

Chick and Hen presentation by Tamara Drake with assistance from Jen Taylor 03-04-2023

Chicks

A. Which came first? Well, that depends. For most of you that will be the chicken, but there is the possibility of hatching your own eggs, using an incubator. Incubators cost approximately \$175+

B. Hatching eggs

Hatching Chicken Eggs Takes 21 Days. This is true if the eggs were fresh and remained at the proper temperature for hatching chicken eggs throughout the whole period. If Day 21 passes hold on to your eggs for a few more days just in case they hatch late.

Keep the Eggs Warm. Throughout the incubation period the eggs should be kept at a still-air temperature of 101.5°F, *measured at the top of the egg*. If your egg incubator uses forced air keep the temperature at 99.5°F.

Turn Eggs till Day 18, then Stop. If you turn the eggs manually be sure to wash your hands before doing so. It is important to stop turning at day 18 so the chicks can position themselves for hatching.

Turn Eggs 3-5 Times a Day. Many incubators have turning trays, but most homemade incubators for hatching chicken eggs will require hand turning. You can draw an X on one side of each egg to help you keep track of which ones you've turned.

Place Eggs on the Turner Large End Up. If you have an automatic turner, don't be surprised if you can't see it moving. They go very slowly and you may think it is broken. Check back in a few hours and the change in position should be obvious.

Use the Right Humidity for Hatching Eggs. Maintaining the proper humidity for hatching chicken eggs is critical. You should use a hygrometer to check it, as levels can vary widely based on the ambient humidity in your home. From day 1-18 keep humidity at 40-50%. At day 18 boost it to 70%.

Start with at Least Six Eggs. This is for your benefit and that of the chicks. Hatching chicken eggs requires a lot of work. If you set fewer eggs a bad hatch is possible and some of the chicks may not make it, or they may all be males. And remember, chickens are flock animals. A lone bird can actually die of loneliness.

Let the Chick Come Out of the Shell on Her Own. When you see a pip in the shell, be prepared to give the chick up to 24 hours to come out (5-7 hours is the average). If you try to "help" by pulling the shell off the chick is very likely to bleed to death. Be patient.

Keep the Incubator Closed. The key to hatching eggs successfully is to leave them alone as much as possible. This is especially true when the chicks are hatching. You lose humidity when you open the incubator, and this can make it difficult for the chicks to get fully out of the shell.

C. After hatching-Day-old chicks need to be kept at a constant 95 degrees F their first week, 90 degrees the second week, and so on (reducing the temperature 5 degrees per week), until they're 6 to 8 weeks old and have feathers to keep themselves warm. The chicks will eat the yolks from the egg and that provides all of the nutrition needed to sustain them for the first +/- 3 days of life.

D. Housing- a box, custom brooder, old stock tank Solid sides are to protect from drafts and open tops help with ventilation- be creative. I like containers without corners because of crowding. ½ sq. ft. per chick is ideal expanding to 2 sq ft per chick as they grow. High walls of at least 2 feet. Chicks start flying at around 3-5 weeks. Wire mesh on top of container after 3 weeks can help contain them.

E. Heat- Provide a heat lamp suitable to the surrounding room temperature. If not in a heated area, use 1 or more 250Watt brooder bulbs. These produce heat, as well as light. They can be the red bulbs or white. Some say the red bulbs help prevent picking when birds are bored or crowded. 125Watt bulbs or less may be all you need for chicks in a brooder in a heated space. If chicks are huddling together, they are cold. If they are moving as far as possible away from the lamp, it can be raised up to provide a bit less heat. Use a thermometer if you are unsure. Make sure the lamp fixture is rated for the bulb you are using otherwise fire is possible. Keep bulb away from water source. Secure lamp so as not to fall into bedding. Clamp lamps should also be tied up.

F. Bedding- Newspaper, finer straw or hay, wood shavings are all popular. Change bedding regularly and more frequently as the grow. Don't wait until they start getting smelly. Keep bedding dry and remove if water spills and soaks the bedding.

G. Feeders and feeding- Use a quality chick starter and continue with it from 3 days to up to about 15-20 weeks of age, 18-20% protein. Starting at 1oz per head per day. Feeding regular layer crumbles or pellets can be harmful because of the calcium added. It is not needed until right before they start laying around 20 weeks. Medicated (amprolium) feed may be recommended if the chicks will join an adult flock or be exposed to coccidiosis (protozoa parasite) from wild birds usually through water sources, or if they will be going into adult housing that previously housed birds. Species specific. The oocysts can survive in the ground. Feeders can be small to begin with but should also grow with the birds. Feed will increase to about 4oz per head per day or slightly more. Treats should be minimal or none.

H. Water and Waterers- Use smaller waterers at first to keep the chicks safe. Large open waterers risk drowning or soaking the chicks. You should get the chicks fresh water frequently. Maybe a few times a day if possible. Keep waterer clear of bedding and raise it up on a piece of wood as the chicks grow and get more messy. Probiotics and electrolytes can be used to give the chicks a boost when they are young. Do not over-mix these items. They are generally designed for stress situations such as travel, new brooder, or introducing other chicks together. Chicks purchased at a feed store will have their beaks "dipped" to ensure they understand where to get fluids. It never hurts to do the same when moving them to a new brooder or a different waterer. Electrolytes can also disguise a change in water source. Mix as per instructions. More is not better.

I. Pasty butts- Occasionally stress can cause chicks to get crusty or pasty vents that can clog them up. This can be dangerous. Picking off the dried poop can help or wetting just their backside to loosen things up can be the next step. This usually resolves itself in a day or two.

J. Unthrifty chicks- sometimes chicks just get sick and die no matter what you do. Be prepared for this.

K. Questions?



Checklist for new chicks

- Safe, clean, draft-free room or building
- Heat lamps and/or brooder stove
- Litter and/or shavings
(pine wood shavings ideal)
- Brooder guard
(circular and expandable, 3-4 sq.ft./chick)
- Feeders (4 in./chick)
- Waterers (One qt. waterer/12 chicks)
- Sanitizing solution
- Cleaning brushes
- Rake
- Pitchfork or shovel (for large areas)
- Egg flats or shallow pans
(Use first, then transition to feeders)
- 25-watt incandescent or equivalent
CFL or LED light bulbs
- Purina® Start & Grow® or Purina® Organic
Starter-Grower for laying chicks
or Flock Raiser® for broilers
- Thermometer

All the necessary equipment and supplies can be obtained from your local Purina retailer.

PurinaMills.com/Chicken-Feed





Temperature chart for your new chicks

Age of Chicks

Hatch to 1 Week	95°F
1-2 Weeks	90°F
2-3 Weeks	85°F
3-4 Weeks	80°F
4-5 Weeks	75°F

**Recommended
Temperature**

Talk with your Purina retailer to learn about ideal temperatures for other poultry.

Tips to keep your chicks warm

- Begin heating your brooder 24 hours before you bring your chicks home.
- Place heat lamps 20 inches above the litter surface.
- A thermometer should be placed at the chicks' level to accurately gauge temperature.
- Use the brooder guard to contain the chicks in a specific area. The chicks should be able to get out from under the heat if they get too hot.
- If using a large room, use a brooder stove for supplemental heat.
- You'll know if your chicks are comfortable if they are happily walking around.
 - Too cold and they'll huddle around the heat
 - Too hot and they'll sprawl out around the brooder
- A good rule to follow to keep birds comfortable is to reduce their environmental temperature by 5°F per week as their feathers grow.
- Do not reduce environmental temperature below 55°F until birds are at least 6 weeks old.

Laying Hens

- 1. Around 20 weeks of age depending on the breed and the daylight hours, chickens will begin laying eggs. The first eggs may be small, or even without a shell. Soon you will have a regular supply of eggs.**
- 2. Feed- A good quality layer pellet or crumble will provide the best nutrition for your laying hens. 16%-17% protein at about ¼ lb per head per day should be sufficient. Larger bodied breeds may need more. Use long range feeders or gravity feeders.**
- 3. Water- Water should be available at all times. Double wall founts or plastic waterers work well. Keep out of sunlight to minimize algae and scrub clean when needed. Some use a bottle brush, toilet brush or tire brush to keep clean. In the winter you can place the double wall founts on electric heated bases to keep from freezing.**
- 4. Nest boxes- provide 1 nest box per 5-10 laying hens. Use nesting pads or other bedding in bottom and replace when soiled.**
- 5. Eggs- Can be many different colors, shapes, or sizes depending on the breed. Nutrition plays a large part in the quality of eggs. Free-range chickens will have darker yolks and lay a higher quality egg. Caged or contained hens may need calcium supplementation in addition to their layer feed. During stressful times or when restarting the laying cycle, hens may become egg bound. Eggs that rupture inside the hen may cause infection and the hen may die. Keeping stress levels low will help as well as maintaining steady, solid nutrition. The first two years of laying are usually the best laying years for hens. Their egg production tapers off each year afterward. A hen that becomes broody (meaning they want to sit on eggs and hatch them instead of lay more eggs), will cease to lay eggs. She will need to have her routine interrupted by keeping her out of the nesting areas until she changes her behavior.**
- 6. Housing – Coop space should be at least 3 square feet per bird if outdoor space is provided. Confined hens need more space. Adult hens need 12 hours of sunlight to maintain laying. Optimal laying requires 14-16 hours of light per day. A timer may be used to turn lights on earlier in the morning as winter sets in. It is best to let the hens settle in and roost at their leisure, as the sun sets. Most layers will not need heat or a heated coop through the winter. Some more fragile breeds, or tropical breeds do not do as well in the extreme cold weather. Protect from wind and wet weather, but ventilation is important to keep respiratory problems to the minimum. The average chicken is said to need about 10 inches of roosting space. They will roost closer together for warmth in the winter.**
- 7. Roosters- These are not needed for egg laying! Roosters are only needed to fertilize eggs for reproduction. They are pretty, though! In my opinion, roosters that are raised by hens are usually better behaved roosters. Roosters that are raised by humans generally develop little attitudes that get them in trouble. Too many roosters per hens can cause the hens to suffer damage the feathering and their flesh. If you are going to keep roosters, ideally have no more than one rooster per 10 hens.**

8. Molting- Chickens will go through a molting cycle in the fall and spring. This varies by the chicken and some may lose extreme amounts of feathers. They do grow back. During the molting process, egg laying may slack off because of the energy needed to regrow feathers.

9. Breeds for laying- For white eggs, the White Leghorn is queen. They lay an average of 280 eggs per year during their peak and can exceed 300+. Most colored egg layers will produce 200-250 eggs per year in their peak years. Common colored egg layers for our climate are Barded Plymouth Rocks, Rhode Island Reds, Buff Orpingtons, Black Australorps, and Americanas. Also bred for their egg production are sex-linked breeds like Cinnamon Queens, Golden Comets, Red Sexlinks, and Black Sexlinks. They are called sexlinks because they can be sexed easily at hatch by their feather colors.

10. Health issues- Avian influenza is the disease in the news right now. There have been several outbreaks in the US in egg laying flocks affecting the availability of eggs and chickens nationwide. Other diseases that I see commonly are external parasites that can be treated with a permethrin powder; internal parasites that can be treated with chemical dewormers in the water supply; picking due to overcrowding or boredom; and egg binding which is attributed to overweight hens, too high protein in diet, stress, low calcium, or over-sized egg. Hens not treated within 24-48 hours of being egg bound will die. The biggest threat to your hens are the parasites and diseases brought in by wild birds.

11. Predators- The number one predator of your chickens will be domestic dogs. Other predators include domestic cats, weasels, minks, raccoons, skunks, fox, coyote, birds of prey, possum, snakes, and large rodents. Geese can be very good protectors of your hens as well as livestock guard dogs. Electrified poultry netting, buried wire mesh, and motion-sensor lighting can help.

12. Questions?