Raising Poultry In Small Flocks

James Hermes PhD
Department of Animal and Rangeland Sciences
OSU
Our Direction Today

Discuss poultry production

Small Scale

Hobby and/or Commercial Poultry Production
Getting Started

What do you want to produce?
  Eggs, Meat, Feathers, Pelts, Breeding Stock, Fancy birds, …

Identify Hobby or Market

Select the birds to satisfy
  Standard Breeds or Crosses
What breed should I raise?

Exhibition >400 breeds and varieties
Recreation Standard breeds and crosses
Meat Few breeds and crosses
Eggs All breeds

Economic meat production
Cornish Cross

Economic egg production
White Eggs SCWL
Brown Eggs Production Red
Urban Poultry Considerations

City Ordinances

Each jurisdiction is different
Poultry in Eugene

If the property is less than 20,000 square feet in area, any two of the following four categories of animals are allowed:

1. Chickens and Domestic Fowl (quails, pheasants, ducks, pigeons, and doves). Up to 6 over six months of age and 6 under six months of age. No roosters, geese, peacocks, or turkeys allowed.
2. Rabbits. Up to 6 over six months of age and 6 under six months of age.
3. Miniature Goats (pygmy, dwarf, and miniature goats). Up to 3 provided that males are neutered.
4. Miniature Pig. One up to 150 pounds.

If the property is 20,000 square feet or greater in area, please contact Land Use staff at 541-682-8336 or landuseinfo@ci.eugene.or.us for additional animal allowances, honey beehive allowances, and setback requirements.
Poultry in Springfield

(1) The keeping of fowl and poultry shall be limited to the following:

<table>
<thead>
<tr>
<th># of Adult Animals</th>
<th>Minimum Lot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>10,000 square feet</td>
</tr>
<tr>
<td>6 or more</td>
<td>+1,000 square feet/each animal</td>
</tr>
</tbody>
</table>

The number of permitted young shall be limited to three times the number of permitted adult animals.

(2) Roosters over the age of six months are not permitted.

(3) The offenses specified in subsections (1), (2) and (3) are also punishable as a violation and may include a fine not exceeding $720.00 pursuant to SMC section 1.205. [Section 5.408 amended by Ordinance No. 6169, enacted May 15, 2006.]
Urban Poultry Considerations

Regulations vary:
- No livestock (including poultry)
- Specific number of chickens (3 to 6)
  - Number may vary based on lot size
- No Roosters
- Etc.
Urban Poultry Considerations

Space Requirements:

1 sq. foot per pound of body weight for permanent indoor confinement areas

3 cubic feet of air (total enclosed space) per pound of body weight for permanent indoor confinement quarters.
Urban Poultry Considerations

Set Backs

Check your city regulations
Property line setbacks vary

No matter what:
Be a good neighbor.
Urban Poultry Considerations

Be careful when allowing chickens to roam free. Check ordinances.

Keep them on your property.

Store feed in rodent proof containers.
Urban Poultry Considerations

Clean litter and animal waste on a regular basis and dispose of promptly and properly.

Appearance and Property Values

Noise, Flies and Odors
Urban Poultry Considerations

Finally,

Problems are complaint driven:
Strong fences
make good neighbors

Wherever chickens are outlawed, only outlaws will have chickens
The Birds
What kinds of chickens should I get?

Egg layers

Cross Breds

Pure Breds (Fancy Chickens)
Standard Breeds
Best Production Breeds

Eggs

Meat
Large Fowl vs. Bantams
Genetic Mutations
Commercial or Heritage?

Abbreviated Definition: A Heritage Egg can only be produced by an American Poultry Association Standard breed. A Heritage Chicken is hatched from a heritage egg sired by an American Poultry Association Standard breed established prior to the mid-20th century, is slow growing, naturally mated with a long productive outdoor life.

The American Livestock Breeds Conservancy, 2013
Breed Crosses

“Sex-Links”

Cross between two American Heavy Breeds
Poultry Management

Standard
Free Range
Pastured
Organic...
Important Note:

Free Range or Pastured ⇤ Organic

Organic means

- No synthetic feeds or additives
- Trace minerals and vitamins OK
- No or limited pharmaceuticals
- Vaccines OK
- Certain management conditions
  - Accommodate natural behaviors
- Density
- Outside
Management

What do birds need?

Feed
Water
Protection
Environment
Predators
Disease Causing Organisms

"Oh, not much, just re-evaluating the health benefits of living cage-free."
Obtaining Chicks

Feed store (mid March – mid May)
Ask for source

Mail order
Ask for Vaccinated Stock
NPIP
Pullets only

Hatch your own
Broody Hen or incubator

Male
Female
Requirements of brooding
Before placing birds

Bedding (litter)
Agricultural waste products

Characteristics of a good bedding.

2-4 inches on floor

Soft
Absorbent
Insulator
Doesn’t Pack
Non-Toxic
Inexpensive
Available

Shavings (soft wood)
Sawdust from sawmill
Chopped grass straw
Placing Chicks – Brooding
Heat

Warm-blooded (endothermic or homeothermic)

At hatch –

Incomplete homeotherms

Chicks require supplemental heat

3-8 weeks (depending on conditions)
Source of Heat

Most common

Heat lamps (high cost per bird)
Non-coated bulbs only
White vs. Red lights
Brooding Temperature Rule of Thumb

95 degrees start
lower 5 degrees per week
Heat Placement

Warm and Cooler areas
Containment

Chicks sometimes get lost

Corner Guards may be sufficient
Containment

Chicks sometimes get lost

Draft Shield (brooder guard)
How much heat?

Rule of thumb

95°F Start Drop 5°F per week
How much heat?

Chick Behavior

Too Cold
How much heat?

Chick Behavior

Too Hot

[Image of a thermometer and a person sweating, indicating 'Too Hot']
How much heat?

Chick Behavior

Too Drafty

XXX
XXX
How much heat?

Chick Behavior

Just Right
Brooder Setup
Feed and Water

Troughs

“Box Lids”

Quart and/or Gallon Jugs
How Much Feed and Water Space

So all can eat and drink at same time

Increase space with age and Bird size
Ventilation Exchanging air
Light
Color
Intensity
Photoperiod

Daylength or Day vs. Night

Hours of Light in 24 hours

Circadian Rhythms

Long days = Egg Production
Short days = No Egg Production

12 Hours
Light for Layers

Photoperiod most important for Layers

Keep them natural daylength until 17 to 18 weeks

Keep them on long daylength (> 12 hrs/day) for egg production
   Low intensity white light

Allow birds to pause/molt during 2nd winter
   Natural light mid Nov to late Dec (short days)
   Long days after
Natural Day Lengths
Grants Pass, OR

24 Hour Clock

Dawn

June 21
18 hours

Mar 18
12 hours

Sept 25
9 hrs 6 min

December 21
6 Hours

15 hr 15 min
Production cycles – natural light
Other Management Items

- Housing
- Nests
- Roosts
- Picking Control
- Coccidiosis
- Parasites
  - Internal *Worms*
  - External Mites and Lice
Nests

Concentrates eggs for collection
Keeps eggs cleaner

1 nest (1’x1’) for every 4 hens
Roosts

Concentrates night time droppings
Less stressful place for birds to sleep

18” – 36” off the ground
Enough space for all birds
Picking

Aggressive Behavior

Localized feather loss
Nearly always picking
Cold Weather can result in - Frostbite
Coccidiosis

Protozoal Disease – Emeria sp.
7 species of concern.

Treatment – Feed medicated feeds to young chicks.

Older birds – Drugs available – usually no necessary in older birds.

Prevention:

Management
Immunity
Worms and Worming

Round Worms

Tape Worms

Diagnosis:
- Apparently healthy
- Big appetite
- Thin birds

Treatment:
- Dibutyl dilaurate
- Piperazine
External Parasites

Mites
External Parasites
Lice
External Parasites Control
Feeding
Available Prepared Diets

- Starter
- Grower/Developer
- Layer
- Chick diet
- Juvenile diet
- Birds in production

Nutrient levels based on Species/Breed
Layers, Broilers, Turkeys, Gamebirds...

- Scratch*
- Oyster Shell
- Grit
- Corn/ Wheat
- Layer - shell quality
- “Teeth”

- Balanced diet
- All needs at proper levels

*Not a balanced diet
Form of Feed

Mash  Crumble  Pellet
Supplementing Prepared Diets
Water

Rule of Thumb

2:1 water to feed

Increases and decreases with ambient temperature
## Typical Pastured Diets

### (Salatin)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Meal</td>
<td>60.5%</td>
</tr>
<tr>
<td>Peanut Meal</td>
<td>11.5%</td>
</tr>
<tr>
<td>SBOM</td>
<td>6.6%</td>
</tr>
<tr>
<td>Roasted Soy</td>
<td>5.6%</td>
</tr>
<tr>
<td>Meat and Bone</td>
<td>6.9%</td>
</tr>
<tr>
<td>Fish Meal</td>
<td>3.9%</td>
</tr>
<tr>
<td>Alfalfa Meal</td>
<td>2.6%</td>
</tr>
<tr>
<td>Kelp Meal</td>
<td>1.5%</td>
</tr>
<tr>
<td>Brewer’s Yeast</td>
<td>0.67%</td>
</tr>
<tr>
<td>Probiotic</td>
<td>0.26%</td>
</tr>
</tbody>
</table>

### (Wieck)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triticale</td>
<td>69.8%</td>
</tr>
<tr>
<td>SBOM</td>
<td>24.9%</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>4.7%</td>
</tr>
<tr>
<td>Calcium</td>
<td>0.3%</td>
</tr>
<tr>
<td>Vit Pak</td>
<td>0.1%</td>
</tr>
<tr>
<td>XP4 Phosphorus</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
Pastured Poultry?

Most small flocks would be considered pastured!
What is Pastured Poultry?

Production of poultry so that they have ready access to pasture during their growth and production phase of life.
Further than “Free Range”

FREE RANGE or FREE ROAMING:
Producers must demonstrate to the Agency that the poultry has been allowed access to the outside

USDA (FSIS) Web site 2011
Some growers produce “Organic” Poultry

Others do not

USDA Organic Standard
What is the real difference?

Birds have more space
Fresh air and sunshine (rain)
After 3 weeks of age
  Clean bedding daily
  Grass, seeds, insects
What about Organic Poultry Production?
Organic Production must be Certified

Oregon Department of Ag
Oregon Tilth
Stellar Certification Services Inc.
Basic Process of Certification

Application
Inspection
Review by committee
Resolution
Certification
Fees

Variable

Several Hundred to Thousands
Organic Requirements

National Organic Standards
Basic Requirements

Origin of the birds

Poultry must be under continuous organic management beginning no later than the second day of life.
Basic Requirements

Feed
Organic livestock must be fed a total feed ration composed of certified organic feed, including pasture and forage.

Non-synthetic and synthetic substances allowed under § 205.603 may be used as feed additives and supplements.
Basic Requirements

Feed

Vitamins OK
Amino Acids Not OK
Basic Requirements

Health care practices
Preventative practices must be the primary practice,
Parasiticides may not be used on organic slaughter animals.

Antibiotics and hormones are prohibited.
Health treatments must be nonsynthetic materials, or synthetic substances as provided for on the National List under §205.603
Basic Requirements

Livestock living conditions — Organic livestock must have access to the outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment, including access to pasture for ruminants.
Results of Organic Production

Reduced Productivity
Increases Morbidity
Increased Mortality
Results of Organic Production

$99.00 on sale for $79.00
4lb carcasses = $6.58/lb
$14.94 shipping
Results of Organic Production

Reduced Productivity
Increases Morbidity
Increased Mortality
Processing
Processing

Necessary in both Egg and Meat Production

Prepares the product for sale to consumers

Considerations

Consumer

Legal Requirements
State Requirements for Egg Producers

Oregon

- Sell from home or delivery
- Nest run (not graded)
- No regulations

Washington

- less than 3000 hens
- no license
New Federal Regulations

Testing of facilities for S. e.

All flocks over 3000 hens
Consumer

Important Issues

Appearance

High quality

Safe

Food Borne Disease

(Salmonella, Listera, Campylobacter)
Eggs

Nest Clean Eggs are best

Provide one nest for each four hens.
Begin training the pullets to the nest before they start to lay.
Clean nests once a week.
Gather eggs twice in the morning and once in the afternoon.
Separate dirty and clean eggs at the time of gathering.
Eggs

Wash dirty eggs in water that is 110° to 120°F.

Do not soak eggs before or during washing.

Change the wash water after each 3 to 4 dozen eggs cleaned.
Eggs

Rinse each egg in clean water, dip in a sanitizer and air dry.

Keep eggs in a closed container in the refrigerator.
Meat Processing State Requirements

Oregon

Federal Exemptions Apply

20,000 chickens per calendar year (5,000 turkeys)
Processors own production
Sanitary Facility
Label properly
Sell in state
Meat Processing

Killing
Feather Removal
Eviscerating
Cleaning
Chilling
Packaging
Killing

Modified Kosher

Stunning
   Electric or other

Exsanguination
   Cut the jugular vein and carotid artery

Death from loss of blood (~50%)
Feather Removal

Dry or Wet Picking
- Dry – difficult; not suggested

Wet Picking
Scalding
- Temp. 125 (sub scald)
- 145 (semi scald)
- 160 (scald)

- Time
  - 30 to 60 seconds
    (till large feathers pull easily

- Agitate carcass in water to wet to the skin

- Add detergent to increase wetting power

- Pull feathers
Evisceration
Evisceration
Giblets, Chilling, Packaging
Mobil Processing