COMMUNITY DEVELOPMENT
Planning Department
2267 North 1500 West
Clinton City, UT 84015
Phone: (801) 614-0740
Fax: (801) 614-0752

Residential (Backyard) Chickens

NAME: _____

ADDRESS: _____

PHONE# _____ **E-MAIL:** _____

PROVIDED INFORMATION :

The following can be found within this packet: (please initial each item, indicating that you have read them)

- ☐ **Site Plan**, showing the following: (in relationship to property lines, Home on parcel & neighbors home)
  - ☐ Coop location & size (2 sq.-ft minimum per chicken)
  - ☐ Run location & size (150 sq.-ft maximum)
- ☐ I live in _____ zone.
- ☐ There will be _____ number of chickens
- ☐ **Ordinance 10-01Z, 15-10Z**
- ☐ **UCA 4-4**
- ☐ **UCA 4-29**
- ☐ **UCA Rule R58-6**
- ☐ Payment of appropriate fees, if any. (Check with the Community Development Department)
- ☐ The following are reference only and are not endorsed by the city:
  - ☐ Backyard Chickens.com (Coop designs)
  - ☐ Utah State University Extension Articles
    - ☐ Housing Backyard Chickens
    - ☐ Molting and Determining Production of Laying Hens
    - ☐ Principles of Feeding Small Flocks of Chickens at Home
    - ☐ Consideration in Raising Small backyard Flock of Poultry in Population-dense Communities.
  - ☐ Coming Home to Roost (Magazine Article)
  - ☐ Hands Off! (Magazine Article)

I HAVE READ THE INFORMAITON PROVIDED AND HEREBY CERTIFY THAT I UNDERSTAND ALL OF THE REQUIREMENTS OF RESIDENTIAL CHICKENS.

_____

Signature of owner or applicant

ORDINANCE NO. 10-01Z

CHANGE

AN ORDINANCE OF CLINTON CITY AMENDING THE ZONING ORDINANCE OF THE CITY OF CLINTON AS OUTLINED AND UPON FINDING AN EMERGENCY AND DECLARING THAT THIS ORDINANCE SHALL BECOME EFFECTIVE IMMEDIATELY UPON PUBLICATION AFTER FINAL PASSAGE AND POSTING.

WHEREAS, Clinton City has established an ordinance regulating zoning within the City, and

WHEREAS, Has determined that changes are needed in this ordinance to promote the health, safety, and general welfare of the citizens,

NOW THEREFORE, the City Council of Clinton City, Utah hereby adopts the following.

THE COUNCIL OF CLINTON CITY HEREBY ORDAINS.

SECTION 1.

ADD

2.02 Animal Unit (Agricultural & Residential) means the keeping of not more than the below-stated number of domestic animals:

1. One (1) head of: horse or cow; or
2. Three (3) head of: pig or sheep; or
3. Five (5) head of the following small, non-carnivorous animals: rabbits, hamsters, or other similar small animals.

[Pertains to Agricultural zones & residential lots larger than one (1) acre]

2.02 Fowl Unit (Agricultural) means the keeping of not more than the below-stated number of fowl:

1. Fifty (50) each of the following classes of fowl: chickens, pheasants, and pigeons provided that there may be a combination of said fowl but not to exceed 200 on residential lots of one acre or more. An additional 200 may be allowed on the lot provided they are under five months old. Or
2. Ten (10) each of the following classes of fowl: ducks, geese, and turkeys provided that there may be a combination of said fowl but not to exceed 20 on any lot of one acre or more, regardless of number of fowl units permitted thereon.

[Pertains to Agricultural zones & residential lots larger than one (1) acre]

2.02 Fowl Unit (Residential chickens) means the keeping of not more than six (6) chickens (hens only)

ADD

3.09 Special provisions relating to the keeping of animals and fowl

1. Animals and Agricultural fowl
   - A. All corrals, pens, feeding troughs, barns, stables and other similar buildings or enclosing structures shall be located not less than one hundred and fifty (150) feet from Public Street except on corner lots the setback from one street may be reduced to not less than seventy five (75) feet.
     - i. These types of building or structures shall be constructed of materials that are typically associated with the use. The architecture of these buildings shall be similar to the typically found throughout the state.
   - B. Temporary feeding troughs, i.e. those moved at least ten (10) feet from one location to another at not more that ten-day intervals may be located not closer that an fifty (50) from public street.

C. All such buildings, enclosing structures, pens, corrals, troughs and permanent concentrated feeding areas shall be located not less than one hundred (100) feet from all dwellings on adjoining lots and not less than thirty (30) feet from dwellings on the same lot.
[Pertains to Agricultural zones & residential lots larger than one (1) acre]

2. Residential Chickens
   A. All coops, and enclosed areas (chicken run) shall be located in the rear yard and shall be located not less than fifteen (15) from property line and not less than thirty five (35) feet from all dwellings on adjoining lots.
      i. Coops shall be a minimum of 2 sq.-ft per chicken
         (1) Coops shall be constructed of materials that are typically associated with the use and shall be predator-resistant, covered & ventilated.
      ii. Chickens shall be confined within a secure outdoor enclosed area. The enclosed area shall be no larger than 150 sq.-ft.
      iii. Chickens shall not be permitted to roam outside the coop or enclosed area.
   B. Chickens shall be rendered flightless, or the enclosed area shall be covered.
   C. Coops & Enclosed areas shall be maintained in a neat and sanitary condition and shall be cleaned as necessary to prevent any odor detectable at a property line.
   D. Feed shall be stored in and dispensed from rodent and predator-proof containers.
   E. Chickens shall be hens (female) no roosters (males) are allowed.
   F. Chickens shall not be kept on a residential lot or parcel unless the person keeping chickens first registers with the City.
      i. The registrant shall acknowledge the rules set forth in this section and shall, as a condition of filing the registration, agree to comply with such rules.
      ii. The cost of filing a registration shall be as shown on the consolidated Fee Schedule adopted by the Municipal Council
      iii. The registration shall be good for one (1) year and SHALL be renewed annually. Registration is due by April 15th.
   G. Violations are subject to provisions within this title.
   H. Chickens kept as provided in this section shall not be deemed to be household pets as defined in Section 2.02 of this title.
   I. Compliance with UCA 4-29 as well as rule R58-6.

AMEND
Table 14.2.7/8

Uses	R-1-6	R-1-8	R-1-8a	R-1-9	R-1-10	R-1-15
Raising, pasturing, and maintaining of not more than the following animal and fowl units for family food production or pleasure: 1 animal unit and 1 fowl unit for each one (1) acre in the lot up to a maximum of 5 animal and 2 fowl units.	P	P	P	P	P	P
Residential Chickens (see section 2.02)	N	N	N	N	P	P

FORMATTING OF SECTION AND SUB-SECTION DESIGNATIONS SHALL BE ADJUSTED TO MATCH THE EXISTING FORMAT OF THE ZONING ORDINANCE

SECTION 2. Severability. In the event that any provision of this Chapter is declared invalid for any reason, the remaining provisions shall remain in effect.

SECTION 3. Emergency clause. The council of Clinton City hereby declares that this ordinance is necessary for the immediate preservation of the peace, health or safety of Clinton City.

SECTION 4. Effective date. This ordinance shall become effective immediately upon publication after final passage.

Reviewed in a public hearing the 16th day of March 2010, by the Clinton City Planning Commission and recommended for adoption through a motion passed by a majority of the members of the Commission.

ANTHONY O. THOMPSON
CHAIRMAN

PASSED, ADOPTED AND ORDERED PUBLISHED by the Council of Clinton City, Utah, this 27th day of April 2010.

MAYOR L. MITCH ADAMS

ATTEST:

DENNIS W. CLUFF (CITY RECORDER)

Posted: April 28, 2010

ORDINANCE NO. 15-10Z

AN ORDINANCE AMENDING TITLE 28, CHAPTER 3 REGULATIONS APPLICABLE TO ALL ZONES

WHEREAS, Clinton City has an existing Title 28, Chapter 3 Section 9(2) Residential Chickens and (3) Household Pets and Title 28, Chapter 14 Table 14.2 Residential Zones clarifying regulations for keeping residential chickens; and,

WHEREAS, The City Council has found that changes are required to clarify regulations pertaining to residential chickens and household pets; and,

WHEREAS, Clinton City has an obligation to provide for the health, safety, and general welfare of its citizens.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF CLINTON CITY, DAVIS COUNTY, STATE OF UTAH:

BY MOTION The Clinton City Council voted to adopt this ordinance.

Paragraph 28-3-9(3)(f) reads, "A residence may have a total of six (6) small animals, in addition to the dogs and cats listed in subsection 1 above, or fowl customarily kept within the home, such as hamsters, guinea pigs, parakeets, canaries, etc. Said animals shall be for family use only and not raised for commercial purposes."

Paragraph 28-3-9(3)(g) reads, "Animals normally associated with being kept outdoors and/or normally associated with agricultural areas such as horses, cows, goats, sheep, pigs, rabbits, chickens, ducks, geese or other farm animals, shall not be allowed as household pets.

SECTION 1. Changes

ADD:
28-3-9(3) Household Pets

Paragraph (f) add rabbits [193]

"A residence may have a total of six (6) small animals, in addition to the dogs and cats listed in subsection 1 above, or fowl customarily kept within the home, such as hamsters, guinea pigs, parakeets, canaries, *rabbits*, etc. Said animals shall be for family use only and not raised for commercial purposes."

28-9-3(3) Household Pets

Paragraph (g) add, except for rabbits

"Animals normally associated with being kept outdoors and/or normally associated with agricultural areas such as horses, cows, goats, sheep, pigs, rabbits, chickens, ducks, geese or other farm animals, shall not be allowed as household pets, *except for rabbits."*

28-14 Residential, Single Family Table 14.2 USES, RESIDENTIAL ZONES

7. Residential Chickens (See 28-3-9(2)) add Permitted only on lots of 10,000 square feet and larger. (All chickens are registered at City) and change designated use in smaller residential zones to P for Permitted

7.	Residential Chickens (see § 28-3-9(2)) [170] *Permitted only on lots 10,000 square feet and larger. (All chickens are registered at City)*	~~N~~P	~~N~~P	~~N~~P	~~N~~P	P	P

SECTION 1. Planning Commission Action. Reviewed in a public hearing the 17th day of November 2015, by the Clinton City Planning Commission and recommended for (approval) (rejection) through a motion passed by a majority of the members of the Commission based upon the following findings.

- Proposed changes do affectively clarify the intent of the ordinance.

David T. Coombs
David T. Coombs, Chairman

SECTION 3. Severability. In the event that any provision of this Chapter is declared invalid for any reason, the remaining provisions shall remain in effect.

SECTION 4. Effective date. This ordinance shall be recorded and become effective upon the date of posting indicated below.

PASSED AND ORDERED RECORDED AND POSTED by the Council of Clinton City, Utah, this 8th day of December, 2015.

October 31, 2015
NOTICE PUBLISHED

L. Mitch Adams
L. MITCH ADAMS
MAYOR

ATTEST:

Dennis W. Cluff
DENNIS W. CLUFF
CITY RECORDER

Posted: 12/9/15

Utah Code
Title 4 Utah Agricultural Code
Chapter 4 Eggs

Section 1 Department to establish egg grades and standards.

4-4-1. Department to establish egg grades and standards.

The department shall establish grades and standards of quality, size, and weight governing the sale of eggs.

Section 2 Authority to make and enforce rules.

4-4-2. Authority to make and enforce rules.

The department is authorized, subject to Title 63G, Chapter 3, Utah Administrative Rulemaking Act, to make and enforce such rules as in its judgment are necessary to administer and enforce this chapter.

Section 3 Definitions.

4-4-2. Definitions.

As used in this chapter:
(1) "Addled" or "white rot" means putrid or rotten.
(2) "Adherent yolk" means the yolk has settled to one side and become fastened to the shell.
(3) "Black rot" means the egg has deteriorated to such an extent that the whole interior presents a blackened appearance.
(4) "Black spot" means mould or bacteria have developed in isolated areas inside the shell.
(5) "Blood ring" means bacteria have developed to such an extent that blood is formed.
(6) "Candling" means the act of determining the condition of an egg by holding it before a strong light in such a way that it shines through the egg and reveals its contents.
(7) "Mouldy" means mould spores have formed within the shell.

Section 4 Unlawful acts specified.

4-4-4. Unlawful acts specified.

(1) It is unlawful for any person to sell, offer, or expose any egg for sale for human consumption:
  (a) that is addled or mouldy or that contains black spot, black rot, white rot, blood ring, adherent yolk, or a bloody or green white, also called albumen; or
  (b) without a sign or label that conforms to the standards for display and grade adopted by the department.
(2) Nothing in this section shall prohibit the sale of denatured eggs.

Section 5 Maintenance of candling records -- Inspection of records.

4-4-5. Maintenance of candling records -- Inspection of records.

Every person who sells, offers, or exposes eggs for sale or exchange shall maintain candling records as prescribed by the department. All candling records shall be open for examination by accredited inspectors or representatives of the department at reasonable times.

Section 6 Retailers exempt from prosecution -- Conditions for exemption.

4-4-6. Retailers exempt from prosecution -- Conditions for exemption.

No retailer is subject to prosecution under this chapter if the retailer can establish that at the time the eggs were purchased the seller guaranteed that the eggs conformed to the grade and quality and size and weight stated in the purchase invoice and that the eggs were labeled for sale by the retailer in accordance with the purchase invoice; provided, that such guaranty by the seller does not exempt a retailer from prosecution if the eggs covered by the guaranty deteriorated to a lower grade or standard through some action or inaction of the retailer.

Utah Code
Title 4 Utah Agricultural Code
Chapter 29 Diseases of Poultry

Section 1 Department authorized to make and enforce rules.

4-29-1. Department authorized to make and enforce rules.

The department is authorized, subject to Title 63G, Chapter 3, Utah Administrative Rulemaking Act, to make and enforce such rules as it considers necessary for the administration and enforcement of this chapter.

Section 2 Restrictions on importation of chickens, turkeys, chicks, turkey poults, and hatching eggs -- Certificate to accompany shipment -- Disposition of nonconforming shipments.

4-29-2. Restrictions on importation of chickens, turkeys, chicks, turkey poults, and hatching eggs -- Certificate to accompany shipment -- Disposition of nonconforming shipments.

(1) No chickens, turkeys, chicks, turkey poults, or hatching eggs to be used for breeding purposes shall be imported to this state, or sold by hatcheries or others within this state unless they originate from flocks participating in the pullorum control and eradication phase of the National Poultry Improvement Plan, or the National Turkey Improvement Plan, or have passed a negative agglutination blood test for pullorum disease administered under the supervision of the department within 12 months prior to the date of sale.

(2) Baby chicks, turkey poults, or hatching eggs to be used for purposes other than breeding shall not be imported to this state, or sold by hatcheries or others within this state unless they originate from flocks participating in the pullorum control and eradication phase of the National Poultry Improvement Plan, or the National Turkey Improvement Plan, or have passed a negative agglutination blood test for pullorum disease administered under supervision of the department within 12 months prior to the date of sale.

(3) A certificate issued by the appropriate authority of the "state of origin" shall accompany each shipment of hatching eggs, baby chicks, poults, started chicks, started poults, or chicken or turkey breed stock imported to this state. The certificate shall specify that the contents of the shipment is free of pullorum or other poultry disease, the name and address of the consignee in this state, the name and address of the person who consigned the poultry for shipment, the name of the certifying authority in the state of origin, and the date the test or inspection for pullorum was performed by such authority.

(4) The department may seize and destroy any shipment of chickens, chicks, turkeys, poults, or hatching eggs transported into this state in contravention of this section without notice to the person who consigned the poultry for shipment to this state, or it may return the contents of the shipment to such person at the latter's expense.

Section 3 Results of negative agglutination blood test filed with department.

4-29-3. Results of negative agglutination blood test filed with department.

The results of each negative agglutination blood test for pullorum disease performed at a hatchery in Utah shall be certified and a copy of the test results filed with the department.

Section 4 Hatchery -- License required to operate.

4-29-4. Hatchery -- License required to operate.

No person shall operate a hatchery or offer any chicks, poults, or hatching eggs for sale in this state without a license issued by the department.

Section 5 License -- Application -- Fee -- Expiration -- Renewal.

4-29-5. License -- Application -- Fee -- Expiration -- Renewal.

Application to operate a hatchery or to engage in the business of selling chicks, poults, or hatching eggs shall be made to the department upon forms prescribed and furnished by it. Upon receipt of a proper application and payment of a license fee in an amount determined by the department pursuant to Subsection 4-2-2(2), the commissioner, if satisfied that the convenience and necessity of the industry and the public will be served, shall issue a license entitling the applicant to engage in the otherwise proscribed activity through December 31 of the year in which the license is issued. A hatchery license is annually renewable on or before December 31 of each year upon the payment of an annual license renewal fee in an amount determined by the department pursuant to Subsection 4-2-2(2).

Section 6 Enforcement -- Inspection of premises where poultry raised.

4-29-6. Enforcement -- Inspection of premises where poultry raised.

(1) The department shall have access to all hatcheries or other places in the state where poultry is raised for the purpose of inspecting the premises for conditions related to the control of pullorum or other poultry disease.

(2) If admittance is refused, the department may proceed immediately to obtain an ex parte warrant from the nearest court of competent jurisdiction to allow entry upon the premises for the purpose of making the inspection.

Utah Administrative Code

The Utah Administrative Code is the body of all effective administrative rules as compiled and organized by the Division of Administrative Rules (Subsection 63G-3-102 (5); see also Sections 63G-3-701 and 702).

Rule R58-6. Poultry.

As in effect on March 1, 2010

Table of Contents

R58-6-1. Authority.

Promulgated under authority of Section 4-29-1.

R58-6-2. Definition of Poultry.

Domesticated fowl, including chickens, turkeys, waterfowl, ratites, and game birds, except doves and pigeons, which are bred for the primary purpose of producing eggs or meat.

R58-6-3. Certificate of Veterinary Inspection.

All poultry and hatching eggs entering Utah must have a Certificate of Veterinary Inspection or a National Poultry Improvement Plan Certificate and an entry permit; except birds for immediate slaughter consigned directly to a licensed slaughtering establishment. For an entry permit, this number may be called during business hours: (801) 538- 7164.

R58-6-4. Pullorum-Typhoid Rating for Imported Poultry.

A. No poultry, hatching eggs or baby chicks shall be brought, shipped, or otherwise introduced into the State of Utah by any person, individual or corporation that does not originate from flocks or hatcheries that have a Pullorum-Typhoid Clean rating given by the official state agency of the National Poultry Improvement Plan (NPIP) of the state or country of origin, or

B. Poultry entering Utah from a flock or hatchery which does not have a clean rating through NPIP certification must have been tested negative for Salmonella Pullorum, Mycoplasma gallisepticum (MG),M. synoviae (MS), M. meleagridis (MM), within the last 30 days.

R58-6-5. Boxes, Crates and Containers.

Poultry or chicken boxes, crates and containers shall be new or disinfected before being used to move replacement birds into the State of Utah, except birds of the same and known health status as the previous shipment, and identified with a label cooperating in National Poultry Improvement Plan.

R58-6-6. Import Permit.

No permit shall be issued for importation until the Utah Department of Agriculture and Food receives responsible and complete information from the consignor that the birds to be imported would not present a disease hazard to Utah flocks.

R58-6-7. Quarantine of Diseased Poultry.

The Commissioner may quarantine diseased poultry, whenever any infectious or contagious diseases have been identified. The quarantine notice shall be posted in a conspicuous place on the outside of the coops and premises.

A. The coops and surroundings must be maintained in a sanitary condition.
B. No live poultry shall under any circumstances be removed from the quarantined coop or premises, except under permit from the State Department of Agriculture and Food or its authorized representative.
C. All dead birds shall be destroyed by burning or by being placed in a pit properly constructed for disposal of dead birds.
D. The attendant shall wear rubber footwear which shall be disinfected in a disinfectant recognized by U.S. Department of Agriculture each time before leaving the infected coops.
E. All crates, utensils or other paraphernalia used around the infected coops shall be thoroughly cleaned and disinfected before being removed from the infected premises; except egg cases and those are to be handled in such manner as may be designated by the attending veterinarian.
F. Truck drivers are forbidden to enter quarantined premises personally or with trucks.
G. No visitors will be allowed on infected premises.
H. All droppings and litter shall be buried or burned or thoroughly disinfected before being removed from the premises.
I. Vaccination shall be done by or under the direction of an accredited veterinarian only.
J. The quarantine shall be in effect until withdrawn by the Commissioner of Agriculture and Food or his designated agent.

R58-6-8. Cleaning and Disinfecting Feed Bags, Crates, etc.

A. Bags used for poultry feeds, mashes, etc., shall, before being filled at the mill or mixing plant, be cleaned and disinfected. All filth or litter shall be removed from them and the bags then disinfected with a disinfectant recognized by United States Department of Agriculture 9 CFR 1, 147.23, 24, and 25, January 1, 2001, edition.
B. Crates or other containers used for the transportation of poultry by any poultry producer or anyone buying and selling or otherwise transporting poultry shall be properly scraped, cleaned and disinfected with a disinfectant recognized by United States Department of Agriculture, 9 CFR 1, 147.23, 24, 25, January 1, 2001, edition, each time after being used.

R58-6-9. Handling or Disposal of Poultry Droppings and Litter.

A. Poultry houses and yards shall be maintained in a sanitary condition. All droppings and litter shall be cleaned regularly and disposed of either by hauling away and scattering over farm lands, or by burying or burning.
B. In case it is not practical to dispose of the droppings and litter regularly in the above manner, they shall be placed outside the coops and properly screened with fine mesh wire which will protect it from flies until it can be disposed of as provided in this rule.

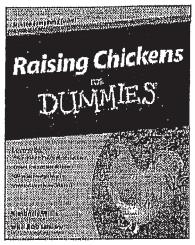
BackYardChickens.com

RISE the COOP

- Home
- Learning Center
- Coop Designs
- Breeds
- Message Board
- Online Store
- Image Gallery
- About Us
- Contact Us

Submit your E-Mail to subscribe to our newsletter

Submit



Like 1,719 people like this.

804 peeps in our chicke

Pic O

(Submitted b

From QuailQT - Dinah the 1 yr old White Leghorn

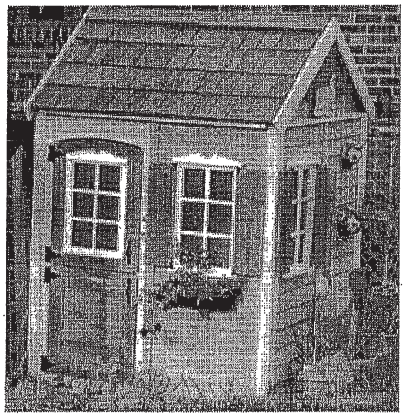
Welcome to BackyardChickens.com!

Established in 1999, BackyardChickens has become the #1 destination for the information you need to raise, keep, and appreciate chickens. Originally designed for the those wanting to raise urban chickens, we're here to help and support chickens in any backyard!

Is this your first time here? We suggest you begin your soon-to-be lifelong love of Backyard Chickens by visiting the pages below:

- Read "**Raising Chickens 101**" for the most basic information on why and how to raise chickens.
- Tour the **Learning Center** which has detailed information about raising your backyard flock, including information about chicken coops, hatching chicken eggs, feeding chickens, and chicken predators.
- Join our **Chicken Forum** with **THOUSANDS** of wonderful, friendly, and knowledgeable members! It's the best place on the web to get your chicken questions answered and share your experiences with an amazing community. -- **WARNING**-- The BYC Chicken Forum is VERY addictive!

Visit our **chicken coop** section!



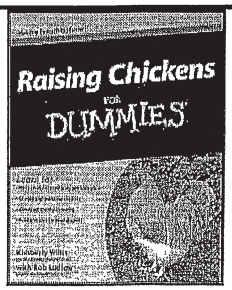
Recent Posts In Our Chicken Forum:

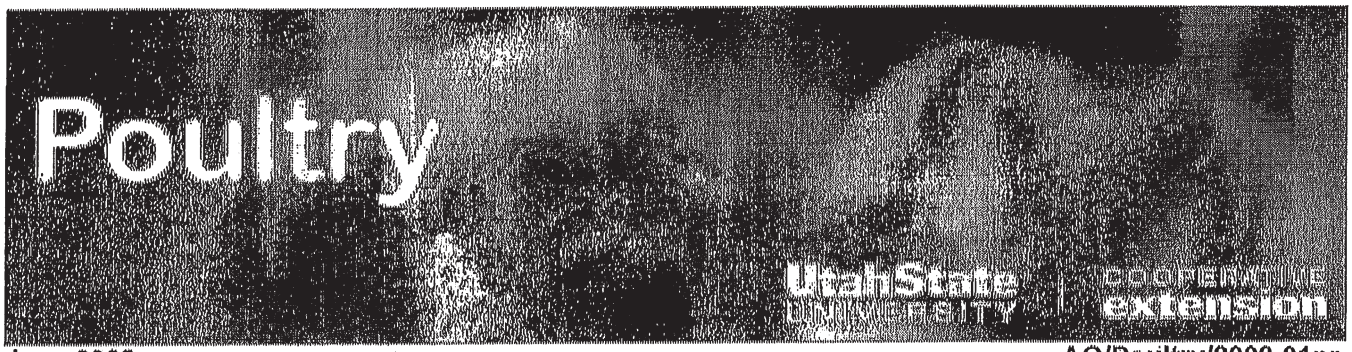
- Are there any books...?
- I'm afraid I'm about to have a predator probl ...
- Please help identify - just found in road
- Faverolles Thread
- Growing Up: Easter Egger
- Two things about silkies...
- abbreviations
- Help!!! Turkey has rotting feet!! Pic attached
- Need an intermediate between the storage tub ...
- Lavender Silkies?
- I had to do it
- Does like look like a resonable deal?
- New Chick- HAS SPOTS!! *PICS*
- Is my hen broody?
- Diagrams,poultry parts,charts, and some readi ...

Related Links

Chicken Coop
Backyard Chickens
Chicken House
Baby Chicks
Chicken Pens
Incubator
Organic Chicken
Poultry Equipment
Chicken Supplies
Chicken Recipe

Raising Chickens For Dummies - The Official Book Of BYC -





June 2008 AG/Poultry/2008-01pr

Housing Backyard Chickens

David D. Frame, DVM, Extension Poultry Specialist

Owning a small flock of chickens is increasing in popularity, particularly in areas where local ordinances prohibit larger domestic animals, but allow for birds and/or small animals. Chickens not only furnish a ready source of home-grown meat and eggs, but also provide great pleasure as exhibition stock and even as pets. The purpose of this fact sheet is to give an overview of basic housing principles for small flocks of chickens.

Objectives

Reasons for providing proper housing facilities for chickens include:

- Protection from predators;
- Protection from rain, snow, and other inclement weather;
- Protection from excessive heat and cold (i.e,. moderation of extreme temperature changes); and
- Provision of feed and water space and nesting facilities.

General Considerations

Chickens are very adaptable and no single best way exists to house them. Creative architectural construction may even be considered in building a "designer" chicken house in order to enhance the backyard landscape. Regardless of ultimate design, the following practical considerations should be observed. The building must:

- Be large enough for proper air circulation (i.e. ventilation) but small enough to keep from getting too cold and drafty in winter;
- Allow 1.5 to 2.0 ft^2 (0.14 to 0.19 m^2) floor space per adult chicken;
- Provide easy access to feed and water; and
- Provide nesting areas for hens in egg production.

Building Design

As previously mentioned, workable designs of chicken houses are highly variable and may even be extremely decorative in some cases. Many sites are available on the Web and in reference books that may help you in designing your facility. A few selected resources are listed here.

- ***House design:***
  - "How to Raise Chickens" by Christine Heinrichs, Voyageur Press. 2007.
  - ISBN-13: 978-0-7603-2828-6
  - Virginia Cooperative Extension: http://www.ext.vt.edu/pubs/poultry/factsheets/designs.html
  - University of Minnesota: http://www.ansci.umn.edu/poultry/resources/housing_small-scale.htm
  - Appropriate Technology Transfer for Rural Areas (Range poultry housing): http://ceplacer.ucdavis.edu/files/46820.pdf
  - The Bantam Roost, "A Small Hen House": http://www.geocities.com/Heartland/Plains/4175/henhouse.html

- ***Energy management and solar heating concepts:***
  - http://www.ces.purdue.edu/extmedia/AE/AE-99.html

Ventilation Basics

In order to provide a comfortable building for chickens, it is necessary to keep in mind a few basic concepts regarding ventilation:

- Warm air rises and cooler air, being heavier, settles to the floor. Adequate air circulation and exchange is necessary to keep different air temperatures from stratifying and air from becoming stale.
- Warm air holds more moisture than cold air. For every 18°F (10°C) increase in air temperature, its water-holding capacity doubles. This concept is important in managing potential moisture buildup, particularly in well-insulated, tightly-sealed chicken houses.
- Ventilation needs in summer are different than in winter. During summer, warm stale air must be removed, allowing fresh air to enter and circulate. During cold seasons, only enough cold outside air should be allowed in for adequate air exchange. It is preferred to bring this air in from near the roof of the building which allows it to warm as it drops towards the floor. This colder air will warm (by the birds' own body heat and/or with additional heaters) and pick up moisture. A method must be available to vent this air from the building allowing the cycle to continue. (Refer to Figures 1 and 2 for summer and winter ventilation concepts.)

Figure 1. Concept of summertime ventilation.

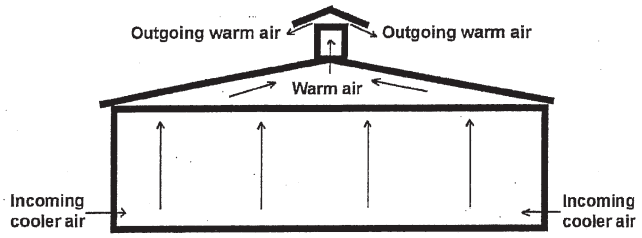
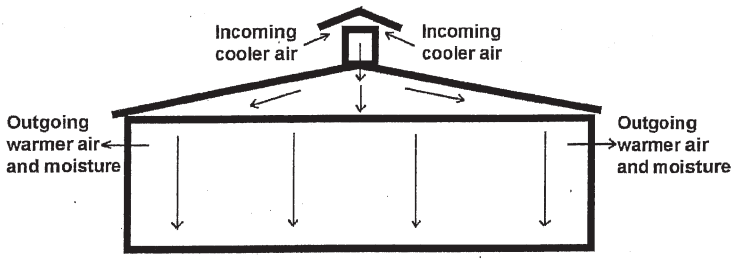


Figure 2. Concept of wintertime ventilation.



In small chicken houses, these factors can generally be sufficiently controlled without employing power ventilation (i.e. fans). The judicious and well-placed use of windows and vents will usually suffice. During summer, natural convection and/or gentle breezes will usually be adequate to drive air out the upper vents, or cupola, and bring in fresh air through windows or lower vent openings. Place upper vent openings on the side opposite of wind direction (i.e. leeward side).

Perches

Although not mandatory, it is usually a good idea to provide perches for your chickens. Perches will allow birds to stay off the floor – particularly as they roost at night. Most breeds seem to enjoy spending time on perches. Manure will tend to accumulate in greatest concentration under the roost area, thereby helping to keep the rest of the bedding material in the house cleaner. A good rule of thumb is to allow 6 to 10 inches (15 to 25 cm) of linear perch space for each chicken housed.

Perches should be located in an area of the house that will not interfere with daily chores such as feeding, watering, and egg gathering. Construct the perches so they are removable or are hinged for lifting out of the way for easier cleanout of manure. It is worth the extra effort to build them right in the beginning – it will save

you a lot of time and effort during house cleanup. Perches should not be more than about 3 feet (0.9 m) off the ground; otherwise, there may be an increased tendency to bruise feet or cause egg rupture as the hens mount the roost. Plan at least 12 inches (30 cm) clearance under the perches; final height and dimensions will depend on individual building design and convenience of being able to clean out the manure underneath them.

Any suitable building material may be used to construct perches: 2 x 2 inch (5 x 5 cm) material with rounded tops is ideal. Space the perch bars 14 inches (36 cm) apart.

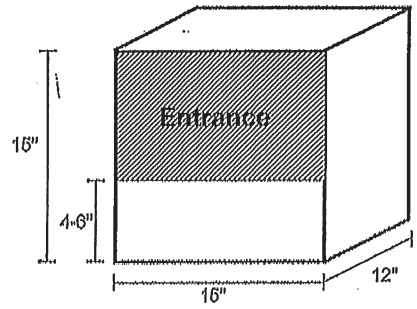
Nest Boxes

Nest boxes are essential furnishings of any hen house because she will seek a secluded place to lay her eggs. Properly constructed and maintained nest boxes provide a clean environment for laid eggs and facilitate gathering them. Also, nests make it easier to identify and remove "broody" hens. (A broody hen is one that has ceased laying eggs and desires to raise a clutch of chicks. She will remain in the nest box for prolonged periods, become territorial, and not allow entry of other hens needing to lay eggs.)

Again, there are no hard and fast rules for nest box construction. Commercial boxes are available from various retail sources or you may wish to construct your own. Nest box height and width should be 12 to 15 inches (30 to 38 cm); depth should be least 12 inches (30 cm). Figure 3 illustrates a generic nest box design that is functional for most applications.

- One next box is required for each four to five hens.
- Place nest boxes no less than 18 inches (46 cm) off the floor.
- A front panel, 4 to 6 inches (10 to 15 cm) high, is necessary to provide seclusion and keep eggs from rolling out of the nest.
- A perch may be attached to each box, running parallel to the front of the box and located 6 to 8 inches out, to facilitate access.

Figure 3. Generic nest box design.



Predator Control

- Maintain a rodent control program around the poultry house. An excellent fact sheet on rodent control is found at http://osuextra.okstate.edu/pdfs/F-8207web.pdf
- When building the floor, integrate heavy-gauge wire mesh beneath the subflooring to discourage entrance of predators.
- Cover windows and vent openings with good quality poultry wire to keep out birds.
- Make sure doors and windows fit tight. Caulk and seal all cracks and crevices. Small rodents can gain entry through holes the size of a nickel or quarter.
- Keep the poultry house locked to discourage theft and uninvited visitors.

Additional Housing Considerations

- Allow adequate space within the structure for feeders and waterers. (Feeding and watering equipment not discussed in this fact sheet.)
- Position equipment for ease of cleaning, egg gathering, and general upkeep.
- Before beginning to build, consider anticipated high/low temperatures, potential snow load, other environmental conditions, and local ordinances.
- For specific recommendations in your area, contact your local county agent or Extension poultry specialist.

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Molting and Determining Production of Laying Hens

David D. Frame, DVM, Extension Poultry Specialist

EVALUATION OF HENS IN PRODUCTION

A frequently asked question from agricultural Extension agents is, "How can I tell if hens are in egg production?" Although there are numerous publications treating this question in profound depth, the purpose of this fact sheet is to provide agricultural agents as well as the inquisitive small flock owner with a brief synopsis that will serve as a helpful guide. Besides the obvious presence or absence of eggs in the nest, the status and duration of egg production in chickens can be evaluated by:

- Pigmentation
- Body condition
- Condition and state of feathering

Each of these criteria will be discussed in subsequent sections.

Pigmentation

Genetically predisposed yellow-skinned chicken breeds (e.g., Mediterranean and Continental) fed a diet containing xanthophyll will exhibit a yellow color to fat, skin, beak, legs, and feet. Xanthophyll, a carotenoid pigment, is found in feed ingredients such as corn, alfalfa, and corn gluten meal. When consumed, this pigment is transferred to the tissues, thus imparting the yellow color. This same pigment is also responsible for the yellow color of egg yolk. When in egg production, the hen will preferentially deposit the pigment into the yolk rather than transferring it to other parts of the body. As production progresses, the yellow areas of the body will gradually be replaced by non-pigmented tissues. This gain and loss of body tissue pigmentation is a valuable tool in assessing the lay status of these hens. (The following pigmentation guidelines do not apply to genetically white-skinned breeds, such as Dorking, Sussex, and Orpington, because no yellow pigment is deposited in the tissues.)

Laying hens will lose their yellow pigmentation in the following order as egg production progresses:

- Vent (orifice from which eggs are deposited)
  . . .fades soon after egg production begins.
- Eye ring (inner edges of eyelids)
  . . .loses pigment a little slower than vent.
- Beak (starts fading at base first)
  . . .totally faded beak indicates approximately 4 to 6 weeks into production.
- Bottom of feet
  . . . fades sometime between about 8 to 12 weeks into production.
- Shanks
  . . . a totally depigmented shank is usually a sign that the hen has been in sustained egg production for at least 15 to 20 weeks.
- Hocks and upper side of toes
  . . . these areas are the last to lose yellow pigmentation.

Approximate time in lay can be estimated by observing the successive loss of pigment in body parts. For example, a hen with an entirely bleached beak but pigment still on the feet and legs will have been in egg production for about 4 to 6 weeks. After the hen has ceased laying, pigment will reappear in the same order (i.e., vent first, then eye ring, base of beak, etc.). Consequently, length of time since cessation of egg

production can be estimated by the location of reappearing pigment. Note that pigment will come back about twice as fast as it bleaches out.

Body condition

High producing hens will have a tendency to lose body weight as sustained egg production progresses. Formation of the egg takes priority over fat deposition. During the rest period between clutches of eggs, the body will be rejuvenated by the loss and replacement of feathers (i.e. molting) and by gaining back optimal body weight. This is dependent, of course, on the birds receiving proper nutrition.

Other body indications of egg production status:

- Comb and wattles (red appendages on head and neck)
  . . . bright red and turgid in hens in production; shrunken and pale in non-producers.

- Vent
  . . . soft and pliable in hens in production; shrunken and dry in non-producers.

- Area between pelvic bones just below the vent*
  . . .In a non-producer, it is only possible to insert one or two fingers between the bones; a mature hen in production will generally allow sufficient room for the insertion of three to four fingers.

*Guideline for standard-sized fowl.

Figure 2. Hen early in the egg production cycle. Note extensive yellow pigmented shanks and toes.

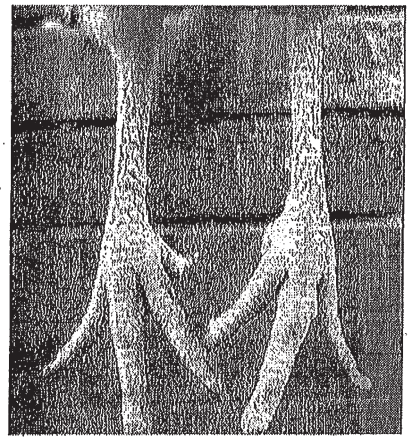


Figure 3. Shanks and toes of a hen that has been in egg production greater than 20 weeks. Note the extensive loss of pigment.

Figure 1. Non-layer (left) vs. hen in production (right). Compare eye ring and beak color, and comb and wattle size.

Figure 4. Pelvic spread in a non-layer (two fingers in width).

Figure 5. Pelvic spread in a hen in production (four fingers in width).

Feather condition

Molting refers to the orderly loss and replacement of feathers. This generally occurs once per year (normally in the fall) in mature chickens. Feathers are molted in the following order:

- Head
- Neck
- Body (includes breast, back, and abdomen)
- Wings (Primary wing feathers will begin to be shed before secondaries. Primaries will be lost sequentially from innermost #1 to outermost #10.) (See Figure 1.)
- Tail

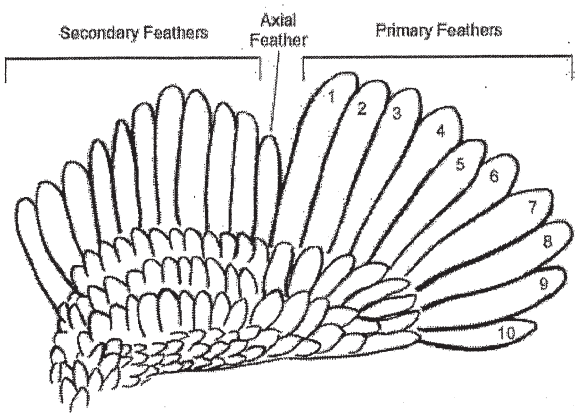


Figure 6. Upper side of left wing

Condition of the feathers can reveal a lot about the production status of a hen. As the season progresses, feathers will become worn and ragged. High-producing hens will often have an unkempt appearance late into the fall after the normal time when molting should take place. Feathers become worn because they have not yet been replaced. This is caused by persistent egg production, which takes priority over feather replacement.

Keep in mind that the shedding and growing of feathers is a dynamic process. Feathers in some areas will be growing back as others are being lost in other parts of the body. As a general rule, hens will not molt until they have ended their egg-laying cycle (i.e., "clutch"). However, high-producing strains, and even certain individual hens, may tend to continue to lay and molt at the same time, but only if they can maintain their body weight. Both laying eggs and molting require a huge amount of energy, which is the reason it is difficult to do both at the same time. If egg production continues as molting proceeds, the molting process will take longer.

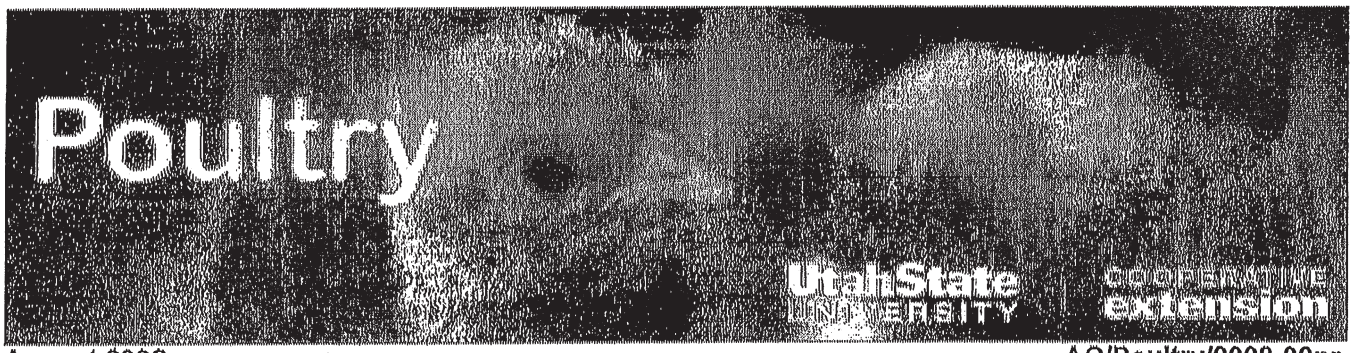
SUMMARY

The ability to determine the lay status would be helpful in small flocks where the owner might be interested in assessing and culling individual hens.

The importance of feather loss and regrowth is to be aware that 1) feather condition is often an indicator of egg-laying status and 2) the molting process requires focused energy. Hens must periodically replace their plumage and regain adequate body weight in order to keep healthy and prepare for the following egg producing season. A properly rejuvenated hen will produce eggs at her optimum rate once she comes back into production.

Although there is variation between breeds and strains of chickens, and even in individual hens of the same breed, the information in this fact sheet serves as a guide to better understand and evaluate the status of egg production in the domestic fowl.

Photos courtesy of Mark C. Bland, DVM



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Principles of Feeding Small Flocks of Chickens at Home

David D. Frame, DVM, Extension Poultry Specialist

Owning a small flock of chickens is increasing in popularity, particularly in areas prohibiting the raising of larger domestic animals. Chickens not only furnish a ready source of home-grown meat and eggs, but also provide great pleasure as exhibition stock and even as pets. Additionally, helping to raise a small flock of chickens gives children an opportunity to develop a sense of responsibility and learn basic management skills. The purpose of this fact sheet is to give an overview of feeding and nutrition principles for chicken owners.

Growth ability and performance of chickens is determined by genetics. Environment dictates whether they reach their full genetic potential and proper nutrition plays a critical role. It is important to remember two things when feeding chickens:

- A chicken will only grow and perform to the extent it receives proper nutrition.
- A chicken cannot grow beyond its maximum genetic potential.

Develop an Optimal Nutritional Program

Don't forget the water. . . .

It must be kept in mind that the nutrient consumed in the greatest quantity by a chicken is *water*. A direct relationship exists between the amount of water a chicken drinks and the amount of feed consumed. If inadequate water is available, not only will chickens cease eating, but there will also be a negative effect on egg production and growth.

Although types and designs of drinkers vary, the fact that fresh clean water must be present at all times should never be forgotten.

A popular fountain-type drinker is shown in Figure 1. Fountain drinkers have the advantage of being affordable and can easily be moved around; however, because the reservoir holds only a finite quantity of water, it is necessary to watch carefully that they don't become empty. Water should be changed frequently in order to prevent bacterial growth, over-warming (in summer), or freezing (in winter).

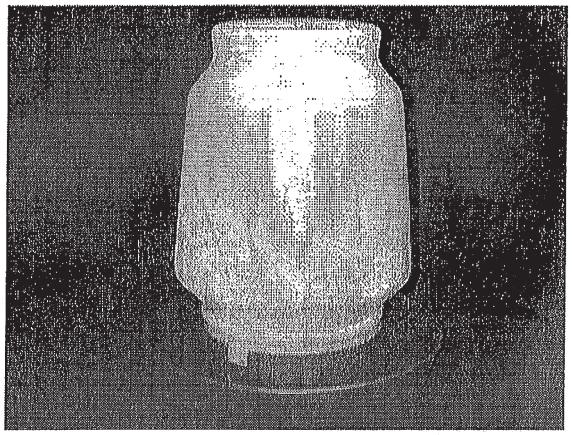

Figure 1. Fountain-type drinker. This particular model holds 1 gallon of water. Each drinker will provide enough daily water for 12 to 15 adult chickens during cool weather and 6 to 12 during hot weather.

Always provide at least two or three additional drinkers in excess of the estimated water consumption capacity for the number of birds in the chicken house. This provides a buffer for a short term water supply in the event of spillage or leakage. Also, it offers an opportunity for the more timid birds in the flock to satisfy their water needs without having to compete with more aggressive individuals for drinker space. When planning number of drinkers to place in the chicken house, consider that in cool weather each adult chicken will consume about 0.05 to 0.08 gallon per day; in hot weather, about 0.08 to 0.16 gallon.

Other types of watering systems include continuous flow troughs and reduced water pressure bell-type drinkers suspended from the ceiling that are hooked up to a pressurized water line.

The advantages of a continuous flow water system are that it won't freeze and there is a continual supply of fresh water. Acquiring such a system may be difficult, however, and because there is a continual flow of water, the cost and waste will usually be prohibitive for small flocks. Some sort of drainage system for the unused water would also be necessary.

A properly constructed bell-type drinker system provides a continual source of water, but is usually more appropriate for larger operations (Figure 2). A dedicated water line with a pressure regulator is needed, and the initial equipment cost is much greater than the stand-alone fountain-type drinkers.

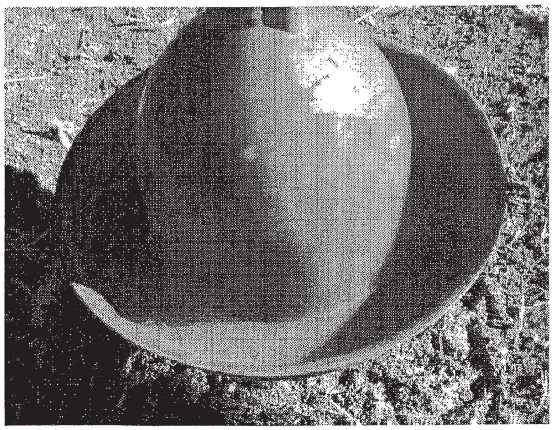

Figure 2. Bell-type drinker supplied by a low pressure water line.

Quality of Feed Is Important

Feed quality will affect feed consumption. Ensure that the feed is not stale, rancid, or moldy. Immediately remove obviously moldy, rancid-smelling or any other questionable feed. Such feed will, at best, not be eaten; and at worst, cause disease or nutritional deficiencies if consumed. Always store feed away from heat, moisture, and direct sunlight. Purchase feed as fresh as possible. Vitamins will start to degrade if finished feed is stored for prolonged periods. Plan your schedule so that new feed is purchased at least every two months and check for a recent manufacturing date on the bag before buying.

No one feed ingredient contains all the nutrients required for a complete diet. Some ingredients are rich in one nutrient, but may lack in another. For example, soybean meal is rich in protein but contains relatively little energy from carbohydrates, while corn is high in carbohydrates (i.e. energy) but is a poorer source of protein. Together they complement each other in the complete feed. Each feedstuff has a place in a balanced diet.

There are five basic classes of nutrients needed. Table 1 lists the nutrients and gives examples of common feedstuffs supplying them.

Table 1. Classes of nutrients necessary for poultry and examples of feed ingredients in which each is found.

Nutrient	Feed ingredients
Carbohydrates (supply energy)	Corn, sorghum, wheat, other grains
Protein sources (supply amino acids)	Soybean meal, meat products, canola meal, fish meal
Fats (supply energy)	Vegetable oil, tallow, blended fat products
Minerals	Salt, limestone, calcium carbonate, calcium phosphate, oyster shell, commercial trace mineral mix
Vitamins	Commercial vitamin mixes, feedstuffs

These ingredients are mixed in different proportions and sold in the form of a mash, pellet, or crumble. Mash feed consists of all ingredients ground into particles and mixed loosely together.

Pelletized feed is mash that is held together with a binder and then heat-treated, extruded, and cut into various lengths and diameters depending on the type of feed produced. Crumbled feed consists of pelletized feed broken down into smaller pieces.

A chicken will stop eating once a certain quantity of energy has been consumed in a day. This will happen even if the bird has not ingested enough protein or vitamins. Therefore, the energy concentration needs to be in balance with the other nutrients in the diet. Commercial diet formulations take this into account. Because of the complex nature and expense involved in properly formulating and mixing poultry diets, it is highly recommended that feed be purchased from a reputable manufacturer and not attempted to be made at home. Even with increasing feedstuff prices, it is much more productive in the long run to feed your chickens high quality commercial feeds rather than skimping on cost or concocting homemade recipes.

Practical Styles of Feeding Systems

Feeders come in a wide array of sizes and designs from egg carton lids for starting newly hatched chicks to sophisticated automatic adult feeding systems. A practical trough feeder for starting off young chicks is shown in Figure 3. Bucket feeders (Figure 4) of various sizes are popular and appropriate for both growing and adult chickens. The advantage of bucket feeders is that they can store a few days' worth of feed, thereby alleviating daily hand feeding; however, care must be taken not to let old feed accumulate in them and become stale and moldy. Clean and brush out often. Use the appropriate size of bucket feeder for the class of poultry being raised. Using too large feeders with chicks will prevent them from being able to reach the feed. Also chicks might get inside the lip of the feeder and not be able to get back out. Using feeders with too narrow of a lip for adults birds will cause excessive waste of spilled feed into the litter (see Figure 4). Feeders should be raised off the ground, and generally positioned level to the mid to upper breast region of the chickens being fed.

A good rule of thumb is to allow 1 linear inch of feeder space per chick and 2 to 3 linear inches per adult chicken.

Always keep feeders in an area – preferably inside the chicken house – where the feed is protected from moisture, wild animals, and free-flying birds.

Figure 3. Small trough feeder sized for feeding young chicks.

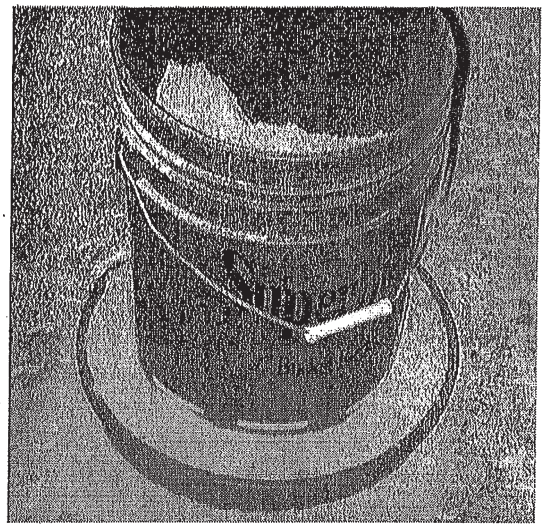

Figure 4. Example of a bucket-type feeder of a suitable size for chicks and smaller adolescent-age chickens.

It is counterproductive to "unbalance" a balanced diet by including questionable supplements.

Commercial feed purchased from a reliable dealer, has all the nutrients chickens need to grow and thrive. If you have a good diet that fulfills all of the dietary needs, do not alter it. Usually a little more of a good thing will upset a balanced diet. A balanced approach to nutrition is the key to optimal growth and performance.

Common mistakes made with supplements:

- Giving vitamins and electrolyte supplements for more that 10 days.
- Supplementing complete feeds with cracked corn, oats, or other grains.
- Regularly adding green chops, lettuce, or other low nutrient ingredients to the diet.
- Administration of inappropriate or unnecessary medication.

It's OK to let your chickens forage around for bugs and greens, but always provide them access to the appropriate type of formulated balanced feed as well. Totally "free-ranged" poultry will rarely be able to consume a proper balance and quantity of nutrients necessary for maximum capable rate of meat and egg production.

Table 2. General feeding schedule for various classes of chickens*.

Meat-type strains (Commercial-type broilers, roasters, "Cornish-Rock" crosses)	
0-2 weeks	22-24% protein chick starter
2-4 weeks	20-21% protein grower
4 weeks to market	18-20% protein finisher
Layer strains (Commercial-type leghorns, brown egg layers)	
0 to 6 weeks	20-21% protein chick starter
6 to 10 weeks	16-19% protein pullet grower
10 weeks to prior to Egg production	5-17% protein pullet developer
At onset of egg production	16-18% protein layer diet**
Dual-purpose breeds (Plymouth Rock, Rhode Island Red, New Hampshire, etc.)	
0 to 6 weeks	20-21% protein chick starter
6 weeks to prior to egg production	15-19% protein pullet grower/developer
At onset of egg production	16-18% protein layer diet**

*These recommendations are based on common protein levels for feeds available in most local feed stores. It is assumed that the finished feed is balanced for energy, vitamins, and minerals in relation to specific protein content.

**Do not feed a layer diet to chickens not in egg production (too high in calcium).

Feed Consumption Guidelines

There is great variation in feed consumption patterns of chickens depending on breed, feed source, and environmental conditions. The following information, however, serves as a guide in estimating feed consumption for large fowl breeds of poultry.

Commercial egg-type

- Feed/pullet – hatch to ready-to-lay (18 to 21 weeks): 13 to 15 lbs
- Layer – daily intake/hen: 98 to 107g (22 to 24 lbs/100 hens)
- Plan on higher consumption than this for non-commercial strains and non egg-type breeds.

Commercial meat-type

- Feed/bird – hatch to market age (about 7 weeks). . . . . 12.5 to 18 lbs
- Feed conversion (lbs feed/lb gain) 2.5 to 2.7
- Heavy standard-bred breeds will eat more feed than this guideline because of a tendency toward less efficient feed conversion.

As these basic nutritional principles are followed, your chickens will thrive and provide you with great enjoyment. For specific recommend-dations, contact your local county agent or Extension poultry specialist.

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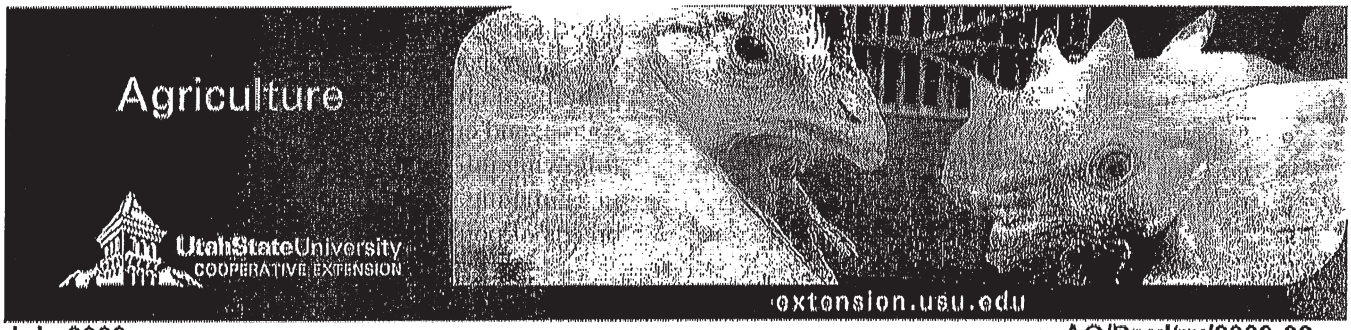

July 2009 AG/Poultry/2009-02pr

Considerations in Raising Small Backyard Flocks of Poultry in Population-dense Communities

David D. Frame, DVM, Diplomate ACPV
Extension Poultry Specialist

During these times of economic challenge many people are considering raising a few chickens in the backyard to augment their food supply. This has raised numerous questions ranging from how to feed chickens to addressing local animal-keeping ordinances. Often, the answers are a work in progress for many communities. The following considerations should be taken into account.

Science-based Education Is Critical

Be cautious of advice from self-proclaimed "experts" or people with informal training who attempt to fill a perceived educational niche. Many would-be poultry raisers are novices or first time owners. Learning how to do things correctly from qualified science-based sources is paramount in order to be successful. Optimal decision-making must be based on facts – not hearsay or folktales. Utah State University Cooperative Extension offers research-based education in small flock poultry raising. County agents and an Extension poultry specialist are available to educate groups and community leaders in poultry health and management issues. Fact sheets are also available on line:
http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-01pr.pdf
http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-02pr.pdf
http://extension.usu.edu/files/publications/publication/AG_Poultry_Health_Biosecurity_01.pdf

Effects on the Economy

The commercial poultry industry contributes a significant and vital part to the agricultural economy of the U.S. Anything that jeopardizes the viability of this industry also jeopardizes the economic health of Utah. It is important that these commercial flocks be protected from serious diseases that would decimate this sector of Utah's economy. An upsurge in number of small backyard flocks, particularly if not properly managed, might significantly increase the probability of disease exposure to the commercial industry. Past history has shown that diseases such as exotic Newcastle disease (END) can become present in the small flock poultry community. Exotic Newcastle disease can cause tremendous poultry death in both the small backyard flocks and in large commercial poultry operations. The discovery of END, for example, will have devastating economic consequences from death loss as well as the loss of trade with other countries.

Community Impacts

The local community may experience unanticipated impacts from an abrupt unregulated increase in backyard poultry keeping. Any potential undesirable repercussions can be minimized through recognition and well thought out planning to ensure that all remain good neighbors.

Noise: Hens are quieter than roosters. There are no practical or humane methods to "de-crow" a male fowl. It takes experience and knowledge to properly identify the gender of young chicks. Your local farm implement store may not be able to provide this service reliably when chicks are purchased. Be prepared to cull roosters as the chicks mature. Hens do not need a rooster present in order to lay eggs.

Mixing of species. It is extremely risky to raise multiple species of poultry and waterfowl on the same premises – particularly if there is chance of exposure to wild birds. This is how many deadly poultry diseases get started, such as END or avian influenza ("bird flu").

Zoning. Some municipalities do not allow the raising of poultry or have strict ordinances that restrict this activity. Check with your city or county office to determine if there are specific regulations or restrictions that might preclude keeping poultry on your property. Along with city or county ordinances, some communities or subdivisions have rules or "covenants" that restrict the raising of poultry. Be sure to check if your domicile is in one of these.

Animal control. Chickens are no respecters of property lines. They are prone to wander at will into neighbors' yards and gardens. Remember chickens can also fly. To minimize the impact on neighbors, enclosures should be considered that properly restrain poultry and confine them to your property.

Animal waste. In many instances, used chicken litter can be incorporated into the garden soil or composted; however, improper composting or storage may create excessive odor and fly problems. Proper composting requires careful management of moisture, aeration, and temperature. Allowing chickens to superficially scratch through a pile of manure is not sufficient for optimal composting to occur for a number of reasons. There are many Extension publications from various universities addressing the issue of general composting techniques. These should be thoroughly perused during any decision-making process.

Disposal of deceased and spent fowl. It is important to realize that chickens have a relatively short life span. The productive life of a hen is about three to five years. Baby chicks soon grow up to be adult chickens and adult chickens end up as old chickens. Community leaders need to seriously address the issue of bird disposal. Do local ordinances allow birds to be buried on the premises or composted on-site or taken to the landfill?

Human health. Although in most circumstances chickens pose a relatively low risk of giving disease to humans, there are a few that can be transmitted back and forth. Proper care and handling of eggs and processing of poultry carcasses are critical to avoid problems. Appropriate disposal of dead birds and used litter are also important.

Mice thrive in areas where chicken feed is improperly stored and excessive spillage occurs. Rats could become a problem in excessively wet areas or where water leaks occur. Feed should never be sprinkled into the litter or floor of poultry houses. This only encourages rodents to hang around the coops. Feed is to be properly dispensed in hanging hoppers that limit access to marauding rodents. Also, unused feed should be stored in closed containers in a cool area. A rodent control program of bait feeding and/or trapping should be mandatory in addition to all other precautions.

Animal Welfare

Proper care and feeding. It is imperative that poultry owners learn and implement proper care of their birds. Inhumane practices such as denying poultry access to water or a protected coop during hot days or during inclement and cold weather are intolerable. Many would-be poultry owners may never have raised chickens or farm animals before. They may not realize what the proper care and feeding of poultry entails. Birds are to be provided with a proper diet at all times and not left to fend for themselves. Enough space must be provided to adequately accommodate the number of birds kept. This is where appropriate science-based education becomes indispensible.

Enforcement of noncompliance. If some type of local poultry permitting program is practiced, will there be sufficient funds and personnel to carry out the program? Does the community have the adequate resources and personnel to deal with people who break the rules or handle poultry in cruel or inhumane ways?

Protection from predators and disease. Chickens are to be enclosed in a coop at night to protect them from predators. Although the debate could go on *ad infinitum* as to what the optimal construction should be, common sense is usually adequate. Doors should tightly close, glass or strong plastic windows should be used, and a solid floor should be in place. Periodic

inspection around the coop will indicate if varmints are trying to enter. Then take care of the varmint problem.

Outside runs need to be covered with good quality wire or roofing that will keep out wild birds and keep the chickens inside. Many people might find this a serious inconvenience, but it is imperative! Wild birds can carry diseases that could kill their birds or set up a reservoir of infection that could get into the area's commercial poultry industry with devastating consequences. This is a risk that any responsible community governing body should not take. The satisfactory demonstration of properly enclosed and restrained chickens should be a mandatory requirement in any permitting process.

Disease transmission. Chicks must be purchased from sources certifying that they are free from specific diseases. Certain species of poultry can carry organisms that may do little harm to them but could cause devastating disease in another species. Mixing of species, such as ducks and chickens or chickens and turkeys increases the potential infection and spread of avian influenza (bird flu). Raising chickens and turkeys together could cause devastating disease in the turkeys. It is important to understand the nature of poultry diseases and how to deal with them. Contact your local veterinarian or Extension poultry specialist for further information on disease transmission and optimal biosecurity practices.

Visit these Web sites for other important information:
http://extension.usu.edu/files/publications/factsheet/AG_poultry_2005-01.pdf
http://www.aphis.usda.gov/animal_health/birdbiosecurity/
http://ag.utah.gov/divisions/animal/health/index.html#avianHealth

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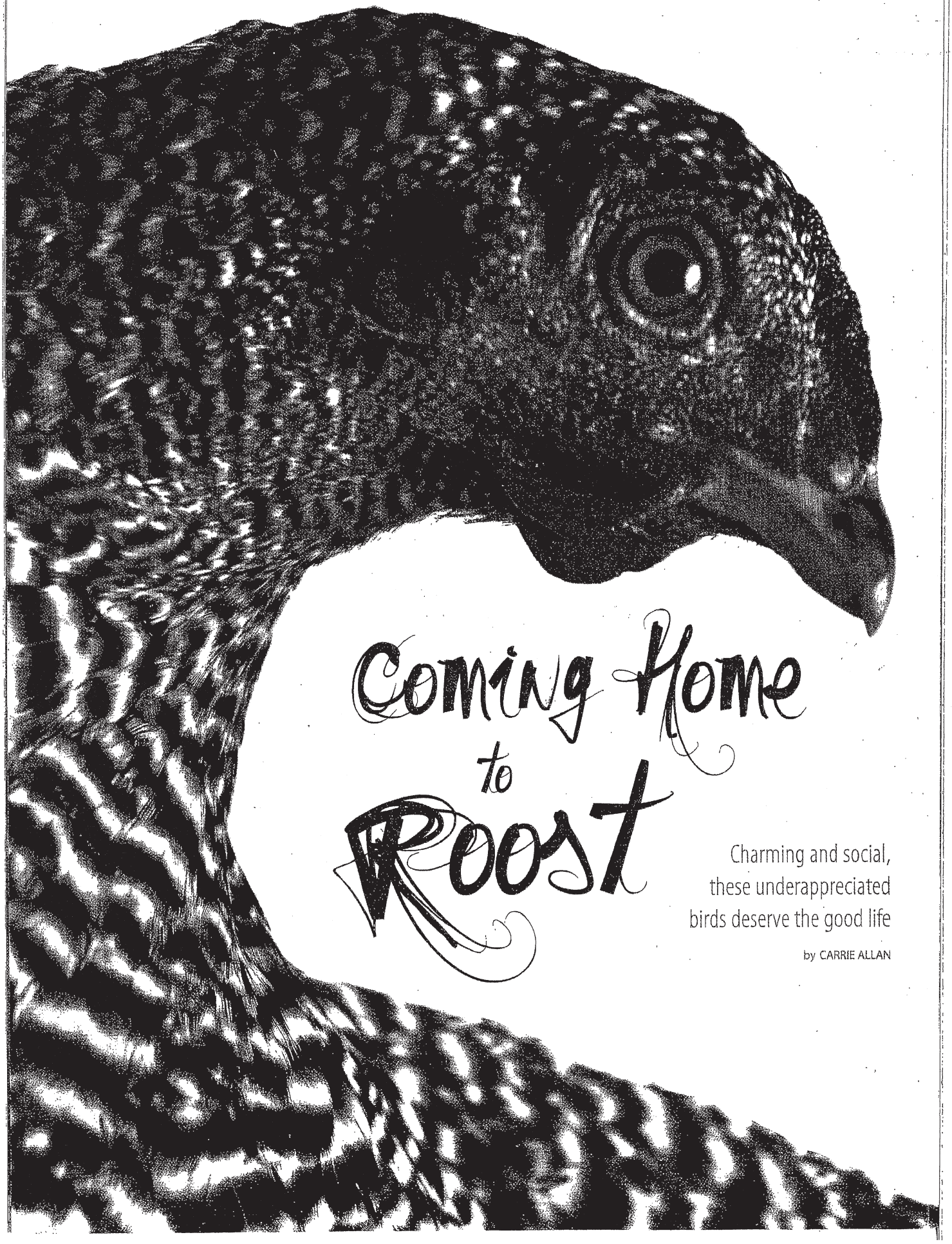


Coming Home to Roost

Charming and social, these underappreciated birds deserve the good life

by CARRIE ALLAN

Mindy Gilbert's arrival home from business trips is always cause for so much fanfare that she can hardly get a word in edgewise at the pet sitter's house.

"Bob and Stella run up, and they're so happy to see me," says Gilbert, Alabama state director for The HSUS. "They talk and talk in the front seat on the way home."

That kind of animal affection won't surprise most pet owners, but the species of Gilbert's little friends might: They're chickens. While they spend their days scratching in the yard, they come inside at night. And their charming personalities have made Gilbert quite an advocate for the birds.

"Honestly, I regret that I did not come to appreciate chickens earlier in life, because they are so funny and social," she says.

Not only do they bond with humans, but many are bedecked with streaming, billowy plumage and brilliant combs and wattles. "Some of these fancy birds, you look at them and go, 'Are they chickens or poodles?' " says Gilbert, laughing.

Gilbert is one of many animal lovers who are discovering that fowl are fair, keeping chickens either as companions or as a way to avoid eating eggs that come from factory farms. People who don't want to support the inhumane, polluting practices of industrial agribusiness have opted to reduce the number of eggs in their diets, replace eggs with other foods, or refine their supply by looking for kinder, gentler producers at local farmers' markets.

Some have even gone a step further to become the master of their own omelets, deciding there's no place more local than their own backyard.

THE CHICKEN AND THE EGGS

For many, chicken-keeping has become a passion. They get the charming companionship of chickens as they collect the eggs; they keep their birds cozy and safe and treat them as beloved pets. "They're good company," says David Nard, a chef who began keeping hens in his Maryland backyard three years ago to provide a healthy alternative to eggs from factory farms. "If you're working in the garden or sitting on the porch, they'll come hang out with you."

But as Nard and his partner, Jeni Caron, know well, caring for the birds requires a serious commitment. At the end of each work day, they "run home to let the girls out so they can get some greens" in the lush backyard. If Nard and Caron go away for the weekend, they need to find a chicken-sitter. And the enclosure they've built is, as Nard describes it, the "Fort Knox" of chicken houses, fortified with double-layered wiring and topped with netting to protect the birds from predators at night.

Neophytes who aren't prepared for these realities of chicken keeping can quickly find themselves overwhelmed—and in some communities, their lack of preparation has created a burden on local animal shelters, sanctuaries, and rescue groups. It's the dark side of a mostly positive trend. "Locavores"—the 2007 word of the year for the *Oxford American Dictionary*—are people who try to eat foods grown nearby, thus reducing the carbon footprint created by long-haul shipping of meats and produce. Their commitment to knowing as much as possible about where their food comes from—Is it organic? Humanely raised? Produced by laborers who aren't exploited?—has had a positive effect on food trends overall. But, says Richard Farinato, senior director of The HSUS's Captive Wildlife and Sanctuaries section, there are some exceptions.

"As much as we love the idea of eating locally and eating organic and eating green, and knowing where your food comes from and how the animal has been treated," he says, "locavores who decide they're going to put a box in the backyard with a wire window in it and keep chickens are not exactly fulfilling a humane mission."

At The HSUS's SPCA Wildlife Care Center in Fort Lauderdale, Fla., "we have chickens out the wazoo," says Farinato. The birds come in for a number of reasons: Some are picked up running loose on the street by animal control or the public, some are given up by people who had them in the backyard and no longer want them, some are hens rescued during cockfighting raids. Others are unwanted Easter chicks, all grown up.

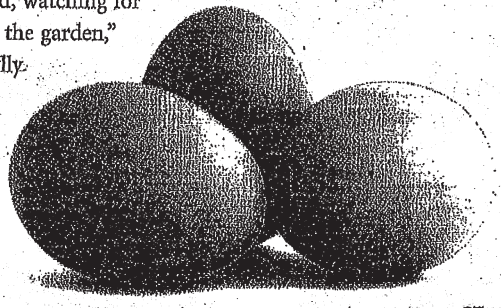
In the care of the center, chickens prosper. Farinato refers to their newly refurbished pens and exercise space as "Chicken Palace." But the neglect, mistreatment, and stress that precede their arrival is a shame for the animals.

FOWL TREATMENT

Chickens, after all, have enough to cope with. About 9 billion are slaughtered for meat each year in the U.S. While the federal Humane Methods of Slaughter Act requires that livestock be rendered insensible to pain first, the USDA does not consider birds to be livestock, interpreting the law in a way that excludes them from such protections. Many are shackled and electrocuted while fully conscious.

Beyond those birds kept for meat, another 280 million are kept as laying hens, about 95 percent of them in battery cages that afford each chicken a space no larger than a sheet of copy paper. And that's information not from animal activists, but from reports by the USDA and the United Egg Producers, a trade association that represents the majority of U.S. egg farmers.

Those who want to buck this system and give these birds a better life will be enriched by the experience, say humane keepers like Marilee Geyer, who keeps a flock of more than 50 rescued chickens in California. Elsa and Betty, abandoned in a backyard and rescued by an animal shelter, are now "as playful and silly as kittens," investigating their surroundings and jumping into empty boxes, says Geyer. Wilhelmina, a former resident of a factory farm with caged hens, has blossomed from a shy bird who didn't even know the feeling of solid ground under her feet to a companion who runs toward Geyer whenever she sees her. "She began following me around the backyard, watching for bugs as I worked in the garden," says Geyer. "Eventually she would sit next to me, and then she started hopping up on my lap."



Chicken Check-In: DID YOU KNOW?

The chicken you picture pecking her way around the yard? She'd be more at home in the jungle. That's right: The birds we know as icons of domesticity have roots in exotic Thailand, where even now, the jungle fowl from whom domestic chickens descended rule the verdant roost, cockadoodling from the thick jungle canopy to greet the day before flying down to scratch around in the undergrowth.

Like domestic roosters—and most birds, for that matter—male jungle fowl are more spectacular than their lady friends. Their plumage is a spectrum of iridescent blacks, coppers, and greens. Their fancy feathers help them serve as a distraction for hungry predators. When a "bad guy" appears, Flashy Dad zips across the terrain to draw interest, while plain Mom hides in the nest and protects the babies-in-waiting. Her protectiveness continues after her eggs hatch; she'll gather her babies under her wings to shelter them if a hawk happens to swing by overhead.

They may all look alike to our untrained eyes, but chickens have no problem telling each other apart. They're able to recognize at least 100 fellow cluckers, and they'll seek the company of those they know. They can tell humans apart, too: Researchers at the University of Guelph found that chickens recognized people who had repeatedly withheld food, turning away from them in search of more generous bipeds.

Much like human males on the prowl, roosters do all sorts of things to catch a sexy hen's eye. They perform elaborate dances—heads bobbing, feathers fluffed, and wings extended—as they shuffle sideways in an avian "Hammer Dance." They'll also pick up pieces of food and drop them near the hen to get her attention.

Last year, scientists at Harvard and the Museum of Comparative Zoology in Cambridge, Mass., analyzed the collagen in the bone of a Tyrannosaurus rex and found that it was more like that found in the bones of modern birds—especially chickens and ostriches—than the bone collagen of modern reptiles. Having chickens in your backyard is as close as you'll ever get to minding your own flock of mini-T. rexes.

Jeni Caron comforts Blondie, who has been known to tap on people's legs when she wants to be held.

At Nard's house, chickens truly rule the roost, gathering on the deck for tidbits when they see their human friends eating breakfast inside and crowing to let the world know they've laid their eggs. Blondie, who is low in the pecking order, even taps on Nard's leg when she wants to be held, while Dottie indulges her musical preferences by sitting with him when he plays the guitar. Known as the "guardian" of the flock, Dottie recently kept a squawking watch from a rafter when some human visitors invaded her space. "She's lecturing you," Caron said.

Though worth the rewards, chickens are like any other pet: they require an investment of time and money. While the old riddle about the arrival of chickens versus eggs may be eternal, adopters should have no doubt: The birds must come first.

Chickens can be noisy, and if you don't keep them healthy and their space clean, they can attract lice and other pests. Chicken adopters also need to be vigilant about the eggs their animals produce. If there's a rooster around, the eggs may be fertile and must be gathered and refrigerated quickly to avoid new hatchings.

Those who plan to adopt and care for a flock should be prepared for the expense of setting up a predator-safe environment. Mary Britton Clouse, head of Chicken Run Rescue in Minneapolis, estimates the startup costs for good chicken housing at about $4,000; that doesn't include the cost of care for each bird, which she puts at around $280 a year.

Many urban and suburban areas also have zoning restrictions for the keeping of poultry. These rules may specify how close the birds can be to a residence and how much space is required per animal; in some areas, chicken keeping is illegal or requires a permit. To help crack down on illegal cock-

PREVIOUS SPREAD, HEN: RICHARD CLARK/PHOTOLIBRARY; EGGS: ROBYNMACFOTOLIA. THIS SPREAD, EGGS: ROGER PHILIPS/GETTY; PHOTOS: MICHELLE RILEY/THE HSUS

Complete with skylights, perches, rafters, ramps, and "Italian furniture"—as Nard describes the wine crates he converted into nesting boxes—this chicken abode is a cozy but safe space for Dottie (top), Maybelline (lower left), and the rest of their friends.

David Nard shuns factory farm products and cooks with eggs from his pet hens, who have the run of his chemical-free backyard when he's home. "None of this is new," says Nard's partner and fellow chicken keeper, Joni Caron. "This is how my grandparents lived. It's just something that people have gotten away from for a couple of generations."

fighting, the Los Angeles City Council is considering an ordinance to limit personal possession to one chicken per household.

BIRDS OF A FEATHER

Adopted chickens may behave oddly when they arrive at their new homes. Those rescued from factory farms have led traumatic lives of confinement. Psychologically, they're much like dogs raised in puppy mills. They've never known what it is to walk on grass or take comfort in the arms of a human.

But according to most chicken rescue experts, many neurotic and aggressive behaviors are likely to disappear as the animals become accustomed to a setting where they have space, comfort, and positive interactions with people and with each other.

When rescued chickens arrive at the Marin Humane Society in Novato, Calif., "they tend to flock and stay in a huddled circle in the corner," says Kim Lanham-Snyder, the shelter's director of special programs and projects. "Anything they've experienced with humans has so far been negative, so they try not to interact. They've never had anything to perch on, so they don't even know to get up on a perch and hold their feet around it."

As the chickens get their bearings and begin to enjoy their new homes, adopters may find their own perspectives about these creatures permanently altered. So much of the way we categorize animals—these for food, these for companionship, these for work—is cultural, a system handed down to us through longstanding traditions. But many people who've brought chickens into their lives find they're no longer limited by preconceived notions about the species.

"There are a lot of people who get it," says Clouse. "They read the personality profiles on our Petfinder page and they suddenly understand, 'My gosh, these are complex creatures! These birds have personalities and they're individuals.' All it takes is for someone to give them permission to think differently, so once they understand that there are people who care and advocate for chickens and respect their instincts and behaviors in all of their complexity—the 'dumb animal' that everyone thinks about? [The] 'it's just a chicken' [sentiment]? All of that falls away." ■

Thinking about getting chickens?

- ADOPT, DON'T BUY! The chicks sold by feed stores and mail order catalogs may come cheap, but there are hidden costs: The sales support the poultry industry, and chicks sent through the mail often die en route. Animal shelters and farm sanctuaries have lots of chickens in need of good homes, so check *Petfinder.com* for adoptable birds.
- BUY THE COOP (OR BUILD IT): Chickens need a safe place to hang out and sleep. That means investing in a secure coop and exercise area that protects them from the elements and from predators.
- GIVE THEM SOME SPACE: If you are interested in adopting more than one rooster, read up on flock dynamics first. Some roosters can become aggressive with each other if there aren't enough hens to make each feel he has his own brood. It's a natural part of their social structure, and adopters who take the time to train and get to know a rooster will often find a friendly and social bird underneath the macho behavior. But their hierarchy and housing are important to pay attention to, for the sake of the chickens.
- READ SOME GOOD "CHICK LIT." Several chicken rescue groups, including Chicken Run in Minnesota and United Poultry Concerns in Virginia, have care guidelines that will help you learn what these funny, complex little birds need. Make sure your own "rescue" is providing them with a better life.

Hands Off!

>Times are tough, but growing and killing your own food isn't the answer

BY GRAYSON SCHAFFER

A COUPLE OF YEARS AGO, I went back to the land. Not the farm I grew up on in north Idaho, but my residential lot in Santa Fe, New Mexico. My housemate and I built raised beds for our organic vegetable garden and a coop for some laying hens. Last winter, I borrowed a rifle[1], killed an elk, and then took up waterfowling, which soon led to dog ownership, a fancy Beretta over-under 12-gauge, and explaining to my girlfriend that I'd paid $100 for a robotic duck decoy that flaps its wings reassuringly. I stashed the feathers from three Canada geese and a bunch of mallards in a large garbage bag beneath my kitchen sink, vowing that someday I'd sew them into a comfy pillow. That way I could claim I'd used the entire animal—you know, like the Native Americans.

Pop culture has been egging me on in this self-sufficiency kick. In 2007, *The New Yorker* developed an inexplicable fascination with rooftop beekeepers and urban poultry farmers. Recently, *The New York Times* profiled a woman who'd turned the basement of her Harlem brownstone into a root cellar. Hugh Fearnley-Whittingstall's folksy 2001 *River Cottage Cookbook* entered its first American printing in March 2008; a review in *The New York Times Style Magazine* cooed over a section called "Owning a Shotgun." Two well-known authors recently published books on the voguish hundred-mile diet, and this spring, food writer Eugenia Bone is coming out with *Well-Preserved: Recipes and Techniques for Putting Up Small Batches of Seasonal Foods*.

It's tempting to view this trend as a collective premonition of leaner times to come, but I think something else is going on. The back-to-basics craze hit the mainstream because we had *too much* money and time on our hands (up until last year). Hunting, gathering, and backyard farming make for good recreation, casual dinner-party bragging[2], and too many yellow squash, but they're not always smart home economics. Now that widespread layoffs and actual hardship are upon us, it's more obvious than ever that only memoirists and a few millennial holdouts should try to produce everything they consume. The rest of us should try like hell to keep our jobs—so we can still afford to buy local, hormone-free beef from farmers who raise it for a living.

Way back in 1776—when making your own lard was a necessity, not a hobby—Adam Smith got it right in *The Wealth of Nations*: If everybody specializes in what they're good at, we're all better off. If we ignore logical divisions of labor and all try to be our own butcher, baker, and brewer, it's a short, slick slope to hoarding duck feathers and living in suburban petting zoos.

The math breaks down like this: Let's say you spend $250 on lumber and chicken wire to build a coop[3]. You get 16 chicks, six of whom turn out to be roosters, and then become rooster stew as soon as a neighbor complains. The remaining ten eat $11 worth of scratch per month and, for some unknown reason, produce a dozen small eggs before going on strike for the winter. That's about $25 per egg. Each of four tomato plants produces about 50 red fruits, but then your girlfriend teaches your hunting dog to eat them ("Look, he's a *vegetarian*!") and daily irrigation boosts the water bill by $40 over four months. Elk, shot in-state without too much driving, turns out to be a real bargain at a little over $1 per pound, but duck? There isn't a French restaurant in the world that charges what I've been paying for *confit de canard*.

By the time *Well-Preserved* hits shelves in May, it's likely that the recession will have revived public appreciation for that humble yet time-saving invention, the tin can. But just in case, here are a few hard-learned notes of caution that rarely get ink in the "I did it and so can you" genre: Chicken dung smells like rotting mayonnaise, and hens are loud, too. Citrus-based pesticides might as well be lemonade as far as aphids are concerned. There's no such thing as a "clean kill." We're a generation removed from 4-H, and I'm here to tell you that your backyard and rooftop are not good places to cultivate your unlived childhood.

I'm not suggesting you shouldn't indulge in any foraging adventures or volunteer on a local farm, but as they say in pickup sports: Keep it fun, and do it in moderation[4]. Go ahead and saw your own firewood and dip your own candles. Just don't plan on heating and lighting your home for the entire winter with them or you'll start feeling less like a modern-day Thomas Jefferson and more like a poor schmuck with scorched fingertips and a sore back.

THE BIG IDEA

THE LITTLE IDEA

Intervention from a Colleague

1. You called in a five-pound carbon-fiber sniper rifle for "gear testing."
2. Yes, we all noticed the six dead ducks you brought to Thanksgiving dinner.
3. No, this is not a hypothetical.
4. Clearly, you have yet to take your own advice.

—ABE STREEP, FELLOW ASSOCIATE EDITOR