds
3. How many birds can/will you raise?



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# Housing should Provide.....

- Protection from Weather
- Protection from Predators
- Adequate space
- Easy access to feed and water
- Sufficient light
- Adequate Ventilation



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# Protection from Weather

- Build to prepare for CRAZY weather!
- Water is the enemy in poultry housing
  - Dry and Draft Free
  - Build on a high spot that drains well – House and Runs
- Ventilation
  - Moisture + chicken manure = ammonia
  - Include 2 vents to maintain ventilation
    - East and South side of house



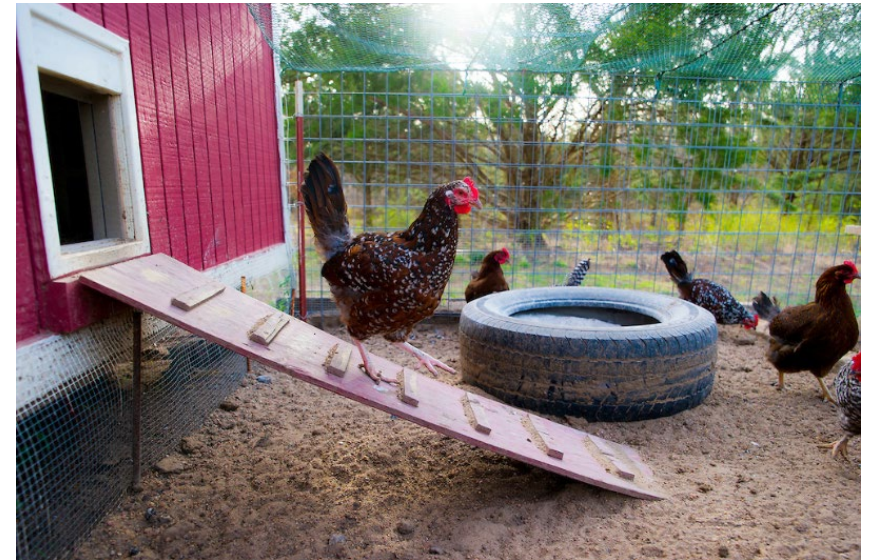


# Protection from Predators

- Confinement is the best form of protection
- Predator issues vary from one area to the next

To avoid predator issues:

- Provide poultry fencing around run
- Cover top of run with fence or netting
- Cover windows with netting or mesh wire
- If predators become a problem:
  - Electric fencing 1 foot from main fence and 4 inch from ground



# Adequate Space

## Bantam Chickens (small breeds)

In House:

1-1.5 sq. feet/bird

In Run:

- 4-6 sq. feet/bird

## Standard Chickens

In House:

2-3 sq. feet/bird

In Run:

- 8-10 sq. feet/bird



# Easy Access to Fresh Feed and Clean Water

- Be sure there is enough feeder/watering space for all birds
- Locate the waters in the run when possible to avoid additional moisture in the house
- Top lip of feeders and bottom of waterers should be at wing height of bird





# Lighting

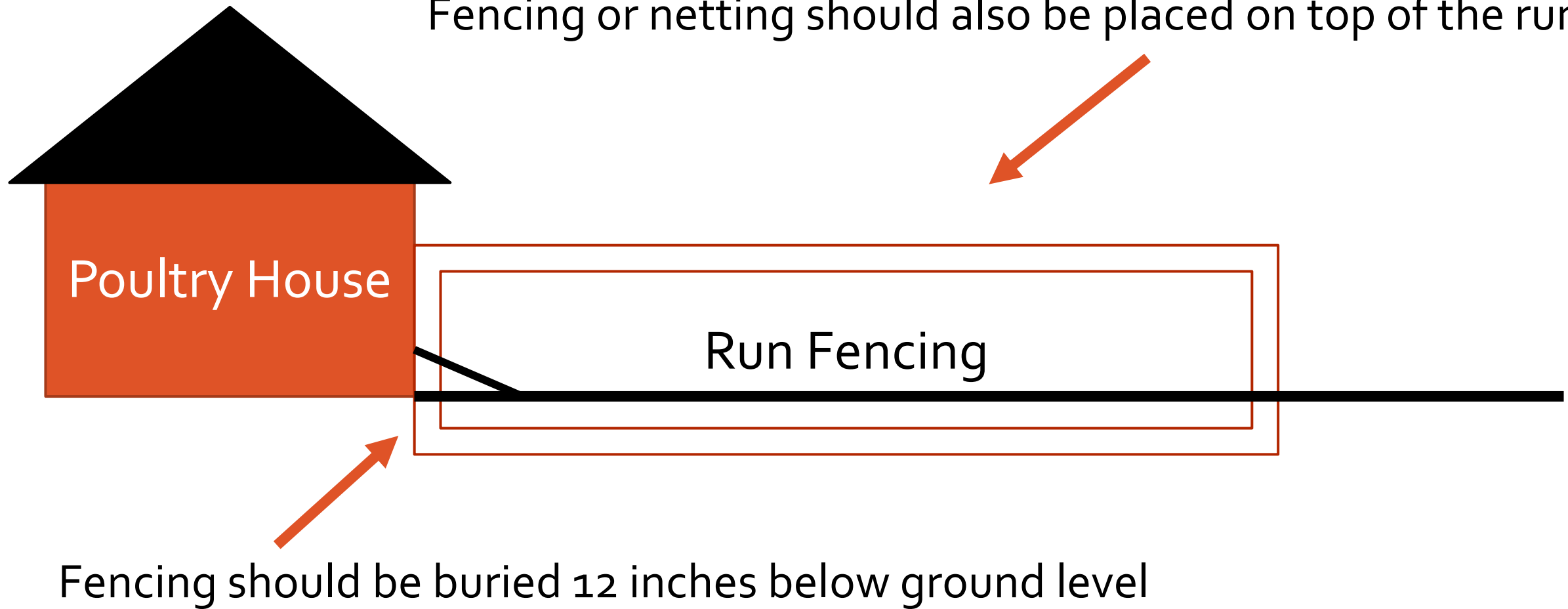


- Poultry production is affected greatly by day length
- Winter – production will slow
- Summer – production will be greatest

## Lighting Options

- Incandescent Light Bulbs - most common
- Fluorescent bulbs – more energy efficient
- Be sure to obtain the correct “color” of light

“Warm” lighting  
best for laying  
hens





# POULTRY HEALTH & DISEASE PREVENTION

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# Healthy Birds

- Appearance
- Active and Alert
  - Pecking, scratching, and dusting
- Signs of sickness
  - Out of character
  - Lack of interest in food
  - Wheezing, sneezing



# Internal Parasites

Parasite - organisms that live in or on another organism  
- gain advantage at the expense of the host

- Cannot be seen outright, but decreases in performance can be significant
- Worms
- Protozoa

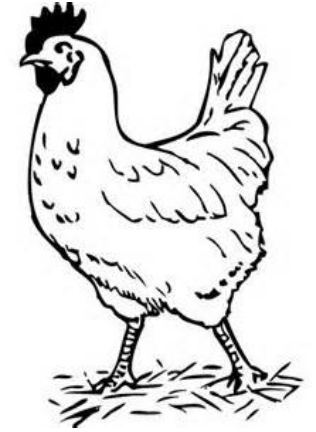
## Intermediate hosts

- Ants, beetles, houseflies, slugs, snails, earthworms, termites

## Clinical Signs:

- Un-thriftiness, poor growth and feed conversion, decreased egg production, and death

# Internal Parasites



## Get a Diagnosis:

- Find out what parasite is present
- Vet or State Diagnostic lab may be able to identify parasite eggs in fecal samples

## Control:

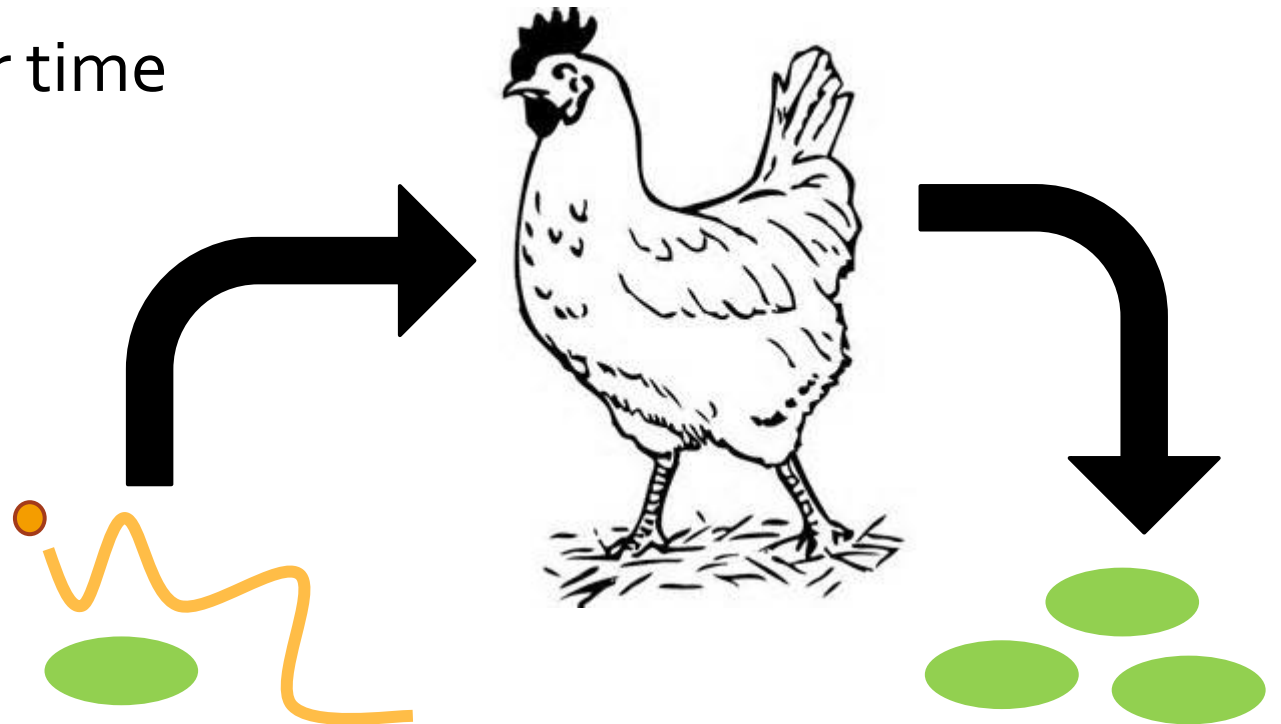
- Prevention is key
- Target intermediate host
- De-wormers only used in extreme instances – expense, limited selection resistance
- Quarantine new arrivals for 30 days

# Coccidiosis

- Caused by Coccidia – can live in the digestive tract of the animal
- Coccidia have a direct or in-direct lifecycle
- Coccidiostats are used to prevent coccidiosis
- Resistance will be developed over time

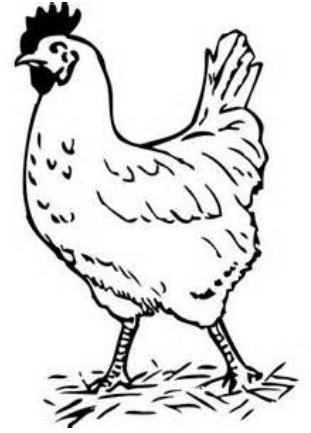
## Common Coccidiostats:

- Corid and Amprol
- Deccox
- Avatec
- Coban





# Coccidiosis



**Good Sanitation + coccidiostat in feed/water = Coccidiosis Prevention**

In the event coccidiosis:

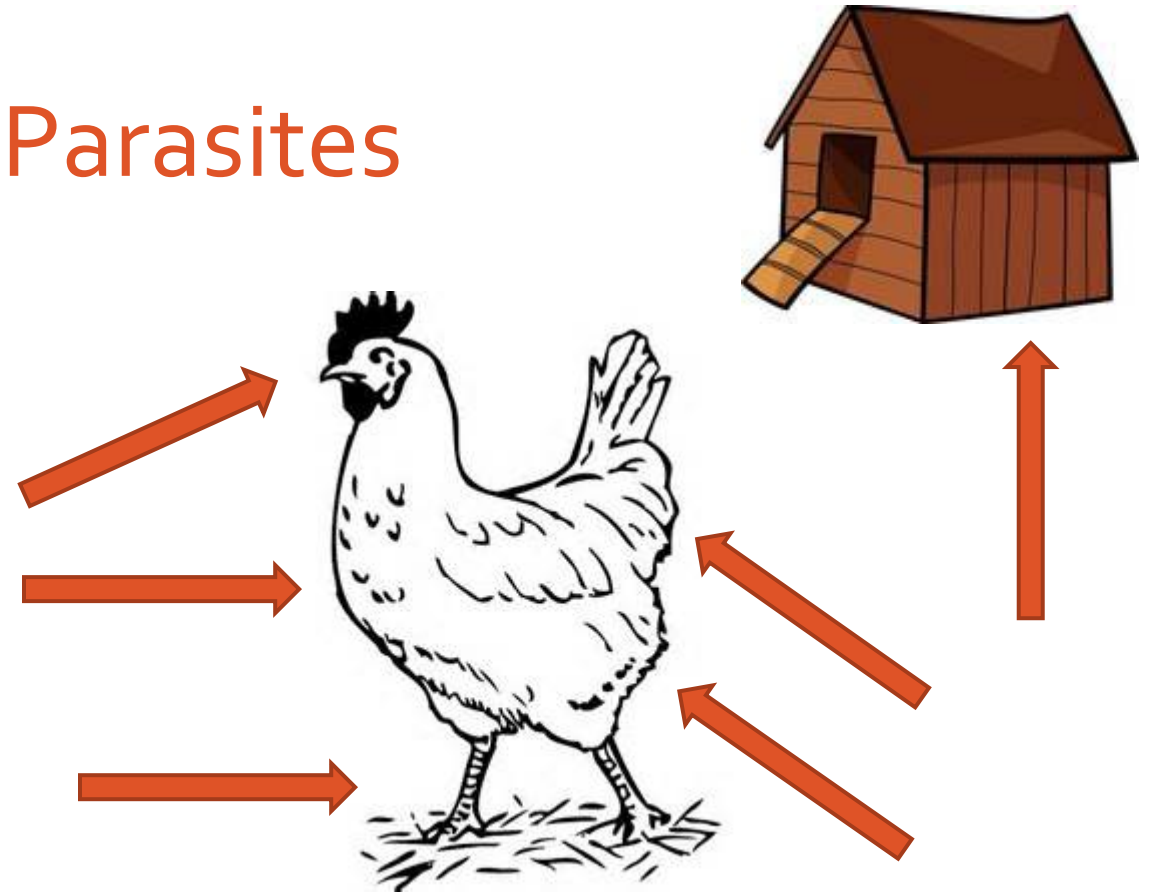
- Step up sanitation efforts
- Clean waters and feeders
- Remove feces and soiled litter
- Anticoccidial medications and vaccines are **never a substitute** for good management practice

# External Parasites

- Northern Fowl Mites
- Scaly-Leg mites
- Sticktight fleas
- Chicken Body Lice
- Chicken Mites

## Control:

- Dust baths
- Re-treatment often necessary
- Clean poultry facility thoroughly in fall for winter mite control



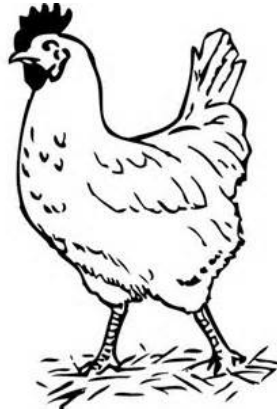
# Cannibalism

## Occurs at all ages of chicken

- Establish 'pecking order'

### Factors that contribute to Cannibalism:

- Crowding
- Nutrient deficiencies
- Inadequate ventilation
- Too little drinking and eating space
- Too much light
- idleness
- Presence or appearance of blood on injured birds

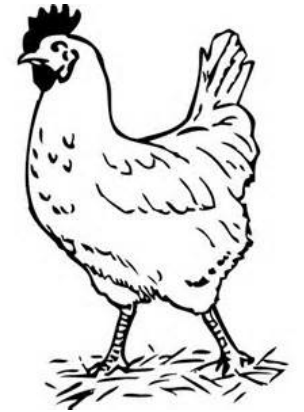


## Management for Control

- Cannibalism is a learned behavior
- Pick-Paste Remedy – temporary
- Beak trimming – permanent
  - Can be requested before chicks leave hatchery

# Avian Influenza

- Wild birds historically known as reservoirs for Avian Influenza
- Started in Pacific Northwest but now has spread to farms in Midwest
- 47 million birds succumbed or have been culled due to the disease

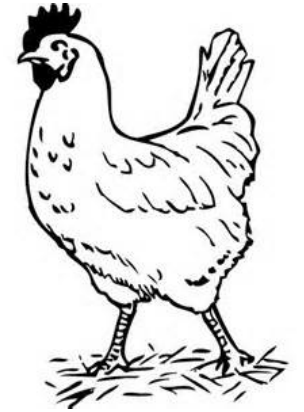


## How does Spread?

Domestic poultry are infected through direct contact with infected waterfowl or through contact with feed and watering sources.

- Infected birds shed Avian Influenza virus in their saliva, nasal secretions, and feces.
- Manure, equipment, vehicles, egg flats, crates, clothing, and shoes

# Key to Prevention in Oklahoma



1. Biosecurity
2. Sanitation
3. Eliminate contact between wild birds and domestic poultry.



# Simple Biosecurity

## Traffic

- Do not allow free-flying birds into poultry house
- Restrict unnecessary traffic of people and pets into poultry house
- Minimize rodents and insects

## Birds

- Isolation from other birds
- Quarantine new arrivals to flock for 30 days
- Separate young poultry from older poultry



# Cleaning practices

- Clean waters daily
- Sanitize waters 1-2 times monthly
- Maintain good bedding/litter in good condition
  - Remove caked and wet spots
- Add additional dry bedding when necessary
- Avoid moisture build-up in the house

Disinfectant:

- 1 T bleach in 1 gallon hot/boiling water



# Oklahoma Gardening YouTube Channel

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backyard chickens

6:05

Backyard Chicken Tips

OklahomaGardening • 18K views • 1 year ago


Extension Livestock Specialist Dana Zook has tips on raising your own backyard chickens.

9:52

Raising Backyard Chickens

OklahomaGardening • 87K views • 6 years ago


(6/29/13)-Oklahoma Gardening host Kim Toscano visits the home of Bob Packer in Hectorville, Okla., to learn about his backyard chicken operation.

3:08

Chickens for Bug Control

OklahomaGardening • 606 views • 8 months ago

Airdate (05/18/2019) #4546 OSU Entomologist, Andrine Shufran, shows how the OSU Insect Adventure uses poultry to assist with greenhouse pest management. Questions? To find out more information ab...

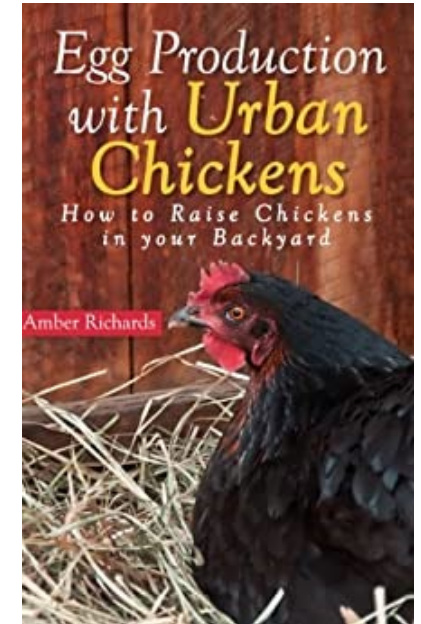
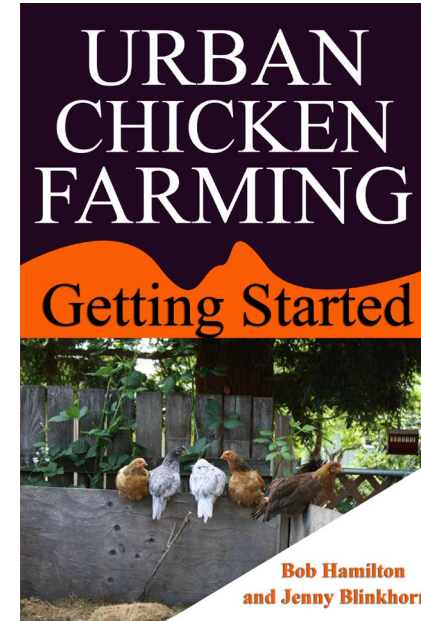
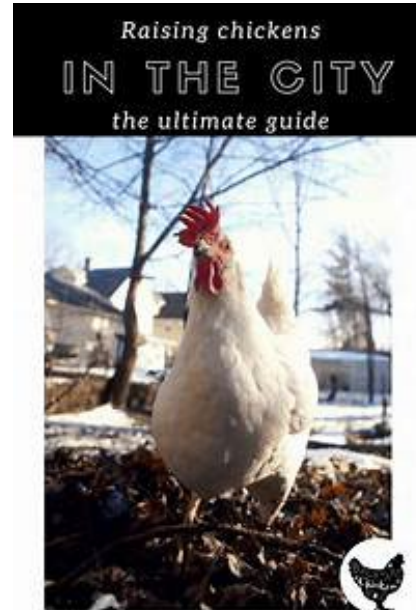
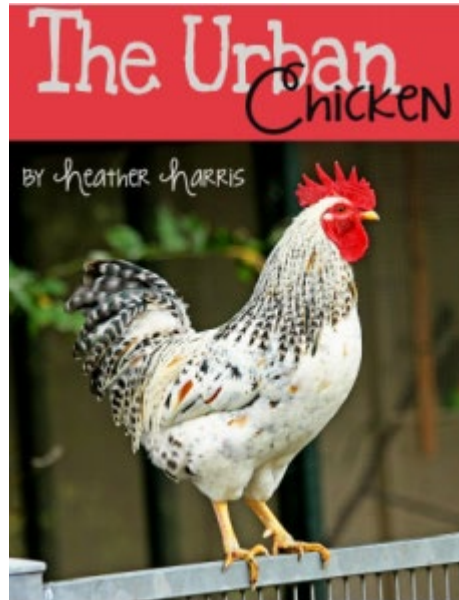


Full Show (#4440) 03/31/18

OklahomaGardening • 432 views • 1 year ago

Host Casey Hentges cuts back sedum to get it ready for new growth. We look at cedar apple rust and

# Urban Backyard Chickens



**No shortage of information out there: Blogs, books, YouTube, etc**



# Backyard Chickens Online Course

[Learn.extension.okstate.edu](https://learn.extension.okstate.edu)



## Backyard Chickens

Time limit: 30 days

[\\$20 ENROLL](#)

## Backyard Chickens

This self-paced online course will provide an overview of issues that new poultry owners can expect to face as they asked and care for their flocks. The course features interactive learning activities and custom videos.



Chrome is the preferred browser.

First-time users will need to respond to a confirmation email from Canvas Catalog.

Use the Outreach Login option to log in, unless you have OKKey credentials.

Contact the OSU IT Helpdesk if you need assistance.

### Time Requirements

- 3 hours total.
- The course is divided into 4 modules which can be completed at your own pace.
- Each module should take approximately 30 minutes to complete.

### Learning Objectives

After completing this course, you will be able to:

- Select the right birds for your needs.
- Choose the right housing and equipment for your birds.
- Describe the best practices for caring for chickens at different stages of life.
- Recognize and prevent common health issues.
- Apply best practices for biosecurity.



# Extension Backyard Poultry Resources



EXTENSION

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## BACKYARD POULTRY

The Backyard Poultry Program is dedicated to providing up-to-date, researched and unbiased information to individuals wanting to raise and produce poultry on a small scale either for their own personal use or for public consumption.

Backyard poultry flocks are becoming increasingly popular. In a recent online 'backyardchicken' group, a poll of chicken owners revealed that having a source of fresh 'homegrown' eggs was the most important reason people raised chickens. However, the second most popular reason for keeping chickens (72%) was for pets and companionship.

## Contact

[Dana Zook](#)

**Area Livestock Specialist**

[West District](#)

[\(580\) 237-7677](#)

[dana.zook@okstate.edu](mailto:dana.zook@okstate.edu)

OR

- Growing list of OSU resources including new fact sheets and YouTube videos

# Resources



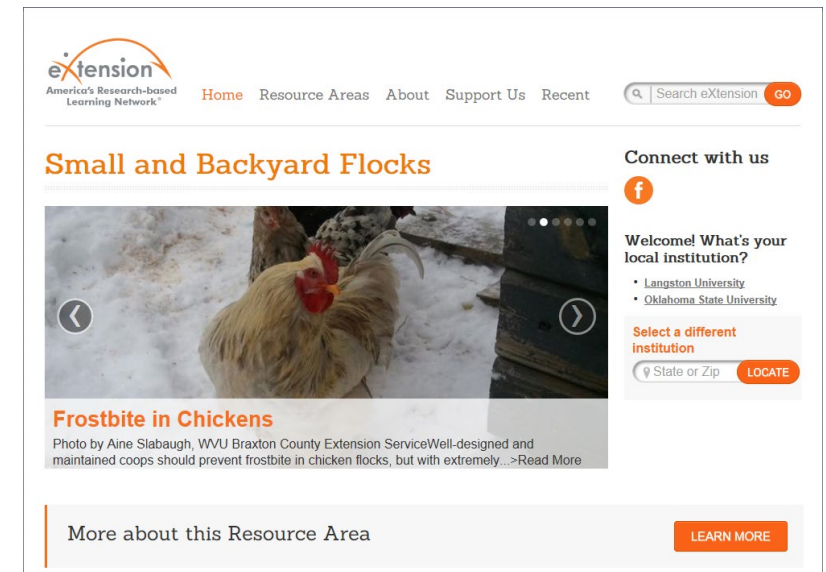
**EXTENSION**

OSU Extension Factsheets

<http://pods.dasnr.okstate.edu> – search for poultry or chickens

Extension.org – Information, current events, and webinars

- <http://healthybirds.aphis.usda.gov/>



# Questions?



**EXTENSION**

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