

Keeping Chickens



Presented by:
Egg | Plant
Urban Farm Supply, Co.

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Why Chickens?



- ☞ The same reasons you keep any companion animal
- ☞ They help eliminate food waste
- ☞ They play an important role in the composting cycle
- ☞ They are a food source for meat and eggs
- ☞ They (hens) are quieter than dogs
- ☞ They are beautiful and calming
- ☞ They are fun and funny
- ☞ Why not?

Drawbacks



- ☞ They require care and attention
- ☞ They rely on you entirely for their safety and well-being, even when you go on vacation
- ☞ Sooner or later, they will die
- ☞ 5-10 year life-span (average is 7 years)
- ☞ Egg production stops after 3-5 years
- ☞ Health problems increase with age

Where can I keep chickens?

Albert Lea	YES	Duluth	YES	Little Falls	NO	Robbinsdale	YES
Andover	LIMITED	Eagan	YES	Mahomed	YES	Rochester	YES
Anoka	YES	Eden Prairie	NO	Maple Grove	LIMITED	Rosemount	YES
Apple Valley	NO	Edina	YES	Maple Plain	YES	Roseville	YES
Blaine	YES	Elk River	NO	Maplewood	YES	Saint Anthony	LIMITED
Bloomington	YES	Falcon Heights	YES	Mendota Heights	YES	Saint Francis	NO
Brooklyn Center	NO	Faribault	NO	Minneapolis	YES	Saint Louis Park	YES
Brooklyn Park	NO	Farmington	YES	Minnetonka	YES	Saint Michael	NO
Buffalo	NO	Forest Lake	NO	Montrose	YES	Saint Paul	YES
Burnsville	YES	Fridley	YES	Mounds View	YES	Saint Paul Park	YES
Carver	YES	Golden Valley	YES	New Brighton	YES	Savage	YES
Centerville	YES	Grant	YES	New Hope	YES	Shakopee	YES
Champlin	NO	Ham Lake	NO	Newport	YES	Shoreview	YES
Chanhassen	NO	Hastings	NO	North Saint Paul	NO	Shorewood	YES
Chaska	NO	Hopkins	NO	Northfield	YES	South Saint Paul	YES
Circle Pines	YES	Hudson, WI	YES	Oakdale	YES	Stillwater	YES
Columbia Heights	NO	Hugo	YES	Osseo	YES	Sunfish Lake	YES
Coon Rapids	YES	Inver Grove Heights	YES	Otsego	YES	Vadnais Heights	LIMITED
Cottage Grove	LIMITED	Lake Elmo	YES	Plymouth	NO	West Saint Paul	YES
Crystal	YES	Lakeville	NO	Prior Lake	NO	White Bear Lake	YES
Dayton	YES	Lexington	NO	Ramsey	LIMITED	White Bear Township	YES
Dellwood	YES	Lino Lakes	NO	Richfield	YES	Woodbury	NO
		Little Canada	NO				

National List of Municipalities
<http://www.compostand.org/chickens.html#chickens.html>

Permits



- ☞ **Minneapolis**
- ☞ <http://www.minneapolismn.gov/sustainability/homegrown/WCMS1F-133231>
- ☞ Chicken, turkey, duck pidgeon)
- ☞ Three tiers: 1-6 birds, 7-15 birds, 16-30 birds
- ☞ Roosters require special permit.
- ☞ Notify neighbors for 6 or fewer
- ☞ More than 6 requires written consent of 80 percent of the neighbors within 100 feet of the property
- ☞ Allow inspection of the birds and where the birds will be kept.
- ☞

1-6 Hens	\$25.00	Yearly Renewal	\$25.00
7-15 Hens	\$50.00	Yearly Renewal	\$50.00
16-30 Hens	\$75.00	Yearly Renewal	\$75.00
Rooster	\$100.00	Yearly Renewal	\$100.00

Permits



- ☞ **St. Paul**
- ☞ <https://www.stpaul.gov/departments/safety-inspections/permits/animal-permit>
- ☞ No Roosters.
- ☞ Obtain and complete permit.
<https://www.stpaul.gov/sites/default/files/Media%20Root/Keeping%20of%20Animals%20Permit%202017.pdf>
- ☞ Notify neighbors within 150 feet.
- ☞ An Animal Control Inspector will perform an inspection for approval.
- ☞ Fees:

3 or fewer Hens	\$25.00	Annual renewal	\$15.00
4 or more Hens	\$72.00	Annual renewal	\$27.00

Basic Costs



☞ Typical Start-up Costs:	\$500*
☞ Permit/Fees:	\$0 - \$75
☞ Chick Brooder:	\$50 - \$75
☞ Hen House:	\$200 - \$300
☞ Run:	\$100 - \$200
☞ Chicks:	\$3 - \$5 each
☞ Pullets:	\$10 - \$20

* These are *minimum* numbers. Your mileage may vary.

Basic Costs



☞ Basic Monthly Expenses:	3 hens	<\$30
☞ Feed:	\$10-\$20	
☞ Pine shavings:	\$3	
☞ Straw:	\$5	

Winter Costs



☞ One-time Expenses:	\$45 - \$190
☞ Heated Waterer:	\$20 - \$50
☞ Heater:	\$20 - \$120
☞ Thermometer:	\$5 - \$20

* These are rough estimates only. Your mileage may vary.

Dual-purpose Breeds



- ❧ Considered docile and will mix well with other breeds (though some breeds may produce aggressive individuals)
- ❧ They are well-suited to small flocks and as pets, especially if raised and handled as chicks
- ❧ Better than average egg production
- ❧ Able to forage and breed on their own
- ❧ Provide bird and egg variety in a small flock

Your Chickens



Chicks



- ❧ Draft-free location
- ❧ Safe from pets (and small children)
- ❧ Plastic storage bin, empty fish-tank, or similar container



Chicks-Flooring



- ☞ Spread a layer of paper towels on the floor, to provide traction. Do not house young chicks on newspaper, as it is too slippery and the chicks can develop leg problems.
- ☞ Add a thin layer of pine shavings after the first few days (if you add them too soon, they will think of it as food and eat it.)

Chicks-Heat



- ☞ Use a heat lamp and thermometer
- ☞ 90° F (33° C) for the first week.
- ☞ Reduce the temperature 5 degrees per week until they are at room temperature (around 70° F/21° C.)
- ☞ If the chicks are cold, they will huddled together
- ☞ If the chicks are too warm, they will spread out away from the heat source
- ☞ Happy chicks eat and sleep a lot and mill around the entire brooder
- ☞ In nice weather they can be brought outside to a protected area for short periods

Chicks-General



- ☞ Always have fresh water available. Keep it away from the heat lamp.
- ☞ "Pasting up" is hardened poop that sticks to the bird's vent. Pry it off VERY gently, or moisten with a damp cloth and wipe. This will disappear as they start to grow.
- ☞ Handle your birds gently and often and they will be friendly as they grow older.
- ☞ **IMPORTANT:** Wash your hands after handling chicks and chickens. This is especially important for young children.

Nutrition



- ☞ **Water** – Provide a constant source of clean water.
- ☞ **Feed** – Adult layer ration (16 % Protein, 3.0% Calcium). Approximately ¼ lb per hen per day.
- ☞ **Access** – Hang or raise feeder and waterer if possible. Less mess and less waste. In a small coop, locate both outside the hen house.
- ☞ **Scratch** – Carbohydrate-rich supplement (chicken candy). A good bribe. In winter, offer scratch in the late afternoon, so chickens roost with a full crop of grain to digest generate body heat. No more than 5-10% of diet.
- ☞ **Grit** – Free choice, separate from feed.
- ☞ **Supplements** – Oyster shell, kitchen scraps, free range.

Foods to Avoid



- ☞ Pet foods, especially cat food.
- ☞ Grass (other than foraging – they only take the tips).
- ☞ Rotten or moldy food.
- ☞ Citrus, potato skins or eyes, avacados.
- ☞ Onion or garlic (unless you like those flavors in your eggs).
- ☞ Layer ration for chicks – can cause kidney damage.

Schedule



Daily

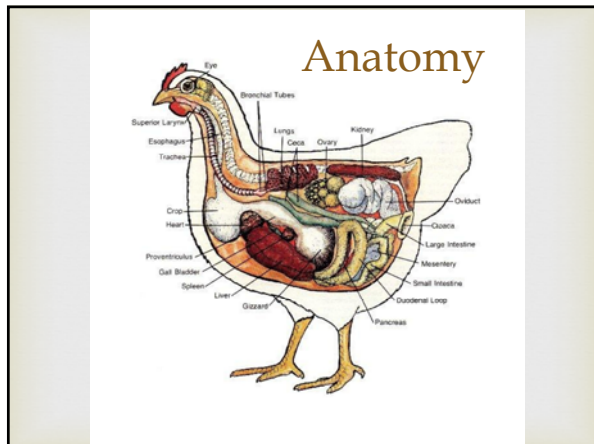
- ☞ Provide water
- ☞ Provide feed
- ☞ Observe birds
- ☞ Collect eggs

Weekly

- ☞ Clean feeders and waterers
- ☞ Remove droppings from hen house
- ☞ Add bedding
- ☞ Hold and examine birds

Monthly

- ☞ Replace bedding in hen house and run
- ☞ Check for signs of damage to coop or fencing and repair



Hens - Handling

❧

- ❧ Handle your chicks. Handle your chickens.
- ❧ Picking up: Use both hands to pin wings to their sides, lift and tuck under your arm, like a football.
- ❧ Look at their eyes, they should be bright and free of any discharge.
- ❧ Feel their crop. It should be soft.
- ❧ Examine under their wings for mites or lice.
- ❧ Examine around their vent for mites or lice.

Health-Symptoms

❧

- ❧ Listlessness, lack of appetite or thirst.
- ❧ Limping
- ❧ Wheezing, sneezing, discharge from nostrils.
- ❧ Bloodshot eyes, or discharge from eyes.
- ❧ Pale or discolored comb.
- ❧ Watery, off-colored, foul-smelling, or bloody droppings
- ❧ Visible lice, mites, or their eggs.





Healthy

Poo

Unhealthy

Photos: <http://chat.allotment.org/index.php?topic=17568.0>

Health-Conditions

Marek’s disease: Vaccination.

Coccidiosis: (weeks 4-8) Clean enviroment, Coccidiostat.

Respiratory conditions: Control moisture and dust in house and run.

Chicken Health Handbook, Gail Damerow.

HPAI (H5N2)

"1,169 backyard flocks ... have completed their first round of mandatory surveillance testing. Out of the test results received to date, only one backyard flock in Minnesota has tested positive for HPAI."

Briefing from the MN Department of Public Safety, Office of Communications, dated May 14, 2015:

<https://dps.mn.gov/divisions/oc/news-releases/Pages/Daily-Update-on-Avian-Influenza--May-14.aspx>

Chickens:

gasping

extreme diarrhea

swelling around the head, neck, and eyes

purple discoloration around the head and legs

rapid death

Turkeys and other poultry:

tremors

twisted necks

paralyzed wings

recumbent pedaling

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HPAI (H5N2)



If you suspect HPAI:

- ☞ Minnesota Board of Animal Health:
<https://www.bah.state.mn.us/poultry>
- ☞ Minnesota Poultry Testing Laboratory (MPTL):
(320) 231-5170.
- ☞ Minnesota Veterinary Diagnostic Laboratory (VDL):
612-625-8787

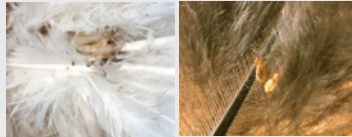
More Information:

Avian Influenza Basics for Urban and Backyard Poultry Owners

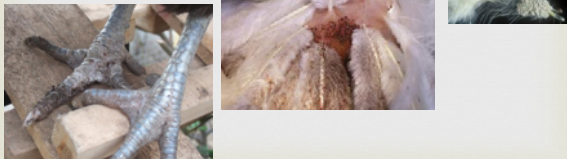
<http://www.extension.umn.edu/agriculture/poultry/avian-influenza/avian-influenza-backyard-poultry/>

Health - Parasites

- ☞ Lice, Red mites, Northern Fowl mites:
Dust bath, diatomaceous earth in house and run.



- ☞ Scaly Leg mites:
Diatomaceous earth, cover affected area



Health - Other

- ☞ Bumblefoot (Staphylococcus aureus)



- ☞ Frostbite



Health-Molt

- Partial to complete feather loss.
- Stop laying.
- Vulnerable to other hens.
- Supplement diet with additional protein (sunflower seeds, peas).
- Limit scratch use.
- 3-4 weeks to 12-16 weeks to complete.
- Avoid handling birds during molt. It is painful to them.

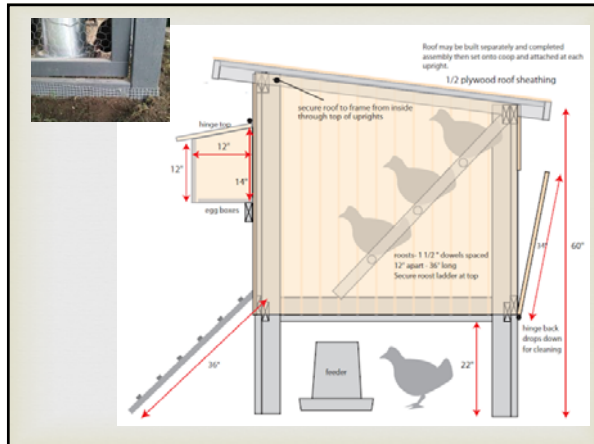


Coop and Run



Housing

- 4 square feet per bird in the house
- 8-10 square feet per bird in the run
- 6 to 10 inches of perch per hen
- 1 nest box or area per 4-5 hens
- Ventilation
- Protection from the wind and rain
- Access to sun and shade
- Protection from predators







Ventilation



Winter Goals



Your Birds

- ☞ Survival
- ☞ Comfort
- ☞ Production
- ☞ Thrive

Effort



Winter Goals



Your Birds

- ☞ Survival
- ☞ Comfort
- ☞ Production
- ☞ Thrive

Cost



Winter Goals

Cost



Effort



Winter

- ❧ **Insulation** – The least expensive way to keep your chickens warm.
- ❧ **Covered run** – Snow-free run with straw to scratch around in.
- ❧ **Water heater** – Chickens need access to clean water at all times.
- ❧ **Supplemental heat** – You will want to heat a portion of your hen house.
- ❧ **Supplemental light** – 14-16 hours of light a day to lay.

Run Sheathing



Insulation



Insulation



R-value (thermal resistance): An insulating material's resistance to conductive heat flow.

- ✎ The higher the R-value, the greater the effectiveness.
- ✎ The R-value depends on the type of insulation, its thickness, and its density. Add the R-values of individual layers.
- ✎ Insulation does not change the conductive heat loss through windows and studs (thermal bridging).

Insulation Materials

Material	Price/ sq ft	R-value/ in	1.5"	3.5"	12"	24"
Polyisocyanurate panel (foil face)	0.74	6.8	10.2	23.8		
Polyisocyanurate panel (fiberglass face)	0.53	6.8	10.2	23.8		
Polystyrene (Extruded - XPS)	0.47	5	7.5	17.5		
Polystyrene (Expanded - EPS)	0.33	4	6	14		
Fiberglass batts (1")	0.09	3.7	5.55	12.95		
Fiberglass batts (3.5")	0.32			12.95		
Cardboard		3.5	5.25	12.25		
Wood panels, such as sheathing		2.5	3.75	8.75		
Straw bale		1.45	2.175	5.075	17.4	
Softwood (most)		1.41	2.115	4.935	16.92	
Snow		1	1.5	3.5	12	
Hardwood (most)		0.71	1.065	2.485	8.52	17.04
Brick		0.2	0.3	0.7	2.4	4.8
Glass		0.14	0.21	0.49	1.68	3.36
Poured concrete		0.08	0.12	0.28	0.96	1.92

Radiant Barrier



- ☞ Think emergency blanket
- ☞ Reflects bird's own heat (up to 85%)
- ☞ \$2 - \$20



Other Considerations



- ☞ The birds produce heat and have an insulating coat (6 lb bird x 8 BTUs per lb ~ 48 BTUs ~ 14 watt heater)
- ☞ Radiant Barrier (think emergency blanket): Reflects bird's own heat.
- ☞ Wet down / feathers completely lose their insulation properties
- ☞ Ventilation reduces moisture build-up, but reduces heat retention.
- ☞ Cover and sheath run.

Heat and Light



Water



Resources



- ☞ **General Information**
- ☞ TwinCitiesChickens (Google and FaceBook groups)
- ☞ Twin Cities Coop Tour
sites.google.com/site/twincitiescooptour/
- ☞ U of M Backyard Chicken Basics
<http://www.extension.umn.edu/food/small-farms/livestock/poultry/backyard-chicken-basics/>
- ☞ Backyard Chickens
www.backyardchickens.com/
- ☞ **Books**
- ☞ **A Chicken in Every Yard**
Robert and Hannah Litt
Ten Speed Press
- ☞ **Storey's Guide to Raising Chickens**
Gail Damerow
Storey Publishing
- ☞ **Chick Days**
Jenna Woginrich
Storey Publishing
- ☞ **Young Chicken Farmers**
Vickie Black
Beaver's Pond Press
