

Living on the Land: Backyard Chicken Coop Design

Dani Annala, Brian Tuck, Susan Kerr, Ellen Hammond and Shilah Olson

A chicken coop is a building for housing poultry. A coop can be made from many different materials, new or recycled, including wood, plastic, and concrete. Your coop design is an important factor in your success raising backyard chickens.

A successful coop should include the essential elements noted below

Protection

One of the main functions of a coop is to protect chickens from predators and other unwanted animals.

- Design a coop that closes the flock inside at night.
- To discourage rats, snakes, raccoons and skunks from getting in, raise the coop at least 1 foot off the ground. Use secure flooring such as a concrete slab or solid wood.
- Enclose the coop in a poultry run made of 1- by 2-inch mesh fencing.
- Add netting or wire over the top of the run.
- Bury fencing 6 inches to 1 foot into the ground to protect chickens from predators that dig, such as coyotes, foxes, rodents and dogs.
- Add a motion-detector light outside the coop.
- Avoid growing large plants around the coop. They can shelter predators.
- To discourage unwanted wildlife, consider building the coop close to your house or other places where humans frequently go.



Figure 1. Chicken coop with outdoor enclosed run.

Photo: Dani Annala, © Oregon State University

Size

Provide at least 3 square feet per bird if there is access to a run or outdoor area, and 8 to 10 square feet per bird if there is no outdoor access.

Ventilation

Ventilation removes ammonia fumes, carbon dioxide and moisture from coops and brings in fresh air. A well-designed chicken coop has adequate air exchange without creating drafts. Coops do not need to be insulated, but be sure there are no drafts.

Ventilation types:

- **Passive.** Air moves through openings, such as windows in walls or vents in gables, eaves or roofs.
- **Active.** Use electric fans to move air during especially warm or humid periods. Be sure the fans do not blow air directly on the birds.

Passive ventilation is adequate for most backyard chickens coops. Build in as much ventilation as possible without creating drafts or access for predators.

Roosting poles

Roosting poles give the birds a place to sleep. Wood provides ideal footing. Make your poles from 1- to 2-inch square lumber with the top edges rounded off. Poles that are too small or too round may cause foot problems. Wood that is pressure-treated or coated in latex-based paint is easy to clean.

Roosting poles can be designed either in a bed formation or a ladder formation. In general, set the poles 2 feet off the floor with 10 inches between each pole. Allow 5 to 10 inches of pole per bird.

Specific breeds may have different requirements. For example, roosting poles for silkies should be only 1 foot off the ground.

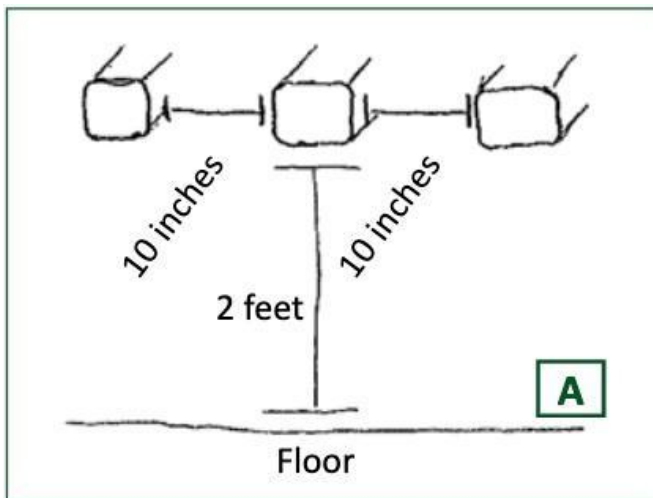


Figure 2A. Bed formation roosting pole configuration viewed end-on.

Photo: Dani Annala, © Oregon State University

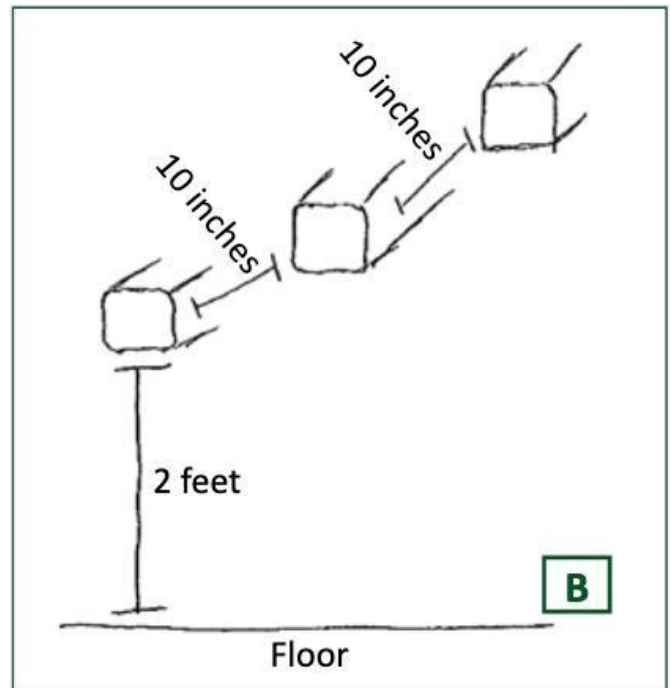


Figure 2B. Ladder formation roosting pole configuration, viewed end-on.

Photo: Dani Annala, © Oregon State University

Nest boxes

Build one nest box for about every four birds. Each box should be about 12 inches deep by 12 inches wide by 12 inches tall. Avoid placing nesting boxes directly on the ground or lower than roosting poles. This helps keep them cleaner.

A roof sloped at 45 degrees prevent birds from roosting on top of the boxes. For boxes that are off the ground, place a pole on the outside of each box or across a row of boxes so birds can jump and land there. You might need to place a chicken-size, ladder-like ramp on a slant to help birds get to the nesting boxes.

Coop maintenance

A well-designed chicken coop is easy to maintain with weekly cleanings.

- Hang the doors so they open towards the outside. This makes it easier to clean all corners of the coop.
- Create sloped floors that drain thoroughly when you hose out the coop.
- Build the coop so you can go in and out comfortably and easily clean all areas.
- Install electric lights. They'll also serve as a heat source during extremely cold weather.

Supplemental links

[Listen to the related podcast episode: Backyard Chicken Coop Design, Part 1](https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-1)

[\(<https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-1>\)](https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-1)

[Listen to the related podcast episode: Backyard Chicken Coop Design, Part 2](https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-2)

[\(<https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-2>\)](https://extension.oregonstate.edu/podcast/living-land/backyard-chicken-coop-design-part-2)

Other OSU Extension publications

- [Why Did my Chickens Stop Laying?](https://catalog.extension.oregonstate.edu/pnw565) (<https://catalog.extension.oregonstate.edu/pnw565>) (PNW 565)
- [Feeding Meat-type Chickens](https://catalog.extension.oregonstate.edu/pnw658) (<https://catalog.extension.oregonstate.edu/pnw658>) (PNW 658)

For more information on backyard chicken coop design, contact your local Extension agent, Natural Resources Conservation Service, or Soil and Water Conservation District. Technical and financial assistance is available for landowners wishing to address resource concerns on their property.

The phrase "Living on The Land" is used with permission from Living on The Land Stewardship for Small Acreage, © 2008, UNCE/WSARE.

About the authors



Figure 3. A 5-gallon bucket is a creative alternative to the traditional wooden nesting box.

Photo: Dani Annala, © Oregon State University

Dani Annala

Oregon State University

Brian Tuck (<https://extension.oregonstate.edu/people/brian-tuck>)

(Former)

Susan Kerr

Ellen Hammond

Shilah Olson

© 2014 Oregon State University. Extension work is a cooperative program of Oregon State University, the U.S. Department of Agriculture, and Oregon counties. Oregon State University Extension Service offers educational programs, activities, and materials without discrimination on the basis of race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, familial/parental status, income derived from a public assistance program, political beliefs, genetic information, veteran's status, reprisal or retaliation for prior civil rights activity. (Not all prohibited bases apply to all programs.)

Accessibility: This publication will be made available in an accessible alternative format upon request. Please contact puborders@oregonstate.edu or 1-800-561-6719.