

# Raising Show Poultry

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TEXAS A&M  
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EXTENSION



# The Secret to Success

1. Good housing  
(provides perfect environment for birds)
2. Exceptional management  
(lots of time and hard work)
3. Good nutrition
4. A little luck



# Show Poultry Housing

- Does not need to be fancy
- Does not have to be a new, permanent or separate structure (for chickens)
- Turkeys require a more substantial structure than chickens

# Housing Must Provide

- Protection from weather extremes
  - precipitation
  - Adjust to winter and summer conditions
- Protection from predators
  - particularly at night
- A COMFORTABLE environment to maximize growth
  - Includes temperature, humidity, and air flow



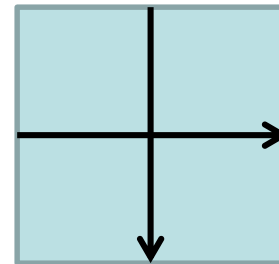
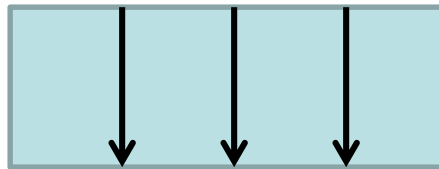
# Broiler pen inside another building



# 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

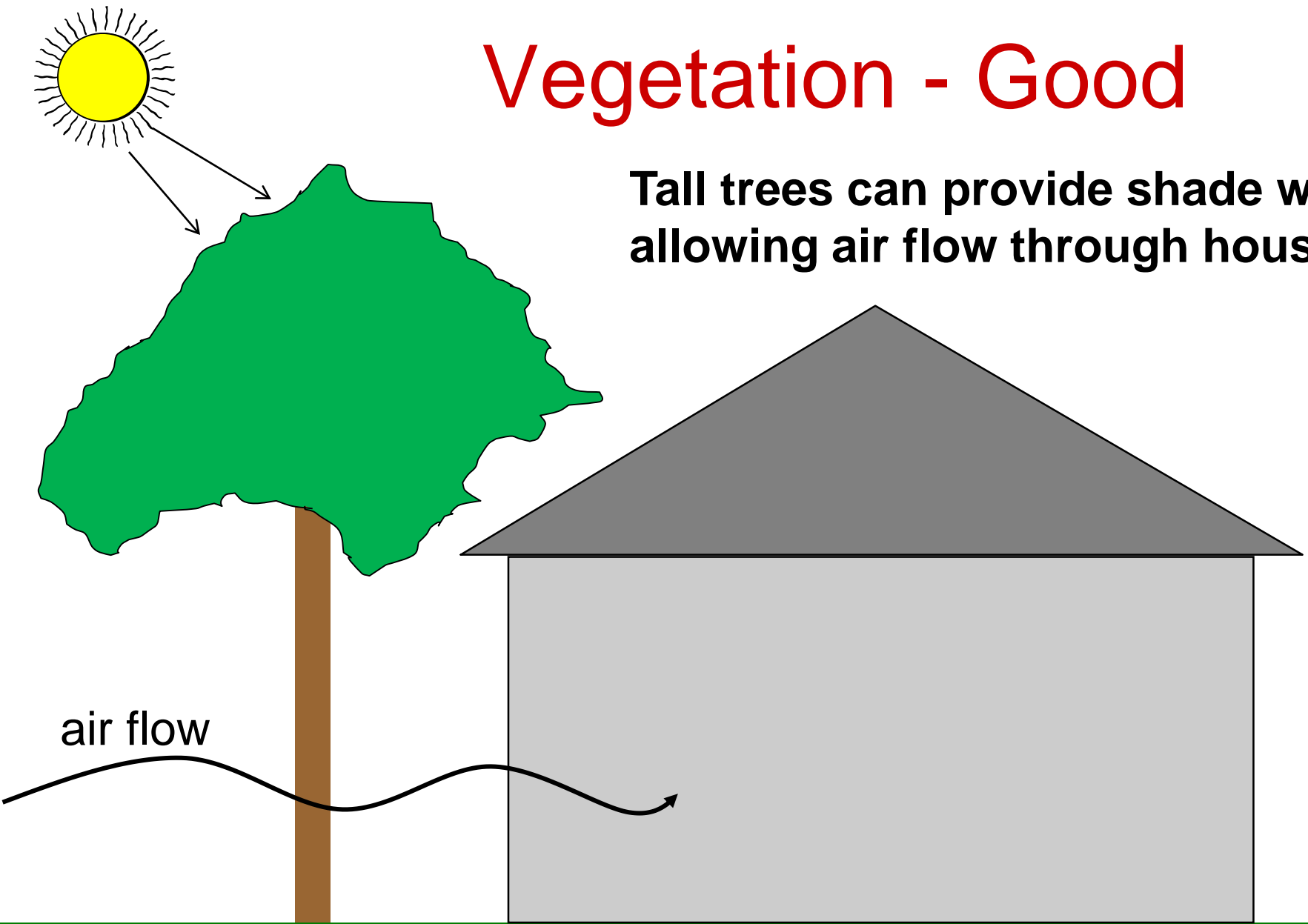


# Location

- Adequate drainage a must
- Reduce proximity to habitat for wild birds and predators
- Eliminate harborage for pests and rodents
  - eliminate trash and brush piles, old equipment
- Natural air flow (breeze) a plus
- Good visibility from your house
- May want to reduce visibility by neighbors

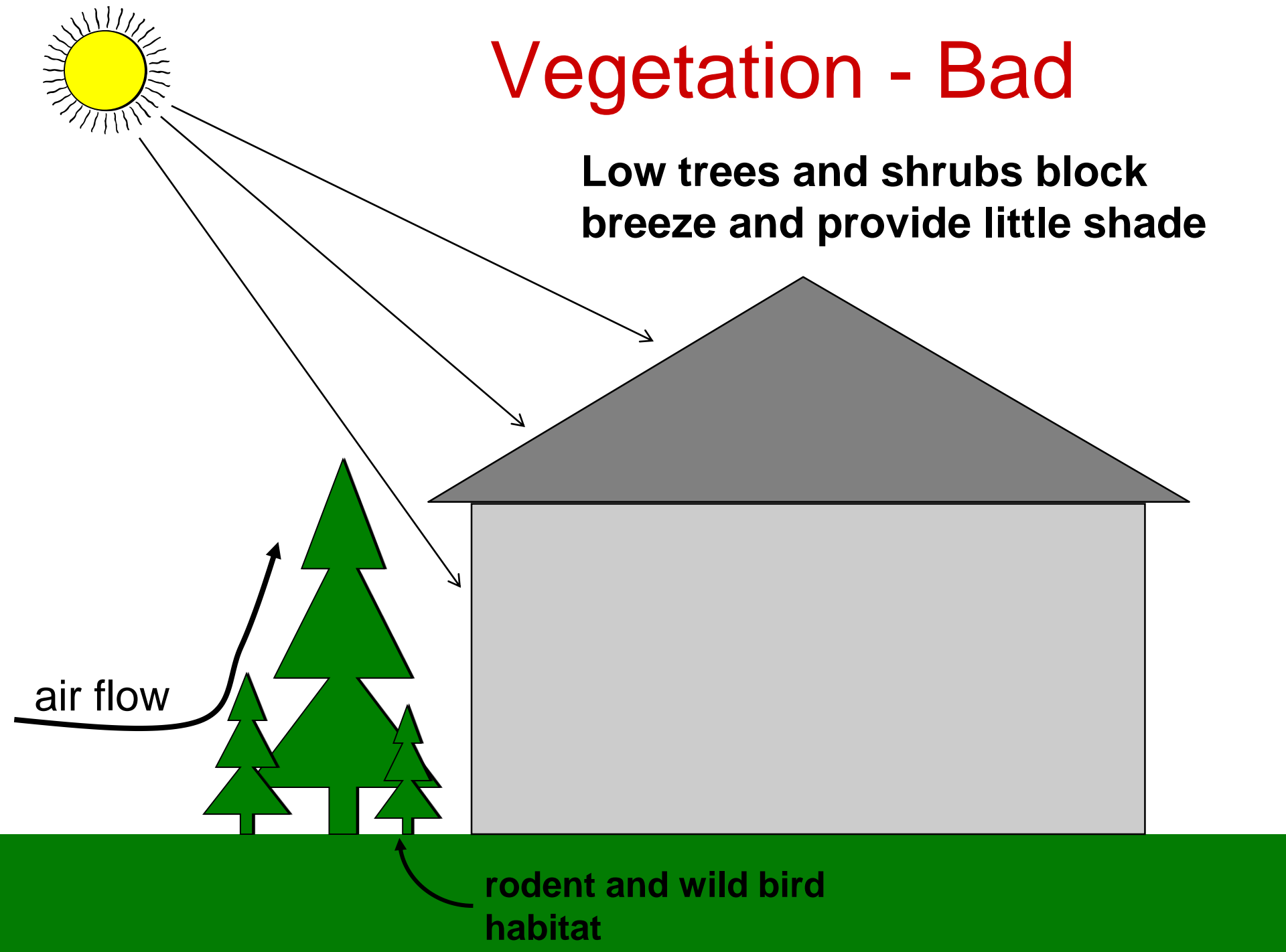
# Vegetation - Good

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



# Vegetation - Bad

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

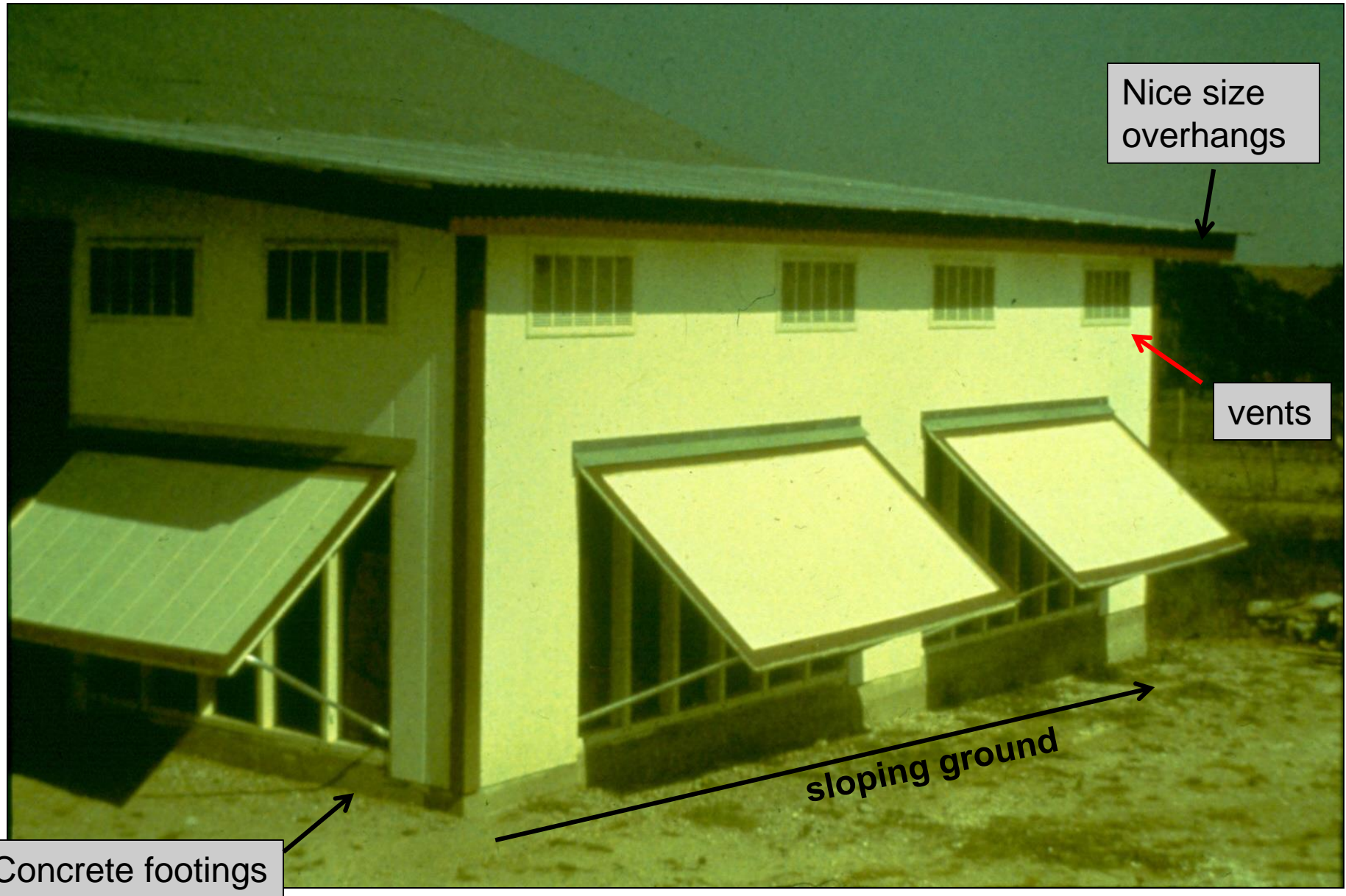


# Principles of Housing Design and Ventilation

- **Key concepts**

- minimize the distance air must travel in naturally ventilated houses
- as air moves through the building, it will increase in temperature, moisture, dust and waste gas concentration
- air speed is an effective way to cool birds (wind chill effect)

# Good Design for Natural Ventilation





Metal buildings will work, but insulation is highly recommended.

Suggestion:  
window and stir  
fan could be a  
little lower to  
provide better  
ventilation at bird  
level

# Ventilation

- Ventilation is critical to maintain the best environment for the birds – even in cold weather
- Functions of ventilation: (listed from most important to least)
  1. Remove moisture
  2. Remove excess heat
  3. Remove waste gases (carbon dioxide and ammonia)
  4. Provide oxygen

# Minimum Ventilation

- A small amount of air exchange needed to remove moisture and waste gases and replenish oxygen
- Easiest with a fan and timer
- If using natural ventilation:
  - Ventilate up high, away from birds
  - Be careful of drafts on small chicks

# Mechanical Ventilation

- Use fans to create negative static air pressure
- Pulls or “draws” air through house
- Fans exhaust the air from the house
- Air inlet space must be controlled
  - area
  - type
  - leaks will reduce effectiveness and reduce desired air flow patterns



Use air inlets strategically to influence air patterns

Incoming cool air directed up and away from birds to avoid chilling chicks





Air diverted  
down across big  
birds for cooling



# Temperature

- Evidence of appropriate temperature or deviations is easily determined by the behavior of the birds.
  - Cold birds will crowd or pile
  - Hot birds will migrate away from the heat source
  - Comfortable birds will be scattered throughout the brooding area moving in and out to feed and get water.



Birds are cold and huddled  
under heat source





Birds are well distributed and appear to be comfortable

Notice use of  
brooder guard





# Infrared heat lamps

- Usually adequate and most commonly used
- do not “heat” the air
- provide heat to objects through infrared energy
- Should be removed as soon as birds are well feathered



# Infrared heat lamps

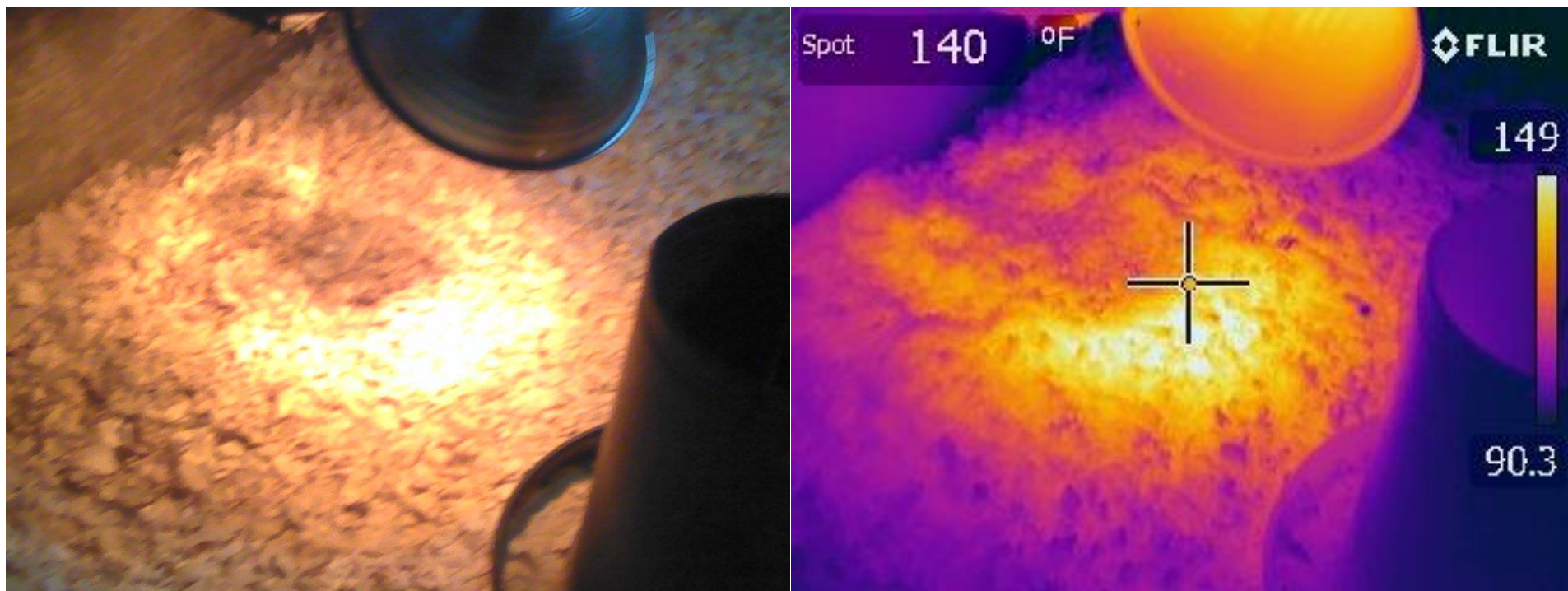
- Usually adequate and most commonly used
- do not “heat” the air
- provide heat to objects through infrared energy
- Should be removed as soon as birds are well feathered





# Be Careful!

Infrared camera image



**Too hot**

# Litter

- Use 4 – 6 inches of good quality litter
  - Pine wood shavings
  - Rice hulls
  - Coarse, dry sawdust
  - Washed builder's sand
- Stir the litter daily after two weeks of age to prevent wet litter.
- Remove wet or compacted areas.



# Floor Space

- Broilers
  - 2 ft<sup>2</sup> per bird up to 4 weeks of age
  - 3 – 4 ft<sup>2</sup> up to time of show
- Turkeys
  - 2 ft<sup>2</sup> per bird up to 4 weeks of age
  - 6 ft<sup>2</sup> per bird from 4 to 8 weeks of age
  - Increase so that by 12 weeks of age  
hens have 7 ft<sup>2</sup> and toms have 10 – 12 ft<sup>2</sup>

# Drinkers



Fountain or jug style drinkers are commonly used

# 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 litter



## Potential issues with automatic system:

- Leaks and pen flooding
- Water quality from source



**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#	ITEM	EACH
WC1050	360° HI-V NIPPLE	\$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#	ITEM	EACH
WC1030	360° SUPER FLOW NIPPLE	\$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-In 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>	1-11	12-96 97 & UP
107652	Snap-On Lid	<del>2.99</del>	<b>1.99</b>	1-11	12-96 97 & UP
WC1045	360° Push-In Nipple	2.19	—	1-11	12-96 97 & UP

### 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#	ITEM	EACH
WR1280	0-10 LB. FLOW MASTER PRESSURE REGULATOR	\$63.95

### Perfect for poultry and livestock watering cups.

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	—

# Homemade Nipple Drinker

- 4 or 6 inch PVC pipe with cap
- Make pipe longer to increase capacity







Automated  
bell drinkers  
for chickens  
and turkeys



Wider trough  
needed once  
turkeys get big







Coufal Family Show Broiler Project





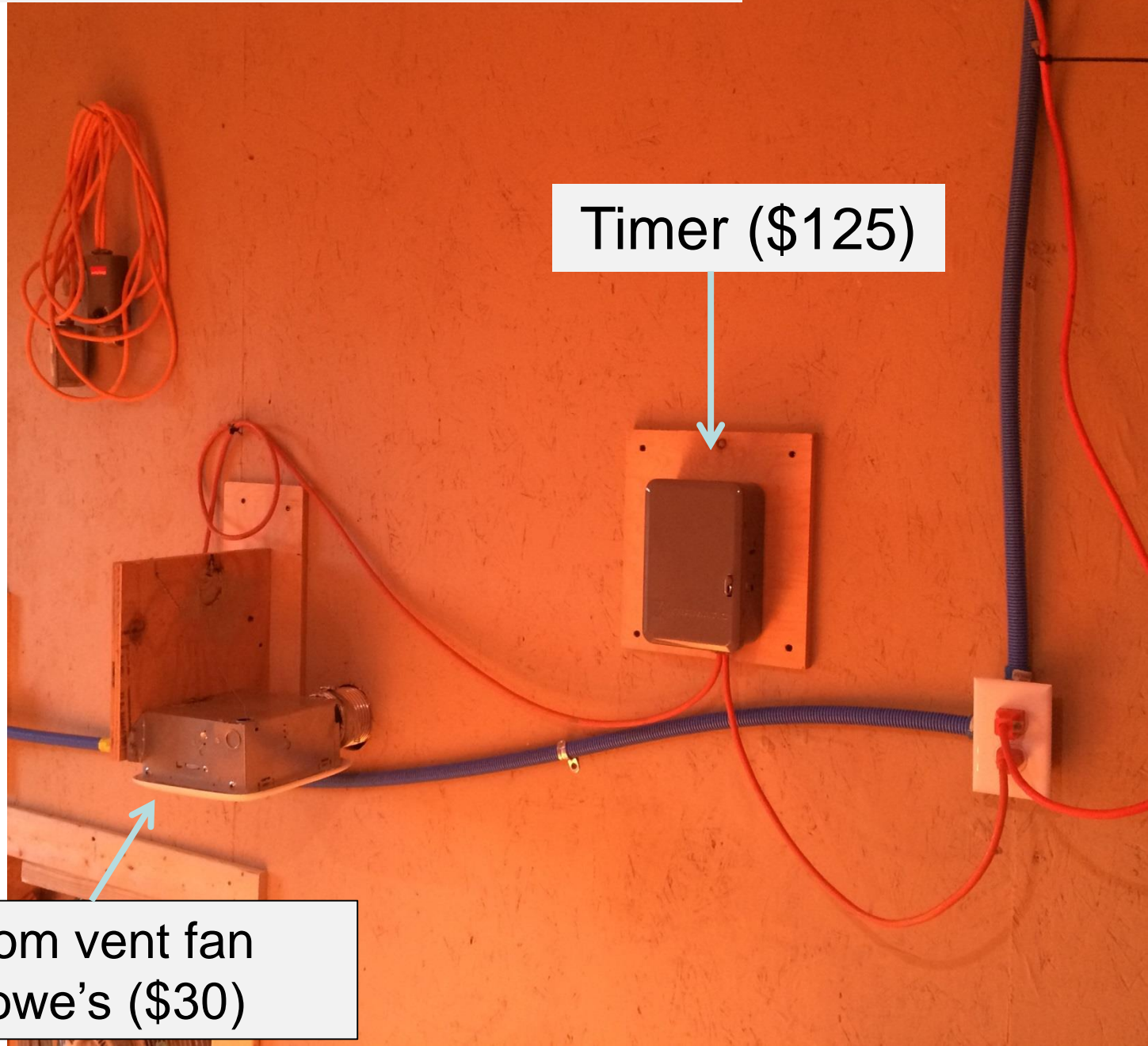
Good points? Bad points?



2016



# Minimum ventilation system



Timer (\$125)

Bathroom vent fan  
from Lowe's (\$30)



Part No. C8835



# REPEAT CYCLE TIMER

DIAL CYCLE: 30 MINUTES  
TRIPPING TIME - EACH TRIPPER, 15 SECONDS  
SINGLE POLE DOUBLE THROW

RATING: 20 AMP, 125-480 VOLTS A.C. 1/2 HP-125V 1 HP-250V

CLOCK MOTOR: 125 VOLTS - 60 HZ.

VOLTAGE AND CYCLE MUST BE AS SPECIFIED. TO ORDER  
ONLY, INDICATE PART NO. (WG-2) ON MOTOR COVER



FIG. 1



WIRING DIAGRAM

## INSTRUCTIONS

Switch can be wired to control two circuits as single pole double throw, or to control one circuit as single pole single throw, either closed (NC) or normally open (NO). To wire Time Switch as per wiring diagram above, use solid or stranded COPPER only insulation to suit installation. Replace insulator before turning on.

## WIRING INSTRUCTIONS

PROGRAM TIME: Place tripper(s) into dial at desired wheel(s) as are required.

TIME: First tripper turns on the load for 10-20 seconds. Each additional tripper will lengthen the on time by 15 seconds.

OFF TIME: First tripper tripped turns off the load for 10-14 seconds. Each additional tripper will lengthen the off time by 15 seconds.

SET DIAL: Turn dial in CLOCKWISE direction only. The "TIME" dial indicates position at which switch action takes place.

REMOVE MECHANISM FROM CASE: Disconnect electricity and all wires. Depress retainer spring at upper left, or unscrew mounting screws, lift dial and pull mechanism out.

AFTER POWER FAILURE, reset dial. See step (2) of programming.

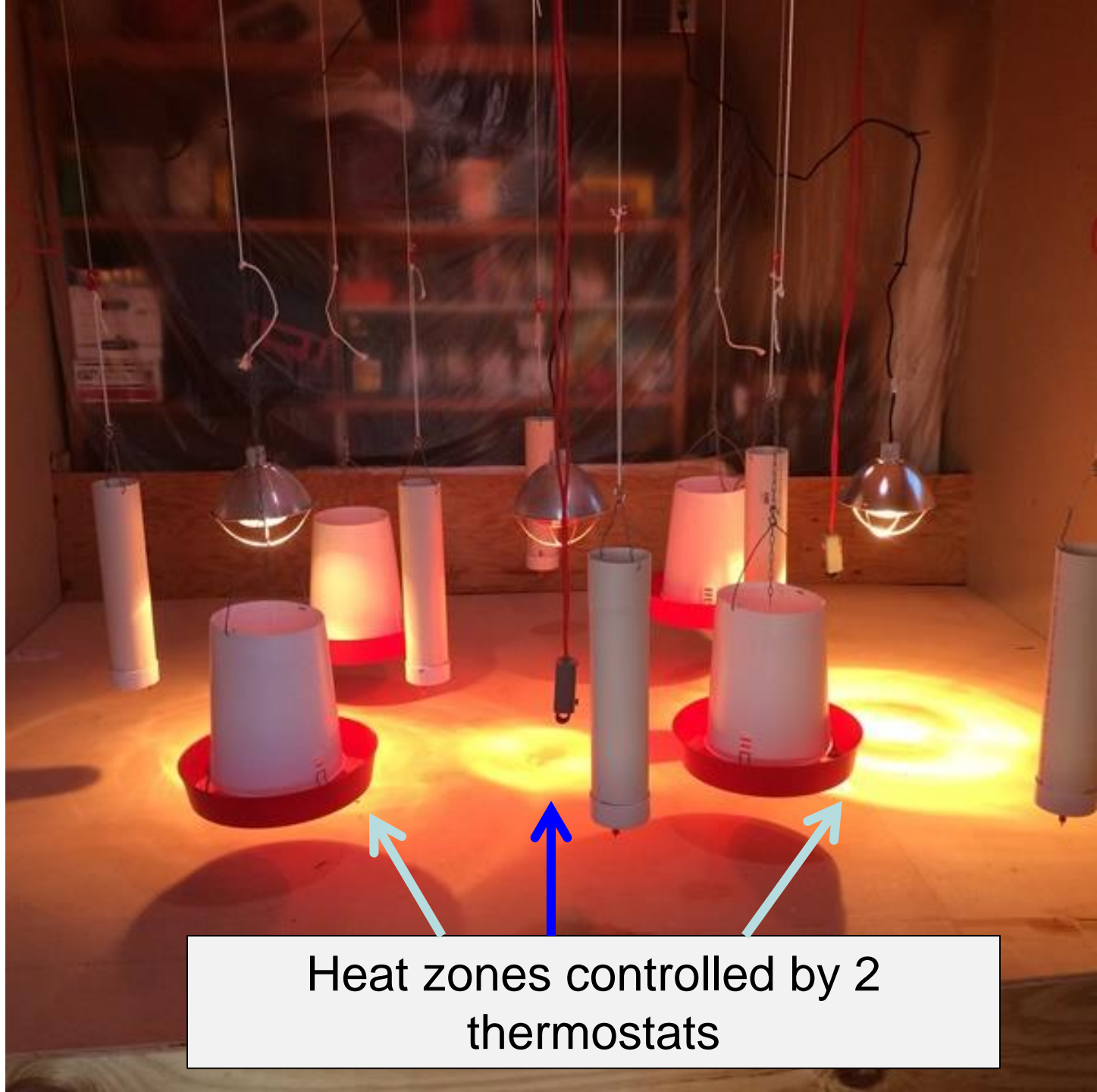
INTERMATIC INCORPORATED  
CHICAGO, ILL. U.S.A. 60606

MADE IN MEXICO



CAUTION: MAKE SURE NON-OPERATING  
TRIPPERS (IF ANY) CLEAR SWITCH LEVER

THIS INSULATOR MUST BE REPLACED  
AFTER WIRING TO PREVENT SHOCK



Heat zones controlled by 2  
thermostats

# Thermostat





# Farmtek catalog

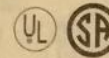
## THERMOSTATS

### n. Clear flip cover keeps dial clean and easy to read.

- Controls heating or cooling from 30°F to 110°F.
- Stainless steel coil calibrated for accuracy.
- Dual voltage: 16 FLA at 120V, 8 FLA at 240V.
- Waterproof enclosure with clear flip cover.

#1 seller!

as low as  
\$35.95



**DurOstat**



SALE SALE SALE SALE SALE SALE SALE SALE

#### NEMA 4 THERMOSTAT

STK#	EACH	SALE	DISCOUNT SALE
CR2095	<del>\$59.95</del>	\$39.95	\$35.95 (20 & up)

**This completely watertight unit provides precise, automatic control of your heating, cooling and ventilation systems.**

- Temperature range: 30°F to 110°F.
- Includes 8' cord for hanging where you want it.
- Clear flip cover keeps dial clean and easy to read.
- Stainless steel sensing coil.
- Dual voltage:  
16 FLA at 120V,  
8 FLA at 240V.



now only  
\$75.95

SALE SALE SALE SALE SALE

#### PORTABLE WATERPROOF PREWIRED THERMOSTAT

STK#	EACH	SALE
CR2045	<del>\$99.95</del>	\$75.95





Bigger fan for maximum ventilation

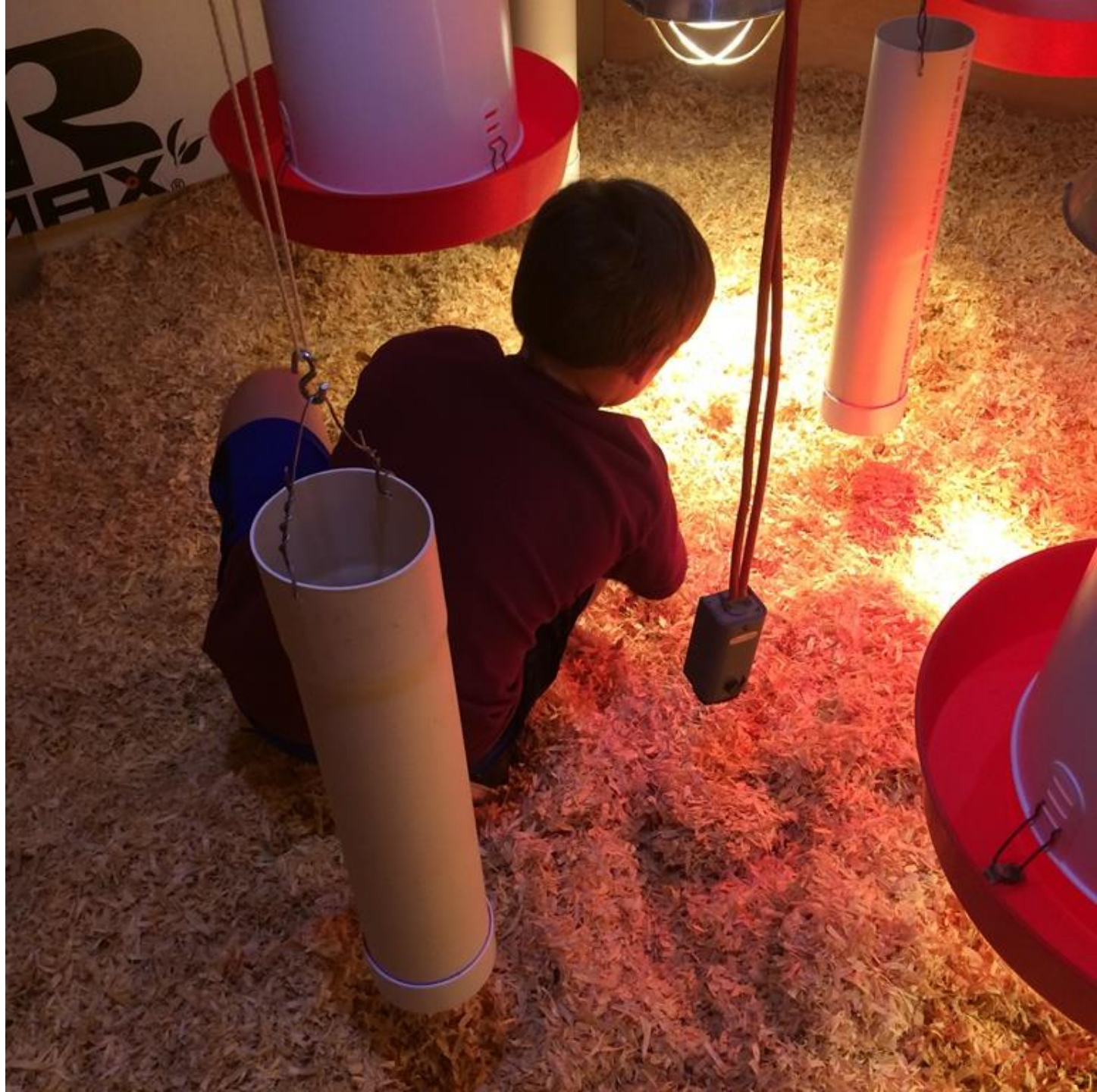


Exhaust duct  
for minimum  
vent fan











24 hrs. before  
chick arrival



Temper water to  
room temperature  
for chicks for first  
couple weeks





Chicks arrive





Chicks arrive











1 hour after  
chick arrival










Day 1 – nighttime low of 34°F





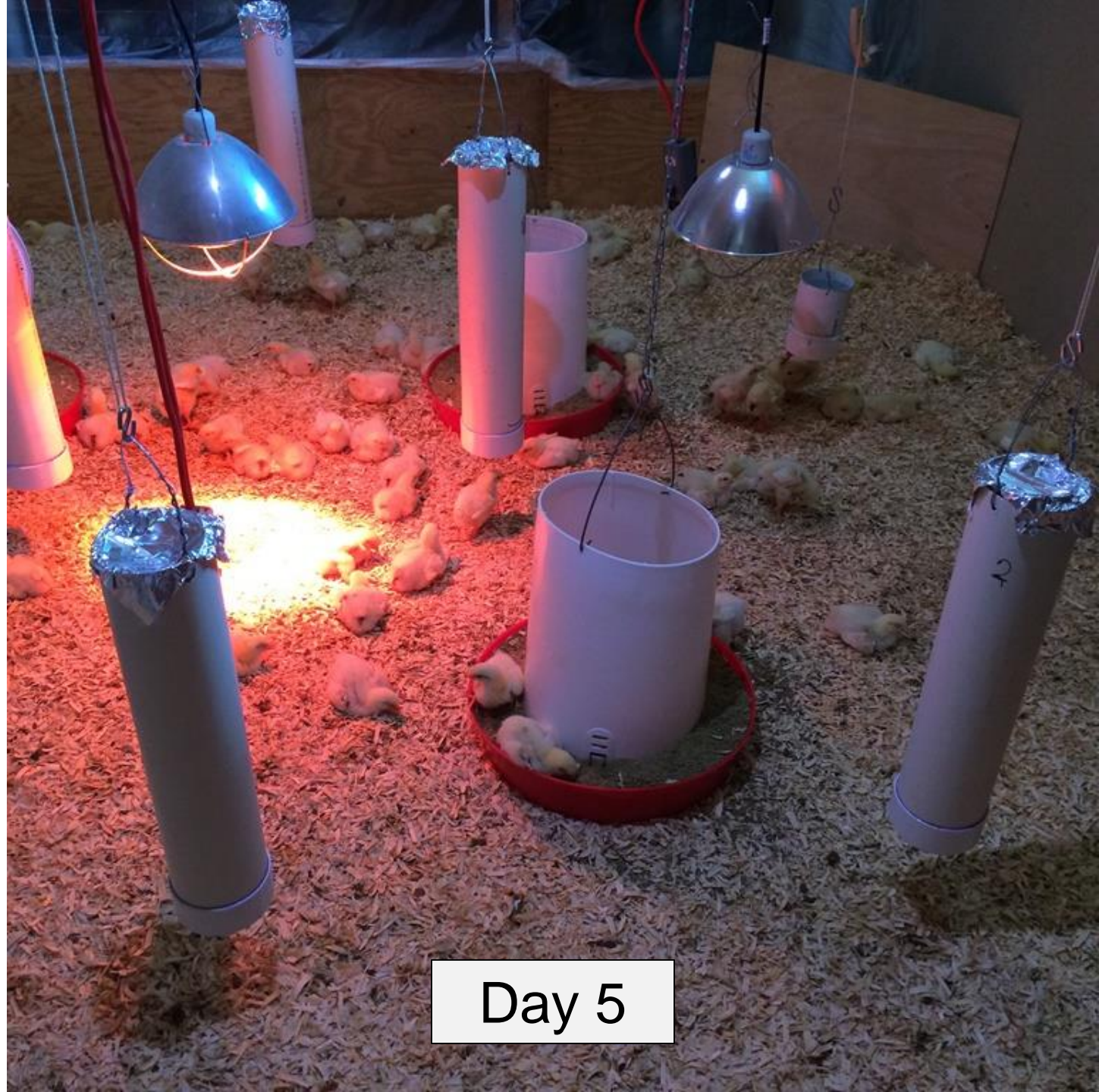
A black portable heater with a handle and control knobs sits on a light-colored wooden shelf. A black power cord runs from the heater to a white wall outlet. A blue cable runs vertically along the wall above the outlet. The background is a textured, light-brown wall.

Notice: not  
running on  
extension cord

Not taking any  
chances







Day 5















**Air exhausts from bottom**



Using A/C  
strategically







Cool air

A/C Unit

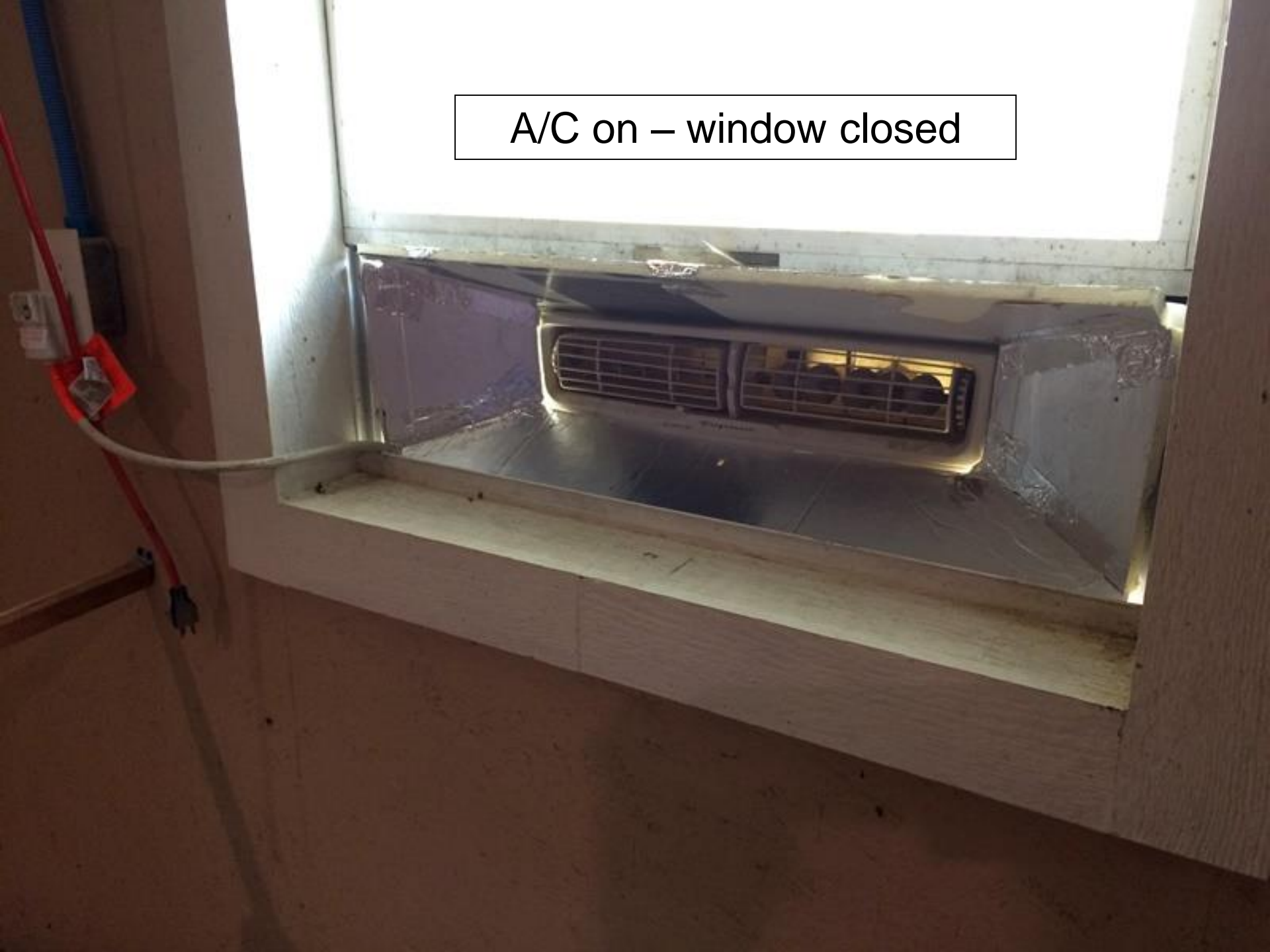
Fresh air  
in

Avoids dust build-up on  
filter and provides fresh,  
dehumidified air





A/C on – window closed







A/C off –  
window open







Could add  
plywood cover  
for rain and sun  
protection

# 2017 pen changes

- Added 4 air vents near floor level
- Added perimeter feeders from day 1
- Increased pen size
- Added 4<sup>th</sup> heat lamp
- Added nipple drinker line






About 12 inches from floor



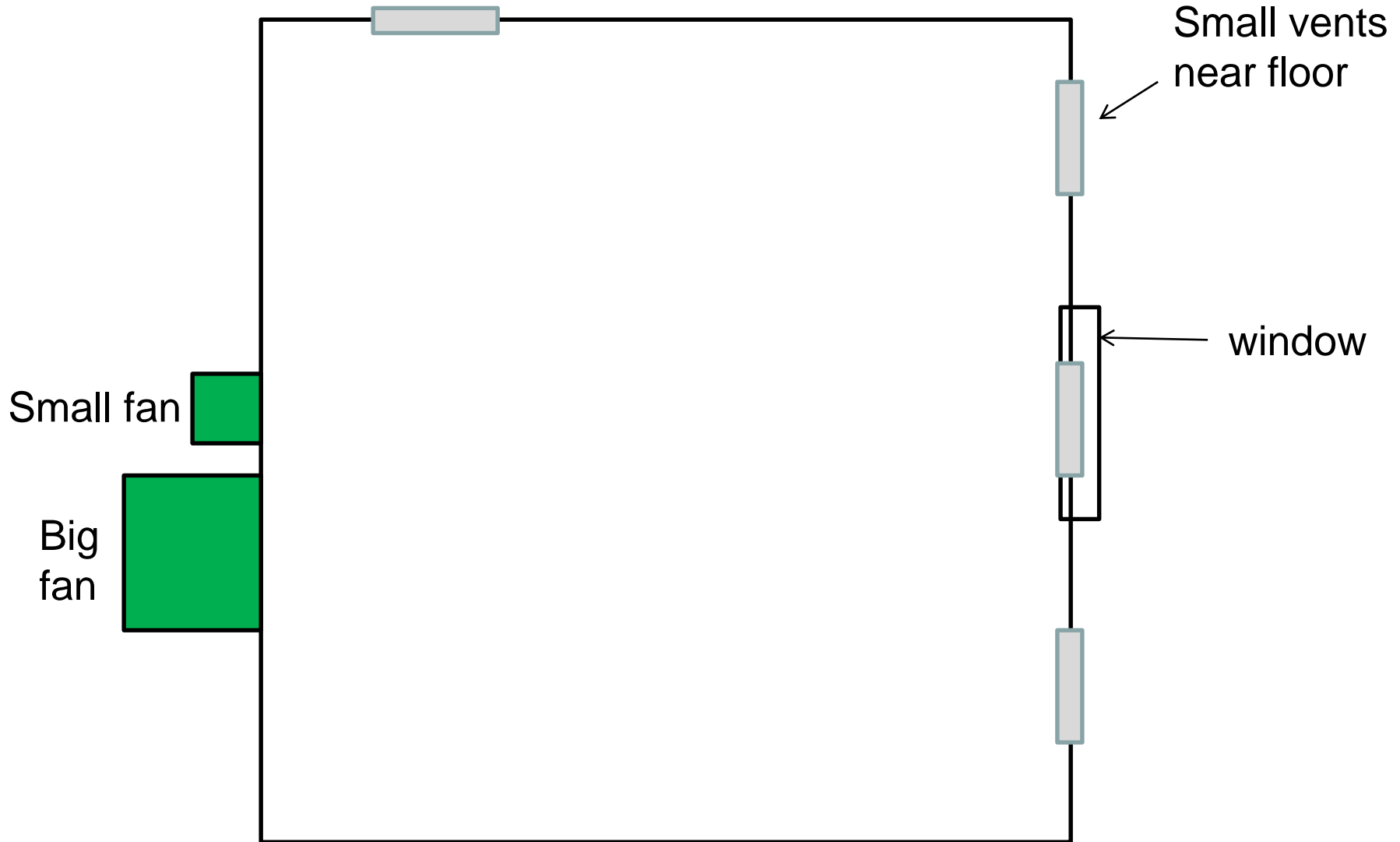




Cover for chick  
brooding

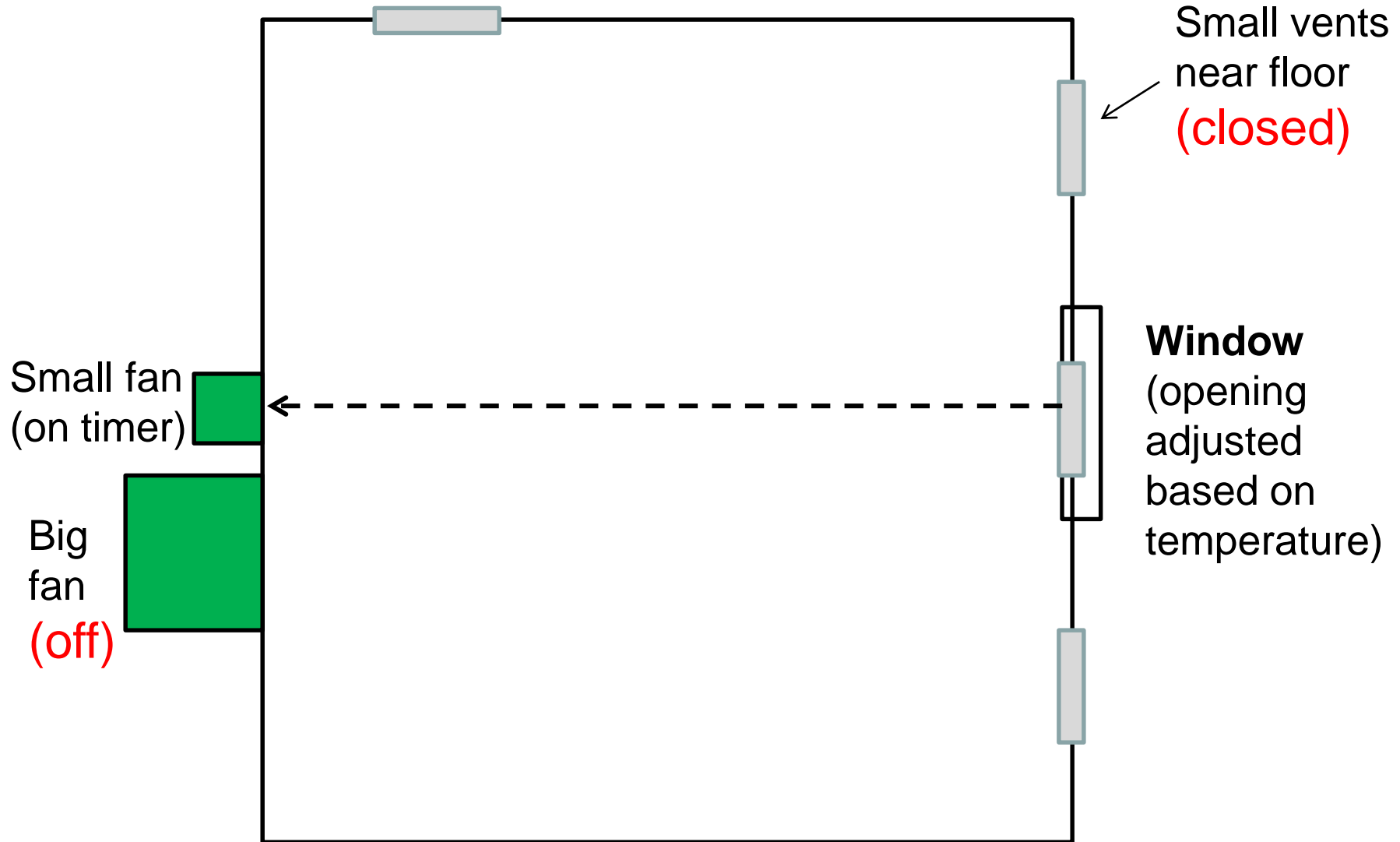
Wall feeder

# Ventilation layout

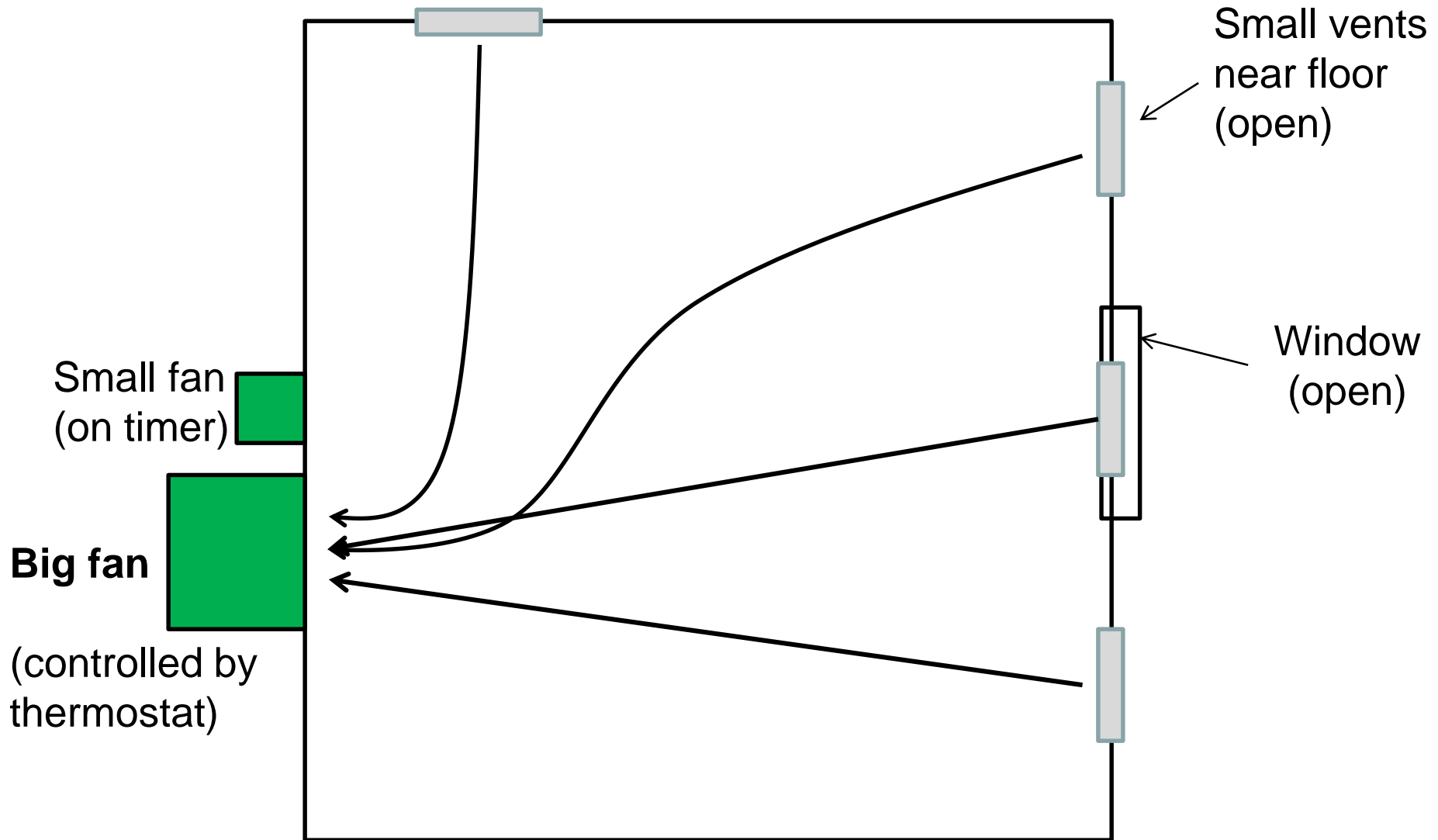




# Minimum ventilation during chick brooding

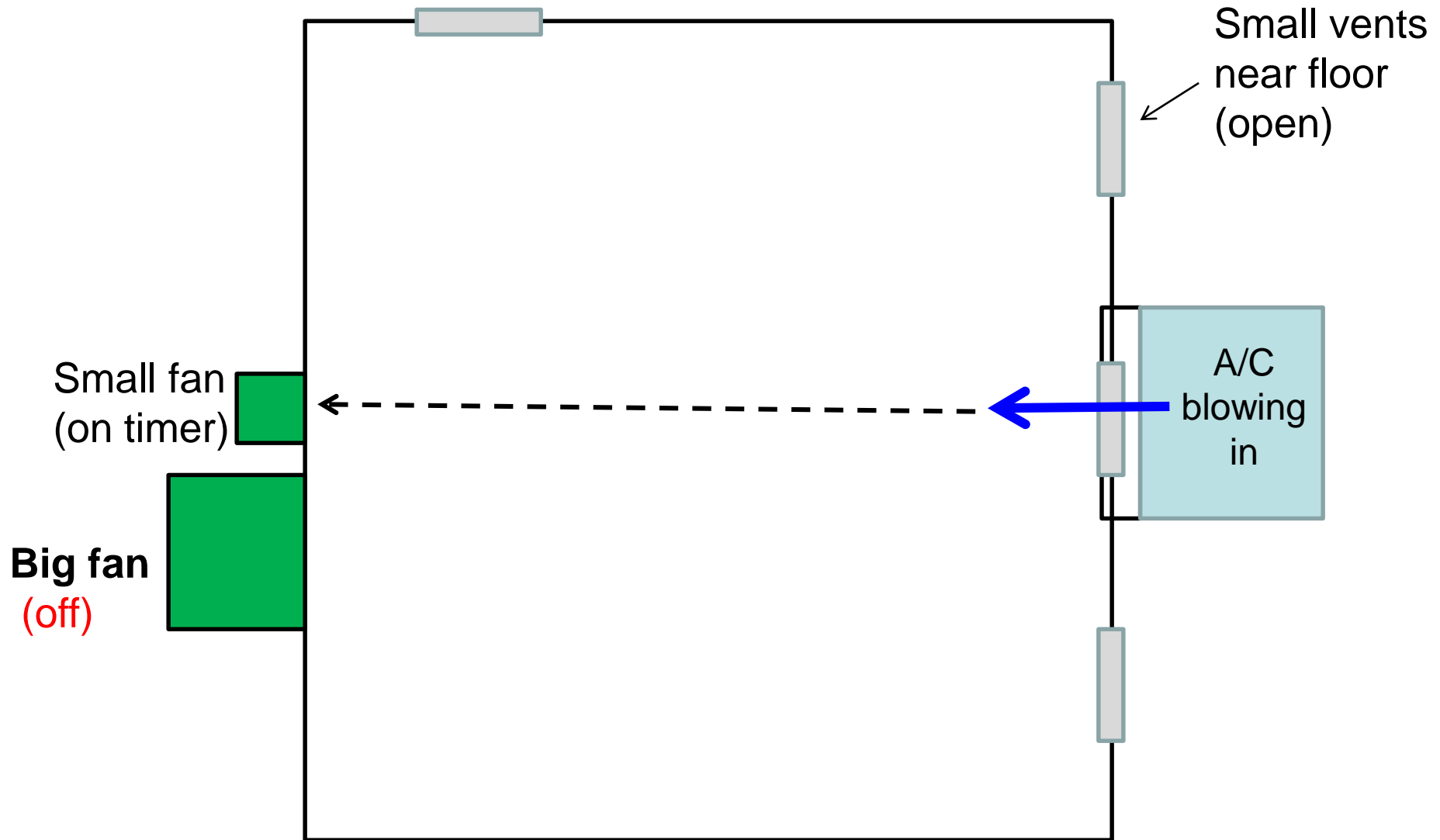


# Maximum ventilation for older birds





# Ventilation and using A/C for cooling older birds in hot weather



48 hours before chicks arrive



24 hours before chicks arrive





Day 1



Day 1





Day 8





Day 14





Nipple drinkers should be even with the top of the bird's head when young





Day 19





Day 28







Day 29



Adjust drinker height so birds can drink while sitting





Keep feeders low enough that birds  
can eat while sitting





Day 30





Keep nipple drinkers  
low enough to drink  
from sitting position as  
birds get older





Day 33







Day 39



Day 45





# Paw quality is an indicator of litter management



# Good Nutrition

- There is no secret to good nutrition.
- Be careful of fancy feeding programs and additives
- There are many “experts” who have never won a show, but have most likely prevented others from winning with their “good” advice.



# Things to Keep in Mind

- A bird eats to meet an energy requirement
  - As a bird ages, its energy requirement increases
  - Feeds that are high in protein are low in fat
- Make feed changes to meet the birds' needs
- Crumbles vs. Pellets
  - Crumbles for chicks, pellets for older birds

# Broiler Feeding Program

- Turkey Starter – 1 lb/bird
  - 28-31% protein
  - ~7-10 days
- Broiler Starter
  - 24-26% Protein
  - Feed through 3 to 4 weeks
- Broiler Finisher
  - 21-23% Protein
  - Last couple of weeks



# Turkey Feeding Program

- Turkey Starter
  - 28-31% protein
  - Until 8 to 10 weeks of age
- Turkey Grower or Show Broiler Starter
  - 22-26% protein
  - Until 12-16 weeks of age
- Turkey Finisher or Show Broiler Finisher
  - 18-22% protein
  - for remainder of feeding until the show

# Wet (Mash) Feeding

- The purpose is to encourage and increase feed intake
- Recipes vary a great deal
- Main ingredients
  - Fat and Feed
- Not necessary to add milk products
- Broilers
  - Start 14-17 days before show – increase frequency as show approaches
- NOT recommended for turkeys



# VFD

- ***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.

# VFD

- The government has placed medications into categories based on their importance to human medicine. Examples of drugs considered critically or highly important to humans include Excede, Draxxin, Lincomycin, Penicillin and the Tetracyclines.
- 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

# Culling

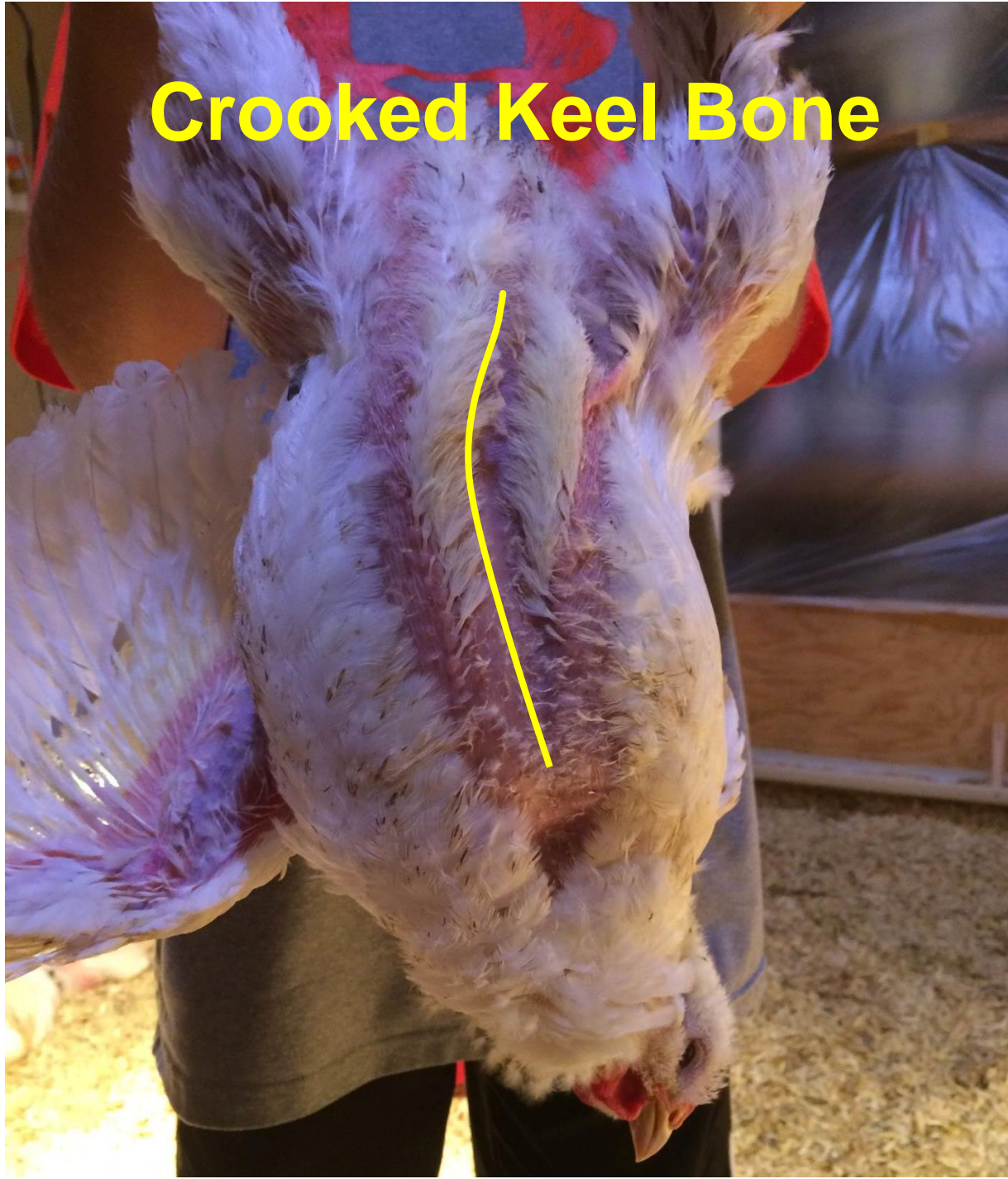
- Eliminate Poor Quality Birds as Detected
- Why?
  - Reduce competition and improve performance
  - Prevent cannibalism
  - Reduce disease problems and risk
  - Maintain adequate feeder and waterer space
- What?
  - Crippled, runty and unthrifty chicks
  - Deformed individuals



# Sifting Defects

- Bruising – especially on the breast and at the wing joints
- Cuts, tears, and skin abnormalities
- Broken or disjointed wing
- Slab-sidedness
- Deformity, including skeletal abnormalities
- Insect bites and external parasites
- Extremely poor feathering

# Crooked Keel Bone





**Slab-sided**



# Fleshing

- Amount and distribution of muscle
- Breast should resemble a giant “U”





# Fleshing

- Amount and distribution of muscle
- Breast should resemble a giant “U”



# Grand Champion at BCYLS



10.00

11.66

11.31

Live bird weight (lbs.)

**46 days of age**



**IMPORTANT:** Wing bands need to be spread apart in the middle after first week to allow the wing to grow and the band to not become imbedded.



Properly pinched in the middle on day 1

Middle of band can be easily spread apart with a flat-headed screwdriver

**Hold the birds high for the judge**







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