

# Small Flock Management

Craig D. Coufal, Ph.D.

Associate Professor and Extension Specialist

Department of Poultry Science

[ccoufal@poultry.tamu.edu](mailto:ccoufal@poultry.tamu.edu)

TEXAS A&M  
**AGRI**LIFE  
EXTENSION



# Getting Started in Poultry

1. Gather accurate information (see resources)
2. Find reputable source of birds
3. Plan well
  - Be prepared for all possibilities
    - ❖ Manure management/disposal
    - ❖ Dead bird disposal
    - ❖ Housing – ventilation and weather extremes
    - ❖ Predator control
4. If for business, know the applicable rules and regulations

# 1. Informational Resources

## ■ University/Extension

- [posc.tamu.edu](http://posc.tamu.edu)
- [extension.org](http://extension.org)
  - ❖ Small and Backyard Flocks
    - Publications, webinars, Ask an Expert

## ■ Government agencies

- Texas Department of Agriculture (TDA), DSHS, USDA, CDC, etc.

## 2. Where do I get birds?

### ■ Reputable sources

- National Poultry Improvement Plan (NPIP) certified hatcheries (can order through US mail)
- Reputable breeders
  - ❖ Ask for documentation of disease testing (PT test)

### ■ Not recommended:

- Flea markets or “guy on the side of the road”
- Ads in the paper
- Friend of a friend

# Mail Order Hatcheries

- Ideal Poultry – Cameron, Texas
- Murray McMurray – Iowa
- Morris Hatchery – Miami, Florida
- Strombergs - Minnesota
- Meyer Hatchery – Ohio
- Welp Hatchery – Iowa
- many more on internet

[www.idealpoultry.com](http://www.idealpoultry.com)

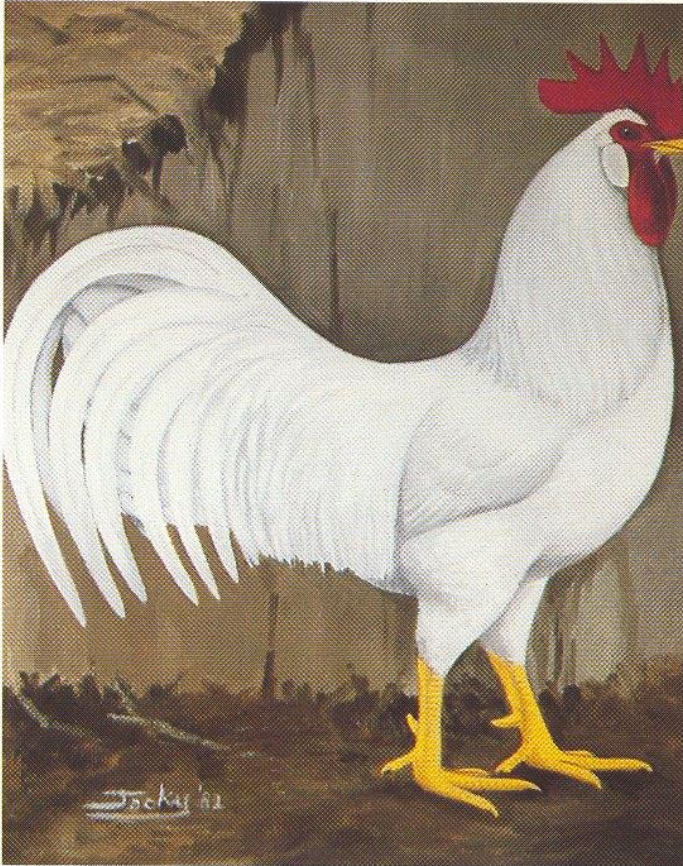


# What kind of bird?

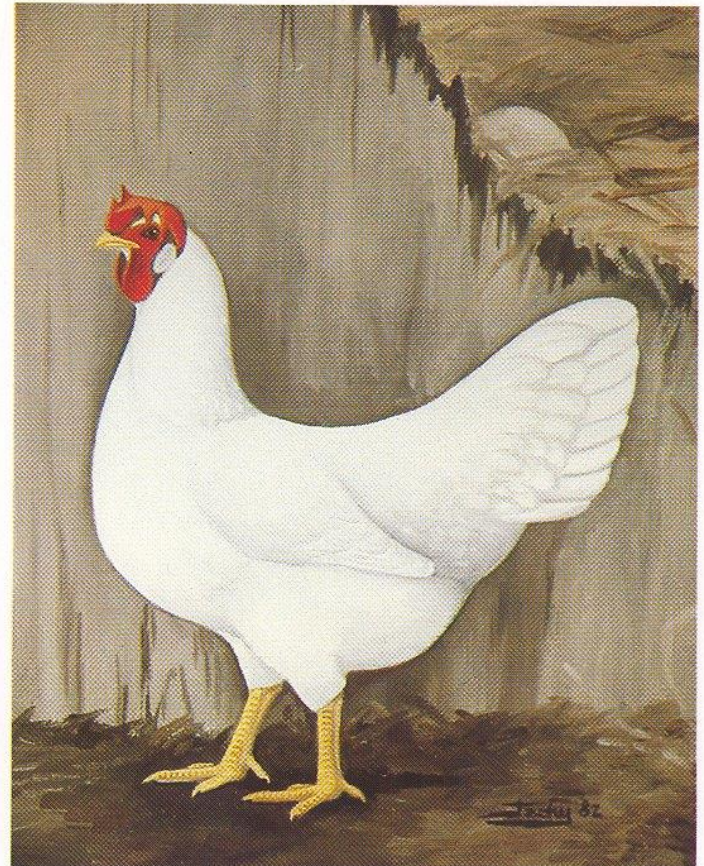
- **Depends on:**
  - Type of production
    - ❖ Eggs
    - ❖ Meat
    - ❖ Both
  - Production expectations
    - ❖ Make a profit
    - ❖ Reduce food bill (not likely)
    - ❖ Personal use and satisfaction
  - **What you like**



# White Egg Layers

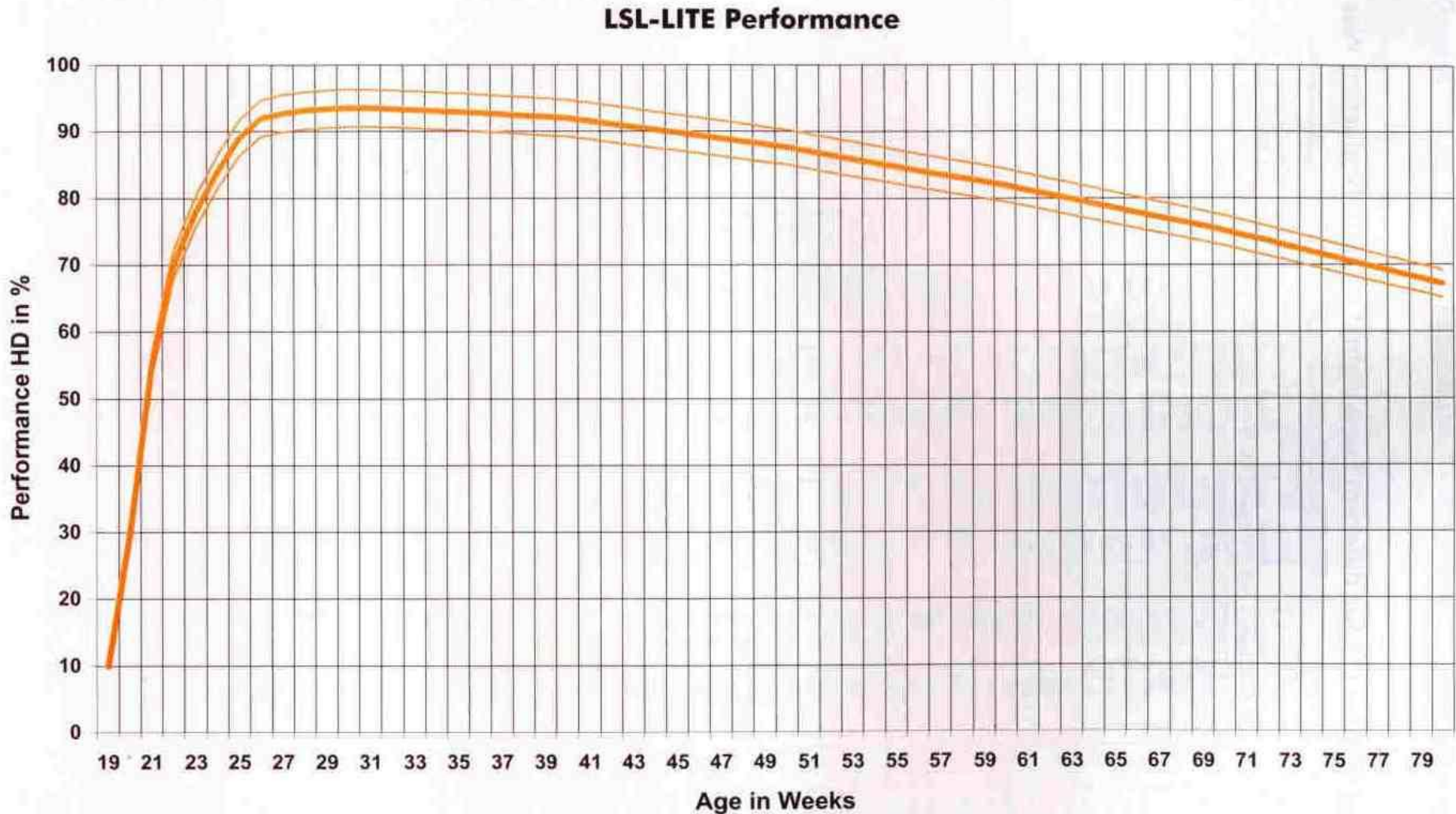


**LEGHORN — SINGLE COMB  
WHITE MALE**



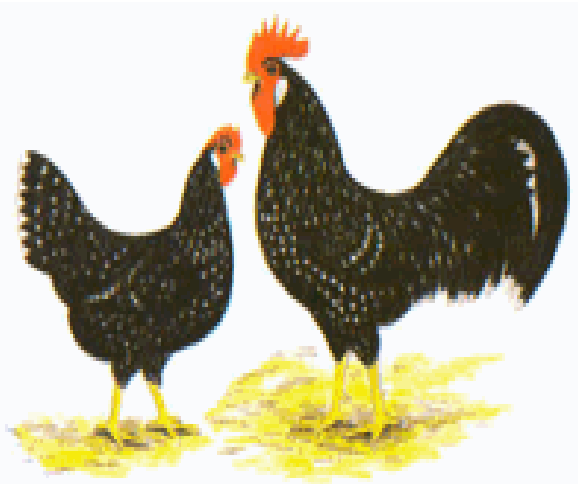
**LEGHORN — SINGLE COMB  
WHITE FEMALE**

# White Leghorn Production

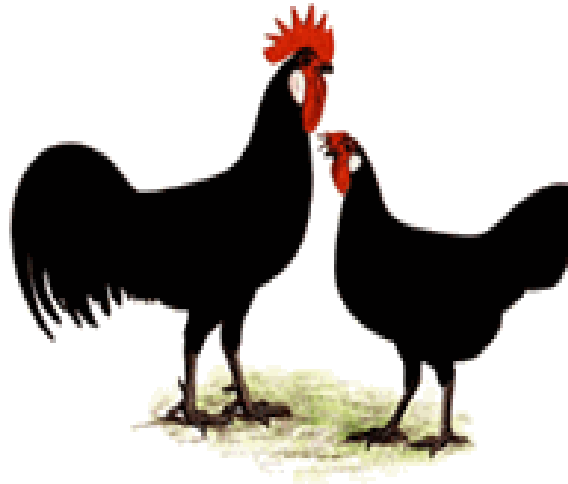




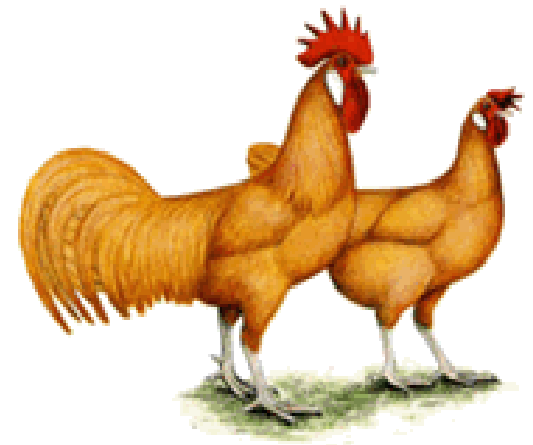
# White Egg Layers



Anconas



Black Minorcas



Buff Minorcas

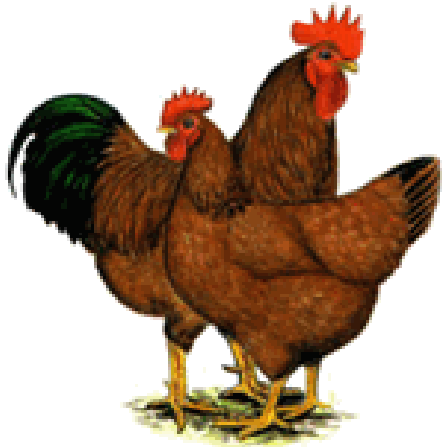


Production Blacks



Ideal 236

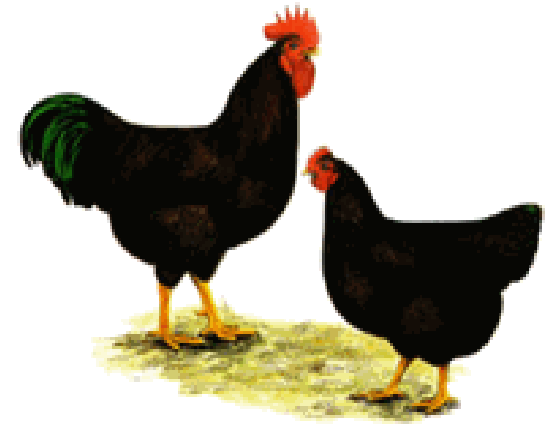
# Brown Egg Layers



Production  
Reds



Barred Plymouth  
Rocks



Rhode Island  
Reds



Silver Laced Wyandottes



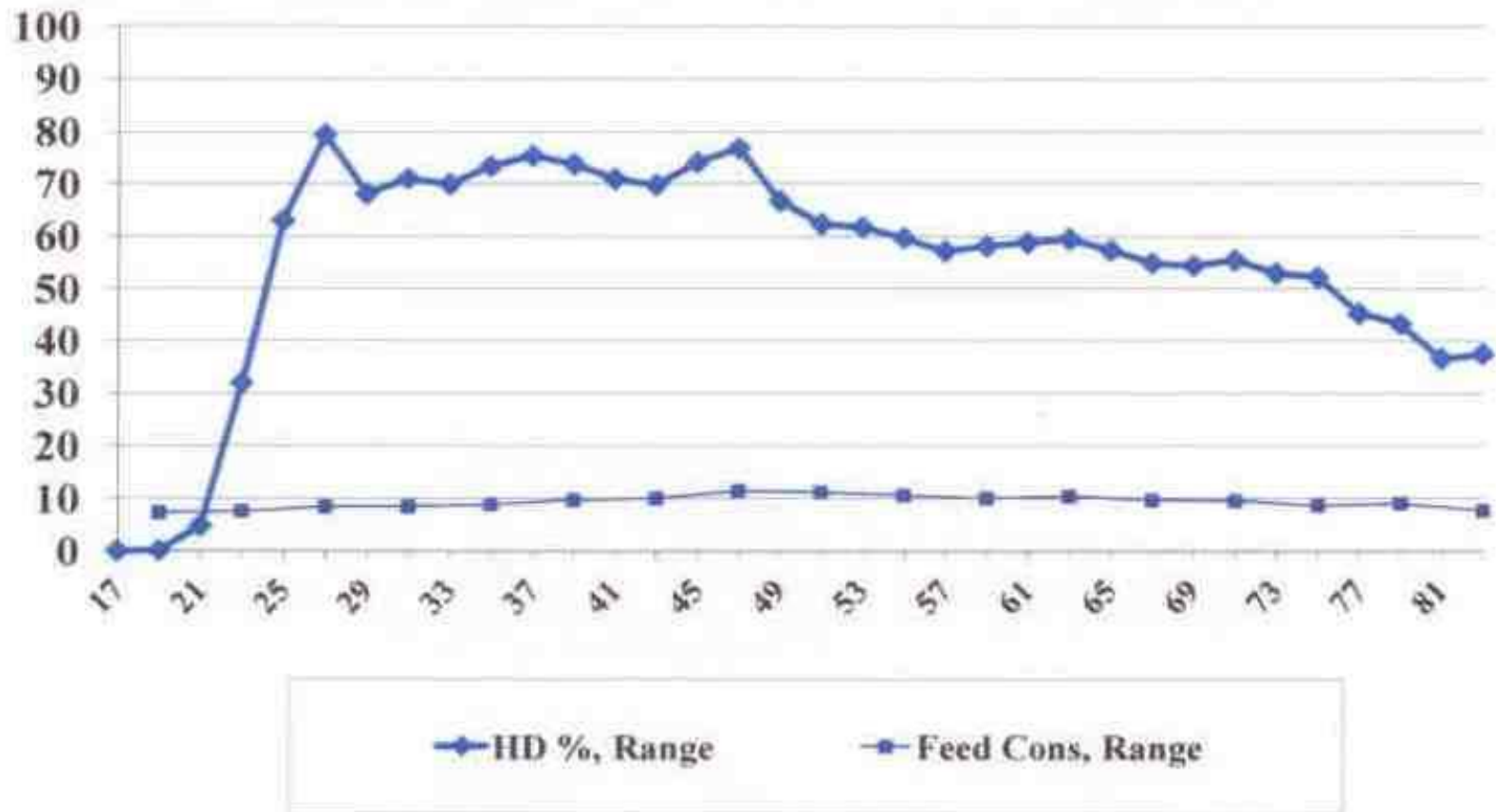
New Hampshire Reds

Sex Links (not pictured)

Slide courtesy of Ideal Poultry

# North Carolina Layer Test

Figure 30. Heritage Barred Plymouth Rock, Bi-weekly Percent Egg Production and Period Feed Consumption<sup>1</sup> in Hens kept on Range



<sup>1</sup> kg per 100 Hens



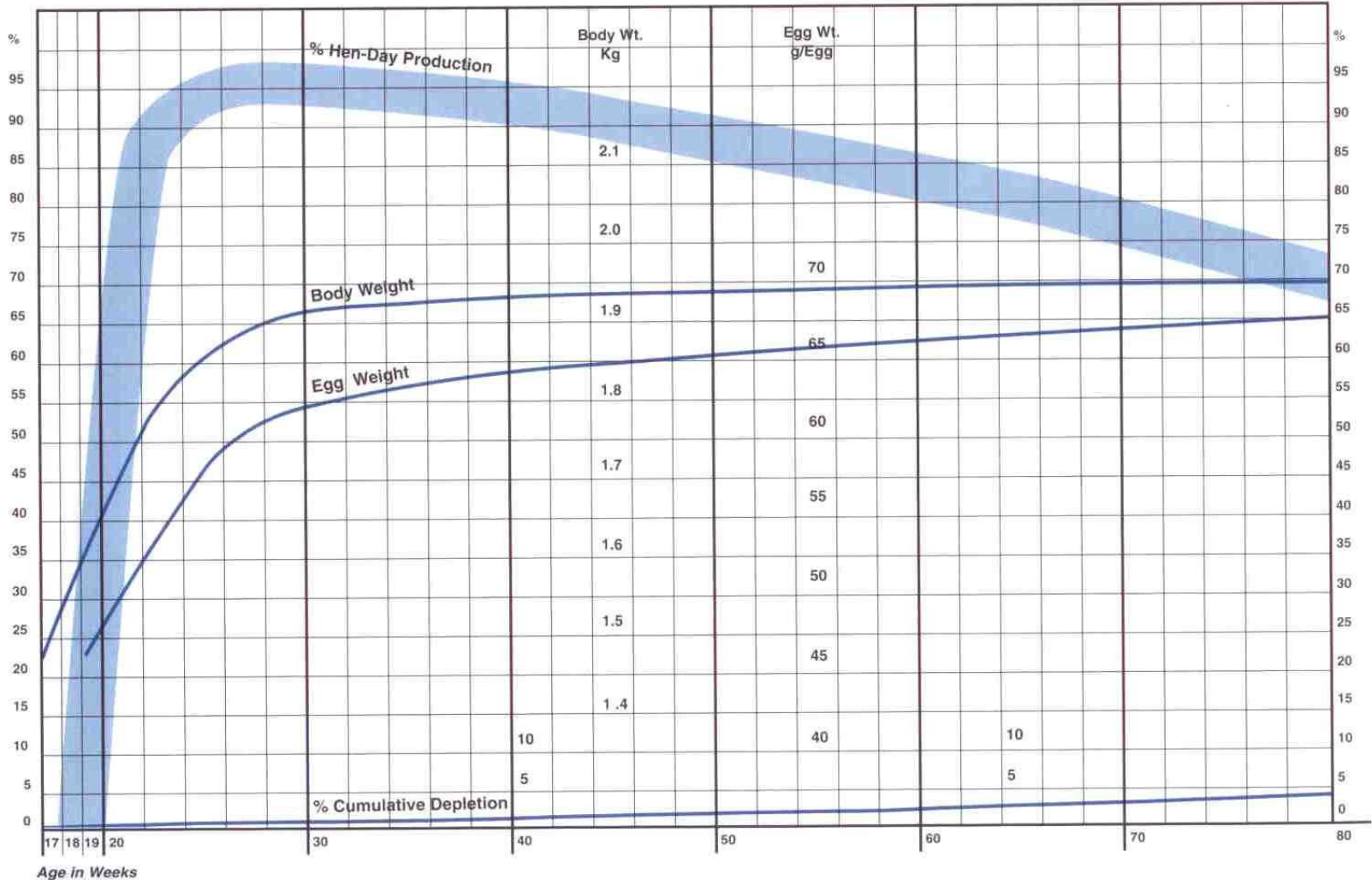






# Brown Leghorn-Cross

## Hy-Line Brown Hen-Day Performance Graph

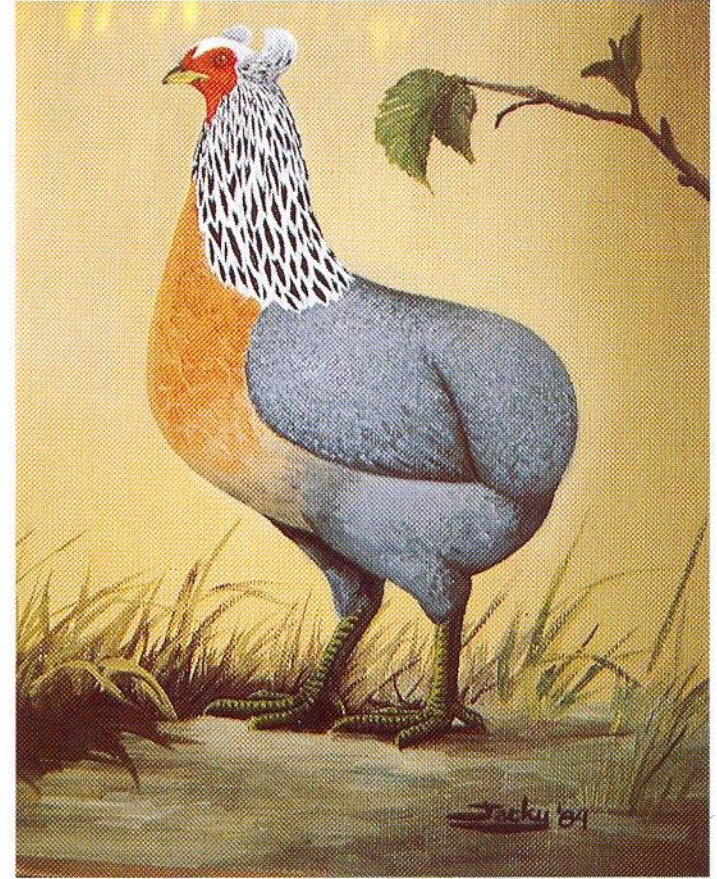




# Green Egg Layers



**ARAUCANAS  
SILVER DUCKWING — MALE**



**ARAUCANAS  
SILVER DUCKWING — FEMALE**



# Dual Purpose Breeds



Buff Orpingtons



Black Australorps



Dark Cornish



Cochins

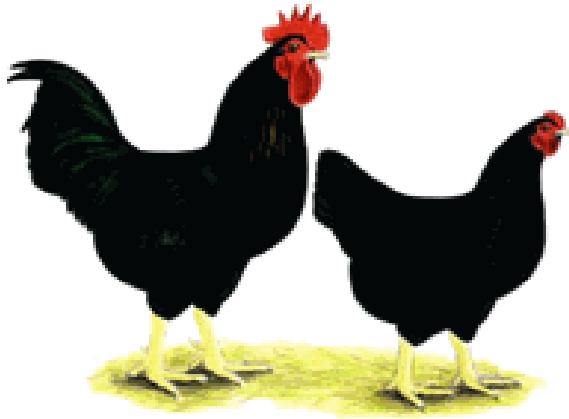


Delawares

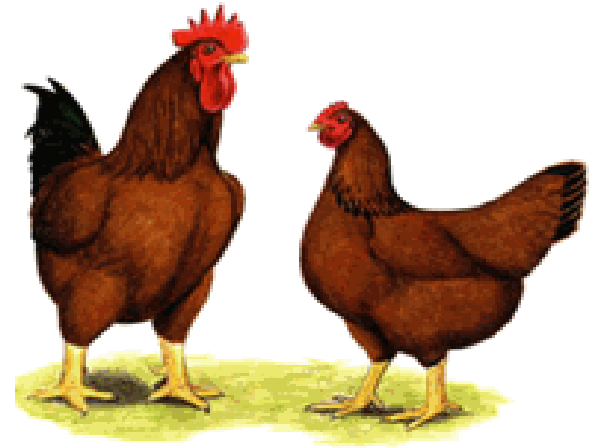
# Meat Breeds



Cornish Cross



Black  
Broiler



Red Broiler

# Disease Management

- Minimize contact between your birds and:
  - Manure – source of bacteria
  - The ground – source of parasites (worms)
  - Wild birds and rodents – sources of anything bad
    - ❖ Eliminate habitat and attractants
      - Wild bird feeders and bird baths
      - Waterfowl ponds
    - ❖ Clean up spilled feed to reduce attraction
  - Pets – source of bacteria and pests (especially fleas)

# Introducing new birds to a flock

- Quarantine from existing flock for at least 3 weeks
  - Not in same building or pen
  - As far away as possible
  - Monitor for disease symptoms, particularly respiratory
  - Handle sick or quarantined birds AFTER the other birds.
  - Wash hands thoroughly and disinfect boots
- Not recommended to comingle birds of significantly different ages



# Vaccination

## ■ Minimum recommended vaccinations:

- Marek's disease
- Fowl pox

## ■ Other possibilities:

- Newcastle disease
- Infectious bursal disease (IBD) (gumboro)

- Vaccines can be ordered on the internet or can be administered at the hatchery



# Fowl pox



# Medications

- Antibiotics do not treat viral infections
- Almost all antibiotics are NOT approved by FDA for laying hens
  - Prior to January 1, 2017 – OTC antibiotics approved for hens producing eggs for food included:
    - ❖ Bacitracin zinc
    - ❖ Bacitracin methylene disalicylate (BMD)
    - ❖ Chlortetracycline
    - ❖ Tylosin

# Veterinary Feed Directive

- *As of **January 1, 2017**, all medically important antibiotics to be used in feed or water for food animal species require a **Veterinary Feed Directive (VFD)** or a prescription.*
- FDA requires veterinary oversight whenever medically important antibiotics are administered to any food animal species via feed or water, ***even if the animals are not intended for food production***. From pet rabbits and pigs, to backyard poultry, to large livestock farms, the same restrictions apply.
- The only antibiotics considered not important are Bacitracin, Meccadox, Tiamulin (Denegard), Narasin, and Bambermycin.

# Drugs Transitioning From OTC to VFD Status

## (from FDA website)

Established drug name	Examples of proprietary drug name(s)
chlortetracycline (CTC)	Aureomycin, CLTC, CTC, Chloratet, Chlorachel, ChlorMax, Chlortetracycline, Deracin, Inchlor, Pennchlor, Pfichlor
chlortetracycline/sulfamethazine	Aureo S, Aureomix S, Pennchlor S
chlortetracycline/sulfamethazine/ penicillin	Aureomix 500, Chlorachel/Pficlor SP, Pennchlor SP, ChlorMax SP
hygromycin B	Hygromix
lincomycin	Lincomix
oxytetracycline (OTC)	TM, OXTC, Oxytetracycline, Pennox, Terramycin
oxytetracycline/neomycin	Neo-Oxy, Neo-Terramycin
penicillin	Penicillin, Penicillin G Procaine
sulfadimethoxine/ormetoprim	Rofenaid, Romet
tylosin	Tylan, Tylosin, Tylovet
tylosin/sulfamethazine	Tylan Sulfa G, Tylan Plus Sulfa G, Tylosin Plus Sulfamethazine
virginiamycin	Stafac, Virginiamycin, V-Max



# Drugs Transitioning From OTC to VFD Status

## (from FDA website)

Established drug name	Examples of proprietary drug name(s)
<b>chlortetracycline (CTC)</b>	Aureomycin, CLTC, CTC, Chloratet, Chlorachel, ChlorMax, Chlortetracycline, Deracin, Inchlor, Pennchlor, Pfichlor
chlortetracycline/sulfamethazine	Aureo S, Aureomix S, Pennchlor S
chlortetracycline/sulfamethazine/ penicillin	Aureomix 500, Chlorachel/Pficlor SP, Pennchlor SP, ChlorMax SP
hygromycin B	Hygromix
lincomycin	Lincomix
oxytetracycline (OTC)	TM, OXTC, Oxytetracycline, Pennox, Terramycin
oxytetracycline/neomycin	Neo-Oxy, Neo-Terramycin
penicillin	Penicillin, Penicillin G Procaine
sulfadimethoxine/ormetoprim	Rofenaid, Romet
<b>tylosin</b>	Tylan, Tylosin, Tylovet
tylosin/sulfamethazine	Tylan Sulfa G, Tylan Plus Sulfa G, Tylosin Plus Sulfamethazine
virginiamycin	Stafac, Virginiamycin, V-Max

# Medications

- Almost all antibiotics NOT approved by FDA for laying hens
  - Approved for hens producing eggs for food :  
bacitracin zinc, BMD, chlortetracycline, and tylosin  
Veterinarian prescription only
- NO wormers were approved for laying hens prior to 2018 (
- Fenbendazole (sold as Safe-guard®) now approved as of January, 2018 to treat intestinal worms

# Disease Diagnosis

- Please do not call the Poultry Science Department for an over-the-phone diagnosis
  - We can handle all other aspects of poultry production (nutrition, housing, fertility, incubation, brooding, etc.)
- Who to call?
  1. Local veterinarian
  2. Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL)
  3. Reportable disease – Texas Animal Health Commission (TAHC)

# TVMDL

- [tvmdl.tamu.edu](http://tvmdl.tamu.edu)
  - 3 poultry diagnostic labs in Texas
    - ❖ College Station - 979-845-3414
    - ❖ Gonzales - 830-672-2834
    - ❖ Center - 936-598-4451
  - Can perform necropsy for a fee
  - See website for more information

# One More Big Concern

## Biosecurity and Disease







# Avian influenza (AI)

- Virus is carried by wild birds
- 2 forms:
  - Low pathogenic (LPAI)
  - Highly pathogenic (HPAI)
    - ❖ Highly contagious to domestic poultry
    - ❖ May cause high mortality in poultry flocks
- Spring, 2015 outbreak of HPAI across Midwest US
  - Largest in US history
  - Devastating economic impacts
  - Consumers impacted by higher egg prices

# Prevention of AI

- What can we do?
  - Vaccination not yet an option
  - **Only option:** must prevent infection
- How?
  - Sound biosecurity is the only tool we have

# What is Biosecurity?

- **Set of management practices designed to prevent the introduction of disease**
  - “Protection from infection”
  - <http://healthybirds.aphis.usda.gov/>



# Good Biosecurity

- **3 main components:**
  - **Isolation** – prevent contact with infected vectors (wild birds and animals, rodents, pets, etc.)
  - **Traffic control** – limit access to flock to reduce exposure risk (people and vehicles)
  - **Sanitation** – disinfect anything that comes into contact with your flock (vehicles, equipment, coops, footwear, clothing, etc.)





# Biosecurity Suggestions

- Avoid visiting more than one flock per day
- Shower, change clothes and disinfect shoes between visits
- Use shoe covers to keep shoes clean
- Use dedicated clothes and shoes not worn anywhere else for checking on flock

# Biosecurity Suggestions

- Discourage presence of wild birds
- Do not keep waterfowl and chicken/turkeys on the same premises
- Do not share equipment, coops or old feed
- Consider all-in, all-out style of management

# Virulent Newcastle Disease (VND)

- Formerly known as Exotic Newcastle Disease (END)
- Virus
- Vaccination recommended
- Biosecurity essential
- Endemic to Mexico
- Current outbreak in southern California has spread to Utah (381 confirmed cases since May, 2018)

# Mycoplasmosis

- Cause – *Mycoplasma gallisepticum*, *M. synoviae*
  - “Bacteria” with no cell wall (prokaryote)
- Disease
  - Respiratory rales, coughing, nasal discharge, conjunctivitis, sinusitis
  - Secondary bacterial infections (colibacillosis)
- Treatment
  - Antibiotic injections or water administration
  - Tylosin, enrofloxacin, erythromycin, lincomycin-spectinomycin
- Prevention
  - Live and inactivated vaccines



# Internal parasites

## Common intestinal parasites of chickens

Roundworms

Tapeworms

Threadworms

Cecal worms

- Treat with fenbendazole (Safe-guard)

# Housing



Less than ideal

# Functions of Housing

- Protection from weather extremes
  - precipitation
  - winter and summer
- Protection from predators
  - particularly at night
- For laying hens, a place to nest and lay eggs
- For chicks, proper brooding environment for early growth period
- Maximize efficiency

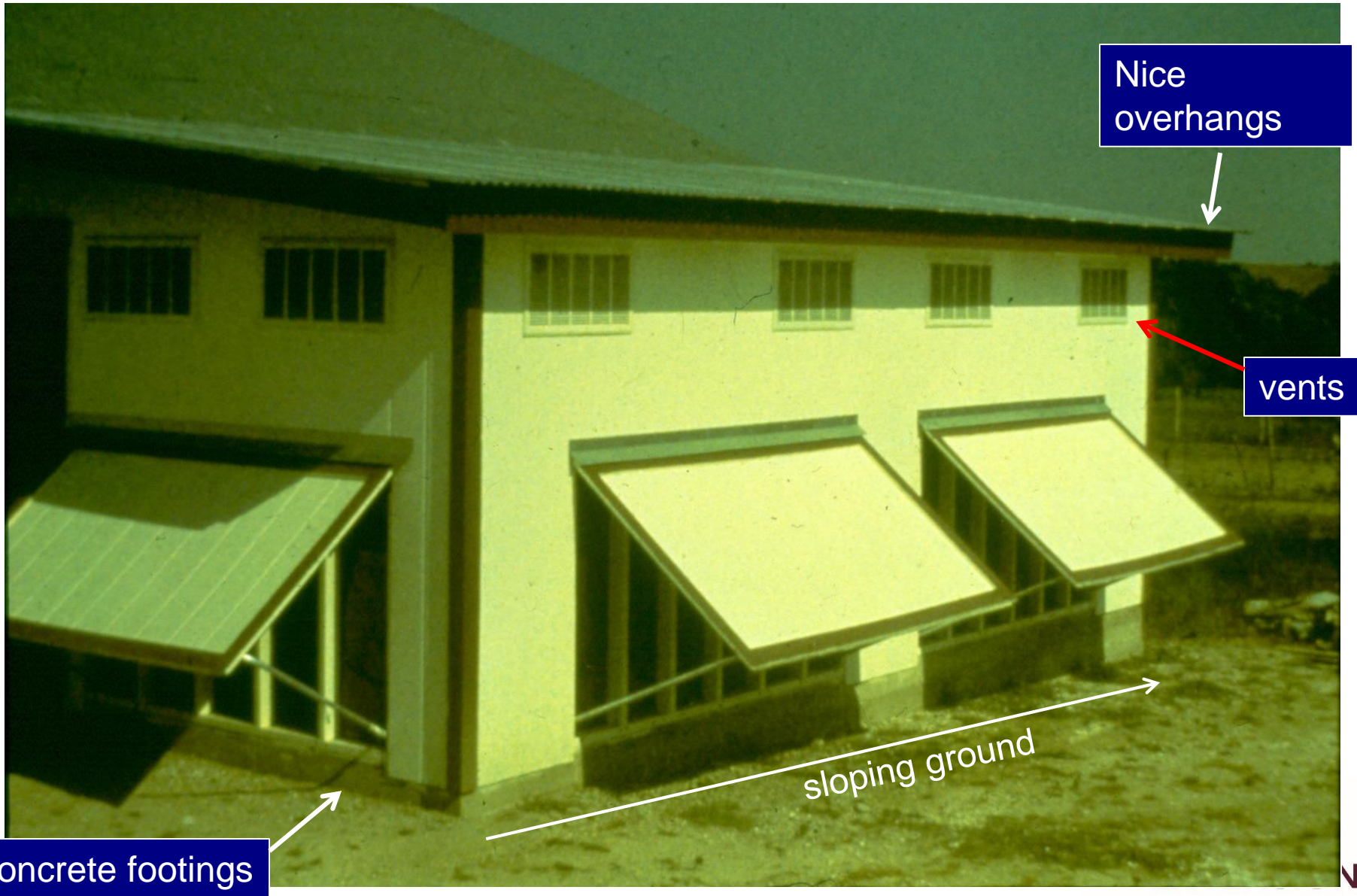


# Better, but can be improved





# Good Design with Adjustable Doors



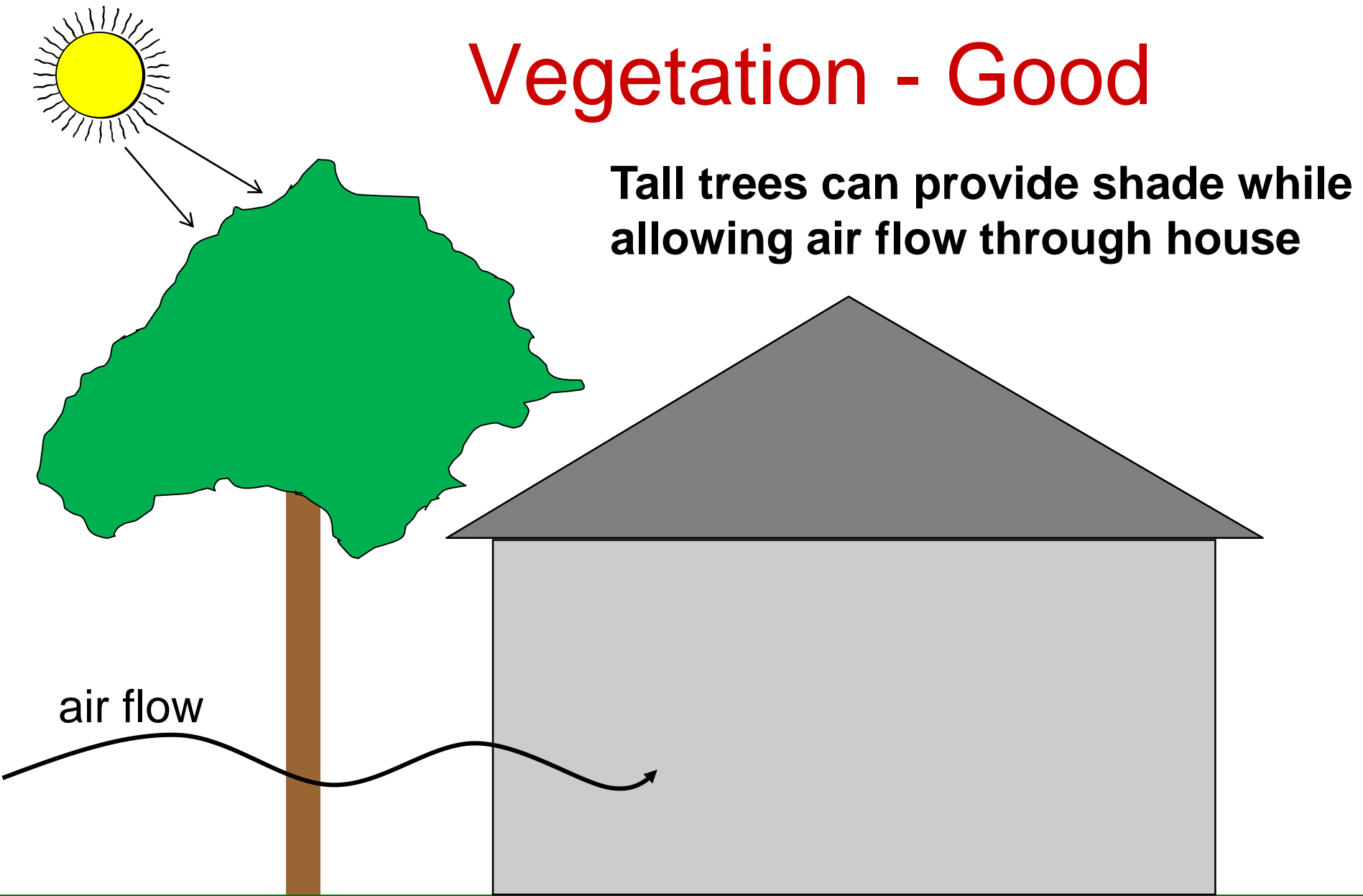


# Location considerations

- Adequate drainage a must
- Proximity to habitat for wild birds and predators
- Harborage for pests and rodents
  - eliminate trash and brush piles, old equipment
- Natural air flow (breeze)
- Visibility from your house
- Lack of visibility from your neighbor's house

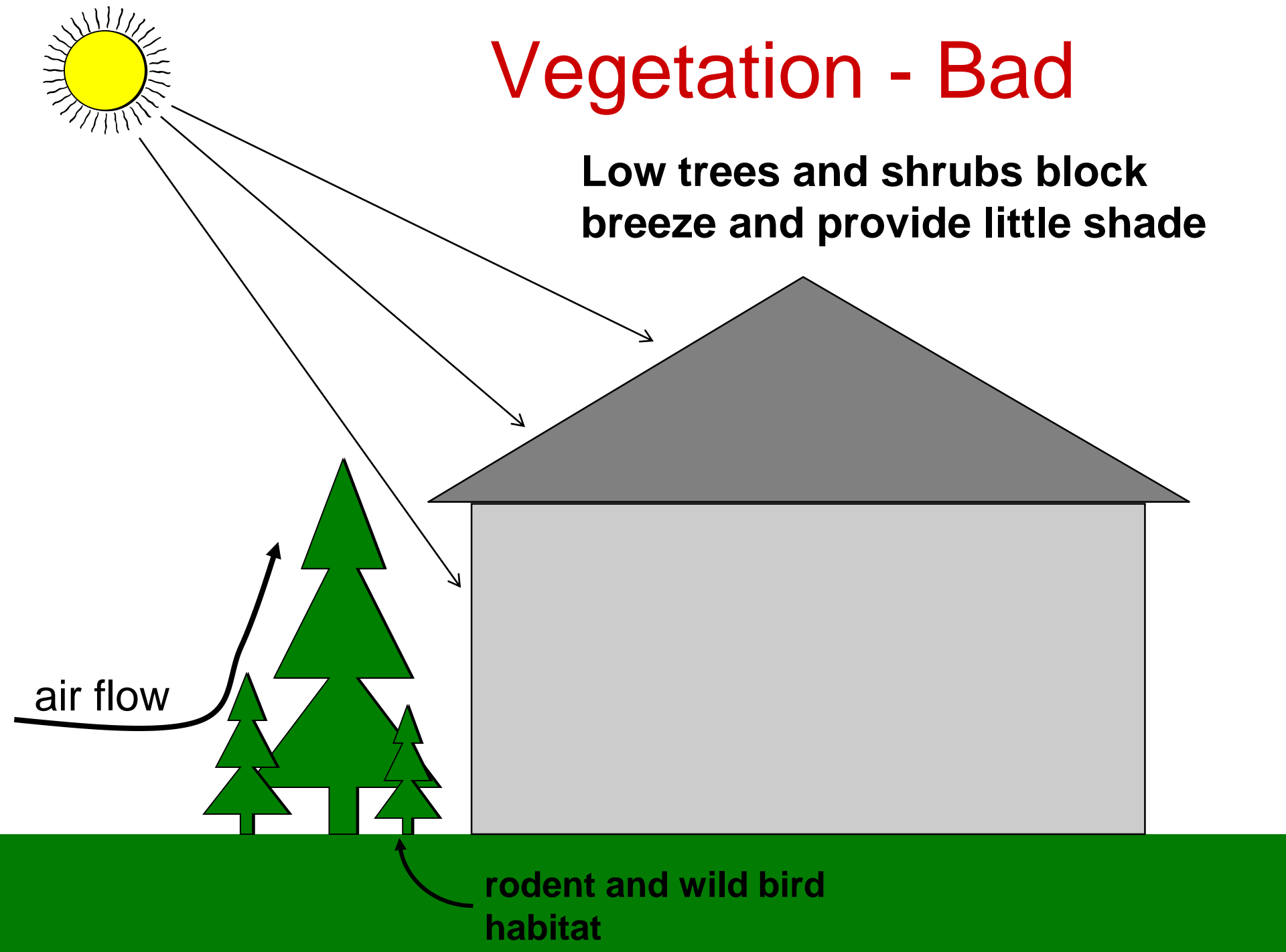
# Vegetation - Good

**Tall trees can provide shade while allowing air flow through house**



# Vegetation - Bad

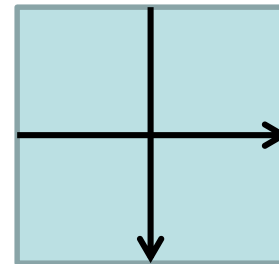
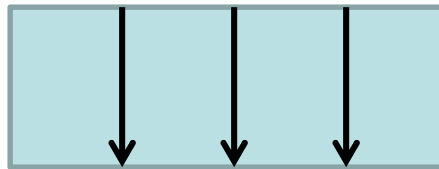
**Low trees and shrubs block breeze and provide little shade**



# Principles of Housing Design

- **Shape of house**

- Rectangular superior to square
- Natural ventilation
  - want to minimize the distance air must travel through naturally ventilated houses



- Mechanical ventilation
  - holding ventilation rate constant, air speed increases as cross-sectional area decreases





# Principles of Housing Design

- **Orientation**

- Long axis east-west
- Minimizes wall area directly facing sun
- For naturally ventilated houses:
  - minimizes direct sunlight shining into house
  - takes advantage of prevailing south wind in summer

# Principles of Housing Design

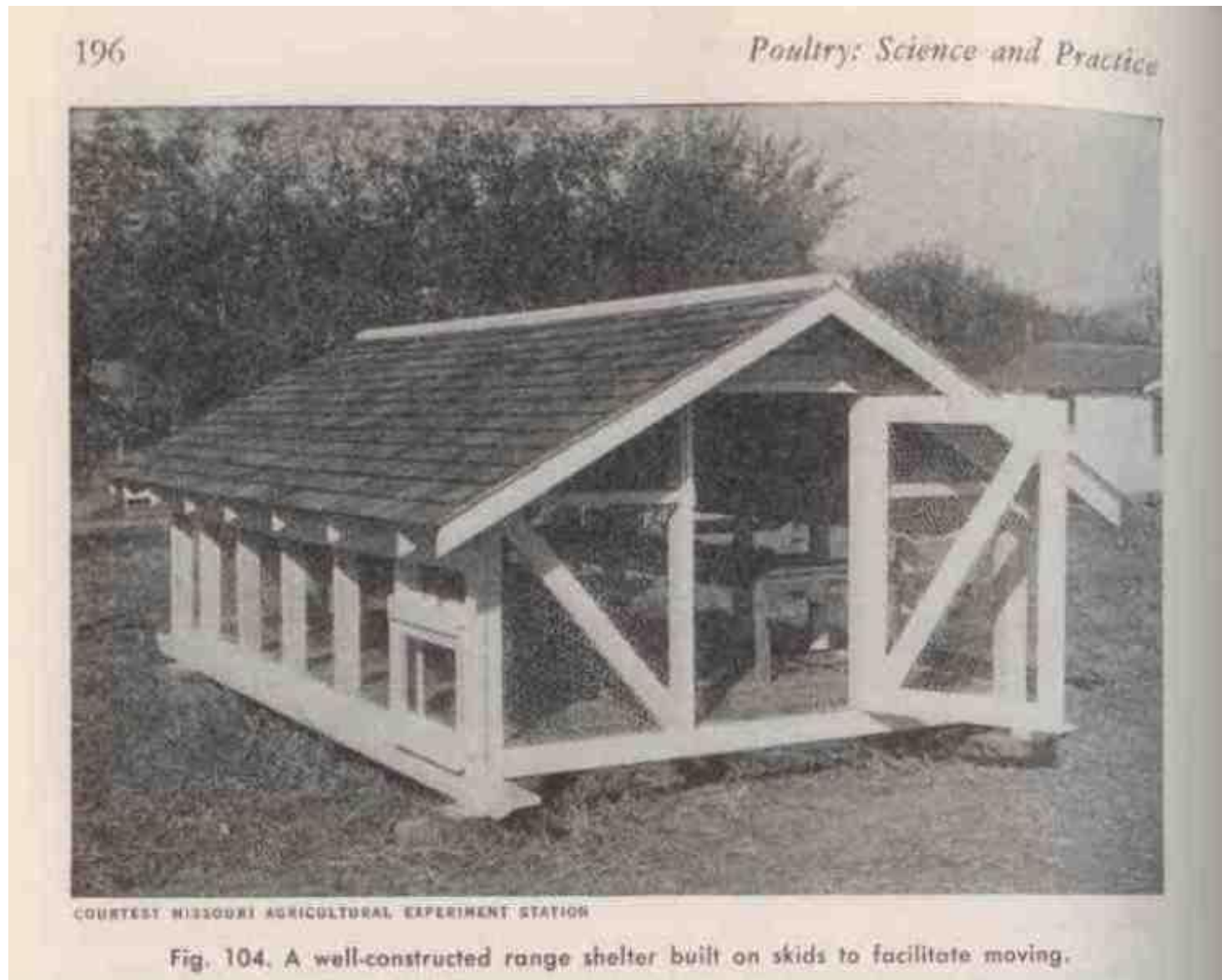
- **Materials**

- Metal is fine for exterior walls and roof
- Metal not recommended for interior surfaces
  - metal is an excellent conductor of heat (radiant heat transfer)
  - Insulation can help
- Cleaning and disinfection should be considered for interior surfaces
  - lower porosity materials are easier to clean
  - paint can help to seal wood surfaces for easier cleaning

# But what about mobile coops or “chicken tractors”?



# Poultry: Science and Practice, 1951







Highly recommend anchoring



# Things to consider with mobile coops

- May have to move daily, depending on density of birds
  - Enough land??
- Heat/Cold stress
  - Air flow
  - Shade
  - Moisture
- Predators
- Rain and ground moisture
- Still must brood baby chicks in a building

# Nipple drinker systems are suitable for all chickens (not turkeys)

- automated
  - reduced time and labor
- more sanitary than trough or bell drinkers
- low pressure
- less spillage  
= drier manure/  
litter



# Laying hens on nipple drinkers



**Garden hose for  
water supply**




# Water Equipment Options

- FarmTek catalog (also online)

## POULTRY WATERING

### Our highest flow nipple.

- Waters your birds perfectly.
- Best-suited for use with FarmTek® single arm drip cups (VF2225), sold separately.
- All sealing components are 100% stainless steel.



STK#	EACH
WC1050	\$2.09

### Waters your birds while keeping your litter dry.

- Ideal for broilers, breeders, layers, pullets, ducks and gamebirds.
- Does not require a drip cup.



STK#	EACH
WC1030	\$2.19

### The ideal nipple for both broiler and layer systems.

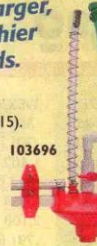
- Perfectly waters your birds while keeping your litter dry.
- Does not require a drip cup.
- Sealing components are 100% stainless steel.



STK#	ITEM	EACH
WC1045	Push-In Nipple w/Grommet	\$2.19
WC1046	Replacement Rubber Grommet	0.43

### Hobby Nipple Drinkers let you water your poultry like the pros.

- Commercial poultry growers use them, why shouldn't you?
- Litter stays dry and birds stay healthier.
- 6" spacing, with 8' line. Kits come complete with end riser kit.
- Super Flow™ Drinker (103696) also includes an auto flush regulator.
- Lines can be extended up to 200' long with our 8' Extension Kit (WC3515).
- Drinkers are designed to fit in our ClearSpan™ Chick-Inn Buildings.
- Allows drinking by a large number of birds.
- Little required maintenance saves both time and money.



STK#	ITEM	EACH	SALE
110834	Flow-Tek Mini Hobby Drinker Kit	<del>\$125.95</del>	<b>\$99.95 Inventory Blowout</b>
103696	Super Flow™ Drinker Kit	138.95	—
WC3515	8' Extension Kit	66.95	—

### Boiler drain valve for easy flushing. End of the line pressure monitoring made easy.

- Constructed of durable, high-quality plumbing components.
- Flexible end riser tube eliminates accidental damage.
- Square pipe adapter and brightly colored sight tube float ball.



STK#	ITEM	EACH
WR1080	End Riser Kit	\$23.95
WR1084	Replacement Float Ball	1.10

### Unique system will provide a constant supply of clean, fresh water to your new chicks or game birds right through their maturity.

- Easily adjustable for all stages of development.
- Designed for both indoor and outdoor use, this Nipple Bucket System can be easily moved from one location to another.
- Sealed unit means bedding stays drier and water stays fresh and clean, saving time, labor and money.
- Five-gallon bucket, with snap-on lid and steel-wire handle, is constructed from high-impact polyethylene. Bucket and lid each sold separately.
- 360° Super Flow™ Push-In Nipples do not require drip cups and have stainless steel sealing components.



STK#	ITEM	EACH	SALE	DISCOUNT	SALE
107651	5 Gallon Bucket	<del>\$5.99</del>	<b>\$5.09</b>	<del>\$4.29</del>	<b>\$4.09</b>
107652	Snap-On Lid	<del>2.99</del>	<b>1.99</b>	<del>1.49</del>	<b>1.39</b>
WC1045	360° Push-In Nipple	2.19	—	—	—

### Creating your own Poultry Nipple Bucket Drinker is as easy as 1-2-3!

- Drill holes in the bottom of the sealed bucket with an 11/32" drill bit (purchased locally). We suggest three holes, spaced accordingly, for maximum efficiency.
- When installing nipples, place rubber grommet in drilled hole first, followed by the actual nipple. Grommet is included with each nipple. Wetting the nipple first eases the application.
- Hanging or fastening your drinker will depend on the location and application. We recommend using rope, cable or chain. All are sold separately. Ask your National Account Manager for more details.

### Deliver high water flow at low pressure.

- 3/4" MGH inlet, 3/4" FPT outlet.
- No O-ring seals to deteriorate.
- Constructed of ABS impact-resistant plastic.
- Impervious to rust, corrosion and medication.



STK#	EACH
WR1280	\$63.95

### Easily remove sediment and air in lines.

- Ideal for nipple drinking systems.
- Dependable, affordable and low maintenance.
- Molded from heavy-duty, durable plastic for long life.
- 3/4" MGH inlet, 3/4" FPT outlet.
- 0"-20" column pressure.
- Available with or without Auto Flush Kit.



STK#	ITEM	EACH	SALE
110818	Flow-Tek Hobby Regulator	<del>\$49.95</del>	<b>\$24.95 Inventory Blowout</b>
103462	Regulator with Auto Flush Kit	78.95	—
WF2175	Square Adapter to 3/4" MPT	1.99	—
WR1084	Replacement Float Ball	1.10	—



# Simple Nipple Drinkers with a Bucket



## Creating your own Poultry Nipple Bucket Drinker is as easy as 1-2-3!

1. Drill holes in the bottom of the sealed bucket with an  $1\frac{1}{32}$ " drill bit (purchased locally). We suggest three holes, spaced accordingly, for maximum efficiency.
2. When installing nipples, place rubber grommet in drilled hole first, followed by the actual nipple. Grommet is included with each nipple. Wetting the nipple first eases the application.
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# PVC Pipe style



