

Raising Commercial Ducks as a 4-H or FFA Project

4-H and FFA members as well as small farmers find raising commercial ducks rewarding as well as profitable. Ducks are quite easy to raise since they require limited shelter, are adaptable to the weather and are not prone to as many diseases as other species of poultry.

Ducks can be raised for their meat, eggs or feathers. They are gregarious (flock together) and enjoyable to watch. Commercial ducks are primarily white, while fancy purebreds and their wild cousins appear in wide range of shapes, sizes and colors.

The Origin of Ducks

Most varieties of domesticated duck are descended from the Mallard (*Anas platyrhynchos*). The Muscovy duck (*Cairina moschata*) is also a very common domestic duck. The Mandarin Duck (*Aix galericulata*) and its relative the Wood Duck (*Aix sponsa*) are also domesticated, but far less common than Mallards or Muscovies.

The Mallard duck is known to be wild in wide-spread areas of Europe, Asia, North America and North Africa. The Mallard and its relatives are noted for having a distinctive curled feather on the back of the male. They were domesticated 4000 BC by Egyptians, Chinese and Europeans.

Muscovy Ducks or sometimes called Barbary Ducks or Turkey Ducks do not make the quacking sound of the Mallard, except when chased or caught. The Muscovy was domesticated by Central and South American peoples before Columbus' arrival in the Western Hemisphere.



Ducks for Meat Production

According to the United States Department of Agriculture, over 30 million ducks are raised for meat in the U.S. each year. Per capita consumption of duck in the U.S. is about one third pound.

Many ducks are raised on small farms and in back yards, however the vast majority of ducks are raised on large commercial duck farms in Indiana, Pennsylvania and California.

At one time, commercial duck raising centered on Long Island, New York, where in 1873, one Pekin drake and three hens of exceptional size were imported from China. With plenty of fresh water and a teeming market for young duckling in New York City the industry peaked with over 16 million ducks being raised on Long Island farms.



Because of this history, "Long Island Duck" has become synonymous with the commercially raised ducks sold in restaurants and grocery stores alike.

However, because of strict environmental laws and urban pressure all but one farm, Crescent Duck Farm, have been forced from the island today.

China leads the world in duck production. Over 2.6 million tons of duck meat is produced each year, nearly three fourths of the world's production. "Peking Duck" is a specific recipe for cooking duck and will be found in American restaurants.

France is second in duck production with over 200,000 tons produced per year. Duck meat is a specialty food entre in French cooking.

Production Standards

The production standard for commercial ducks is that they are ready for processing in just 49 days. They will weigh over eight pounds and will consume less than 2.3 pounds of feed per pound of gain. Dressing percentage should be about 65% resulting in a 5 ¼ pound carcass with over 25% breast fillets. If a lighter weight is desired, slaughtering at 6 weeks of age will result in a 7 pound live weight duck.

Maple Leaf Farms, headquartered in Leesburg, Indiana is America's leading producer of duck meat, duck down and other consumer products. With farms in Indiana and other Midwestern states, including Wisconsin, Maple Leaf is noted for marketing all-natural, antibiotic free whole duck and value added foods.

Duck Egg Production

Few people in America realize that ducks can be better egg producers than chickens! While a commercial strain of White Leghorn will produce 250-280 eggs per year, commercial egg producing ducks will produce 300-350 eggs per year!

Production duck eggs are 32-34 ounces per dozen, while USDA Large chicken eggs are 24-26 ounces per dozen. Ducks will consume 20-30% more feed per dozen than chickens, however, ducks can forage more feed than chickens if allowed to range.

Hybrid ducks such as the Golden 300 or the White Layer are proven to be exceptionally productive as well as efficient. Purebred Khaki Campbells and Runner Ducks are also good layers.

Duck eggs are slightly more nutritious than chicken eggs. They are higher in Omega 3 fatty acids and stay fresher longer. The duck egg white (albumen) is thicker and richer than chicken eggs, making them highly prized for certain baked goods. Some reports show that people who are allergic to chicken eggs may be able to tolerate duck eggs in their diets.

Though China is the leading country for duck egg consumption, niche markets in the U.S. has shown dramatic increases in recent years. Duck eggs are often found at farmer's markets, in specialty food stores and grown by the backyard flock owner. Organically grown fresh duck eggs can command \$5.00-\$6.00 per dozen in the retail market place.



A modern duck raising barn is clean and well ventilated.



Golden 300 Hybrid Layer Ducks –Metzer Farms

COMPARATIVE EGG PRODUCTION OF POULTRY

Bird	Egg Weight per Dozen ounces	Annual Egg Production		Annual* Feed Consumption		Feed to Produce 1 Pound of Egg pounds	Efficient Production Life of Hens years
		#	pounds	a	b		
Duck, Campbell	31.0	288	46.5	110	140	2.4-3.0	2-3
Quail, Coturnix	5.5	306	8.8	—	22	2.5	1
Chicken, Leghorn	24.0	240	30.0	85	95	2.8-3.2	1-2
Duck, Pekin	40.0	156	32.5	145	175	4.5-5.4	2-3
Goose, China	66.0	72	24.8	130	185	5.2-7.5	4-8
Guinea Fowl	17.0	78	6.9	45	65	6.5-8.7	1-2
Chicken, Broiler	25.0	144	18.8	125	130	6.6-6.9	1-2
Turkey, Lg. White	38.0	90	17.8	180	200	10.1-11.2	1-2

Based on the egg yields of good stock fed concentrated feeds and managed for efficient production. Egg size, egg production and feed conversion of poultry are highly dependent upon the quality of the birds and the care they receive.

*Represents the quantity of feed that the average hen consumes from the day she commences laying until a year later.

a—For hens that are free to roam and forage.

b—For hens raised in confinement.



(Top Right) *Khaki Campbell ducks* are a breed noted for excellent egg production.

(Bottom Right) *Indian Runner Ducks* originated on the Indonesian islands of Lombok, Java and Bali are an exceptional laying breed.

Care of Ducks

Ducks typically require less extensive housing than chickens and other poultry. Ducks are adaptable to the weather and will thrive providing they are not exposed to prolonged periods of harsh conditions. They thrive well outdoors, given that they have their own open enclosure and are safe from predators at night.

Good quality feed that is fresh, free of mold and insect damage and properly balance for nutrients is essential. Commercial feed processors can blend excellent rations. Crumbles or pellets are preferred over meal because ducks tend to choke on the powdery form of feed.

Though swimming water is good exercise and is entertaining, it is not essential for growing ducks. Pools or small ponds can become soiled quickly and if not flushed often the rank water can be detrimental. Ducks will stay clean and healthy with adequately adjusted drip-type watering systems and wire floors. Fresh drinking water is essential for top performance.

Source of Commercial Ducklings

Catalog hatcheries typically sell quality commercial hybrid Pekin ducklings. Some hatcheries provide ducklings through local feed mills and deliver them on scheduled “Chick Days.” Ask the supplier the specific hybrid they sell. If they can’t tell you, chances are the ducklings are not hybrids and will lack the uniformity and commercial qualities that true hybrids have.

Though Rouen or Mallard colored ducklings are attractive and can be used for meat or eggs, they grow much slower and are less feed efficient than hybrid commercial ducklings. If the ducks are raised for a county fair meat class, the colored ducks will not be competitive in their class. If they are raised for a niche market, they often dress out with dark pin feathers and will be undesirable to the consumer.

Quality hybrid ducks that meet the commercial market cost less to raise than non-hybrids, so it would be advisable to grow the best ducks that you can. **Calculate back seven weeks from your fair to determine the hatch date for your ducklings!**

Brooding ducklings

A small group of ducklings can be brooded by a broody chicken hen. If the ducklings aren't hatched by the hen, they can be placed under her in a confined area at night so that she will readily accept them. A bond will form between the mother and her adopted brood that will last for many weeks.

Ducklings can also be brooded artificially in the same way as baby chicks. Because they grow rapidly, ducklings will need heat a shorter period of time, and floor space requirements will increase more rapidly.

A brooder house, garage or barn corner can be used as a brooding area for small numbers of birds. The brooding area should be dry, reasonably well lighted and ventilated, and free from drafts. Cover the floor with about 4 inches of absorbent litter material, such as wood shavings, chopped straw, or peat moss. Litter dampness is more of a problem with ducks than with chicks. Good litter management will require removal of wet spots and frequent addition of clean, dry litter. Be sure litter is free of mold.

Infrared heat lights are a convenient source of heat for brooding small numbers of birds. Two 125-watt lights, suspended close together, 18 inches from the floor will provide adequate heat and serve as a backup source in the event that one light “burns out” during the night. The temperature at the edge of direct light should be 85-90 degrees F when the ducklings arrive. The heat can be reduced 5-10 degrees per week as the ducklings grow by raising the heat lights, providing more run space, and reducing the number of lights.

Confining the birds to the heated area with a corrugated paper chick guard for the first 3 to 4 days will assure success. Watch the behavior of the birds for signs of discomfort. If they are too hot, they will move away from the heat. If too cold they may pile up and be noisy.



Day-old hybrid Pekin ducklings



A heat lamp in a refrigerator box can serve as a brooding area for baby ducklings.



A wire-covered platform for waterers will keep the water clean and reduce the soiling of the bedding.

High temperatures may result in slower feathering and growth. Supplementary heat may be needed for 5 to 6 weeks in cold weather; in summer, only 2 to 3 weeks. By 4 weeks of age, the ducklings should be feathered enough to be outdoors except in extremely cold, wet weather.

Allow $\frac{1}{2}$ square foot of floor space per bird during the first two weeks. Increase this to at least 1 square foot by 4 weeks. If the birds are to remain confined after the first month, provide them with at least 2 square feet of floor space.

Feeding Ducks

Ducklings should be started on a commercially produced starter crumble. If duck starter is not available, chick starter can be substituted. Medicated chick starter is not necessary, since ducks are resistant to the diseases that chicks are susceptible to.

Place crumbles in an egg flat for the first day or so that the ducklings can find the feed, then place the feed in a small chick feeder. Commercial ducklings will consume .5 pounds of feed each in their first week. Keep the feeder some distance from the waterer, preventing the feed from getting wet.

Switch the ducklings to a grower pellet at two weeks of age. A high capacity hopper feeder will provide the volume necessary for the growing period. Ducks must have free-choice feed at all times.

By using quality feed and preventing waste, commercial meat ducks will consume about 20 pounds of feed each by market time.



Suggested Macronutrient Requirements of Ducks

Peter R. Ferket, Extension Poultry Nutritionist, and Gary S. Davis, Extension Poultry Specialist North Carolina State University

	Starter	Grower	Finisher	Breeder ²	
Nutrient	0-2 weeks	2-6 weeks	6-8 weeks	Developer	Layer
Metabolizable energy (Kcal/lb.) ³	1400	1400	1400	1175	1300
% Protein	20.0	18.0	16.0	14.5	16.0
% Lysine	1.1	0.9	0.8	0.65	0.75
% Arginine	1.1	1.0	0.9	0.7	0.85
% Methionine + Cystine	0.9	0.8	0.7	0.6	0.65
% Calcium	0.9	0.8	0.8	0.7	2.9
% Available Phosphorus	0.45	0.4	0.4	0.35	0.35
% Linoleic Acid	1.0	1.0	1.0	0.8	1.0

Protein is composed of compounds called amino acids. Having the correct amount of each amino acid in the duck's diet is essential to maximizing growth rate and health. Since your goal is an 8+ pound market duck in just two months, anything less than the ideal ration will restrict growth.

It is noteworthy that egg laying ducks and breeders should be fed a lower energy ration than market ducks. Too much energy will cause the bird to become over-fat and will not produce as many eggs when mature.

Watering Ducks

Ducks are waterfowl and have a natural attraction to water. Keeping fresh water for your birds is essential (and a challenge, since they like to “play in it”). Chick waterers can be used to start ducklings, but they will require greater capacity waters very quickly.

If ducks are to be watered in a pool or small pond, great effort must be taken to insure that the water is fresh and clean many times per day. Also you must be prepared for the mess that will be produced when the birds splash the water out of the pool.

Many simple do-it-yourself duck waterer ideas are available. Waterers that prevent them from swimming in their water or drip nozzles are effective and can be made from simple materials. If kept clean, these devices will insure adequate quality and quantity of water for your ducks and will keep their environment clean and dry.



Duck waterers can be made from simple materials and will serve as a good source of fresh water for your ducks with minimum mess.

Muscovies as meat ducks

Muscovy ducks are excellent meat ducks and are raised commercially (mostly in France) for their fine quality, dark colored and flavorful meat. They are often raised on general and hobby farms and can command a fair price in specialty markets. Mule ducks (Muscovy male x Pekin female) and, to a lesser extent, Hinny ducks (Pekin male x Muscovy female) are also raised commercially. However, Muscovies and their hybrids, sometimes called Moulards, are not competitive with hybrid Pekins for rate of gain and feed efficiency; therefore they are not recommended for a county fair meat duck competition.

Processing Meat Ducks

State laws regulate the processing of poultry for sale. Though Wisconsin Law does allow for personal use and small sales of home-dressed poultry, extensive sales must be processed in an inspected processing plant.

If you choose to have your ducks custom processed, inspected and packaged for sale, research your area for slaughter plants that will handle this need before you begin your project. Schedule your ducks with the processor well in advance of the date needed. Remember your ducks will be finished in just seven weeks!

Cooperatively processing your ducks with other project members can be very educational and rewarding.

Preparing Ducks for the Fair

Raising commercial market ducks to show at your county fair can be educational, fun, challenging and as rewarding as raising any other species for competitive exhibitions. County fairs may also have a market animal sale that can make your duck project even more profitable!

Success at the county fair begins long before the ducklings arrive. Research the techniques of raising ducks by reading books, online literature, University Extension Bulletins and YouTube videos. Talk to others who have experience raising ducks. Visit farms that raise ducks and review the American Poultry Association's Standard of Perfection to get a feel for the fancy ducks and their history.

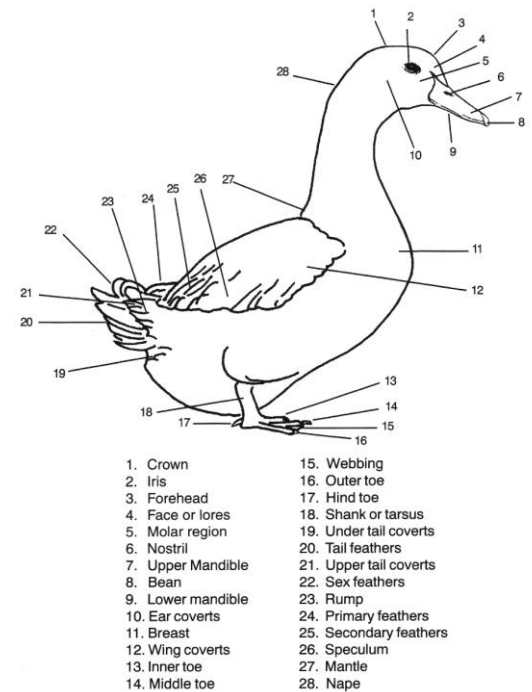
Become familiar with the parts of the duck so that you can communicate with others about your ducks. The Standard of Perfection contains an excellent diagram of the parts of the duck (see right).

Contact suppliers of ducklings to learn the genetics of the commercial market ducks that are available and comparatively shop for the best price. Place your order in time so that you receive delivery of your ducklings seven weeks before the fair.

Seek out feed suppliers that can provide you with quality balanced rations at the most economical price.

Acquire the equipment necessary for raising your ducks. Clean and disinfect the brooding area and housing facilities. If your ducklings arrive by mail, make sure that you dip each duckling's bill into the water to make sure they find the water. Ducklings that are stressed in shipment may require special attention and individual care for a day or two.

Daily care for you ducklings will insure quality show ducks for your fair. **Keep their environment clean and dry!!!!** This is a challenge because ducks can convert water and soil into mud and manure in short order! Ducks thrive on fresh grass. If your ducks are raised on a range, move them to a new area each day. Provide shade, quality feed and fresh water! Utilize the practices described above to keep your ducks clean and healthy. Preventing soiling or staining of their feathers will insure that your ducks will show their best at the fair!



Parts of the Duck *APA Standard of Perfection*



Unlike chickens, ducks will bath themselves! Prior to taking them to the fair, allow them ample time to swim in a pool of fresh water. Let them shake themselves after coming out of the pool and allow them to dry in the sun and warm summer breeze before transporting them to the fair in spacious, individual carrying cages.

Once they are at the fair, place them in their show coop with fresh clean shavings. Give them fresh drinking water and feed daily. Change their bedding throughout the fair to keep them clean. Depending on how long the fair is, you may need to let them bathe themselves several times during the fair.

Judging Market Ducks

All of your hard work will pay off on Show Day!

Be sure to have all of the health documents necessary for the fair. Most fairs have Face-to-Face judging with the judge. So, make sure that you can explain to the judge basic information about your ducks such as: hatch date, source, hybrid or strain, feeding program and basic raising practices.

The judge will evaluate your birds on their; 1) **market-ready condition**, 2) **rate of gain** and 3) **feed efficiency**.

Ducks that are market-ready are the appropriate size (7.5-8.5 pounds). They must have enough “finish” or fat to be ready for slaughter. Keeping them cool throughout the growing period will help. Your ducks must be “meaty” or muscular. Having the correct hybrid will insure adequate meat. Any dark colored feathers will down grade your duck substantially.

Ducks that have grown to market weight in seven weeks will exhibit “youthfulness.” Their muscularity will be tender instead of “hardened” as a mature duck. Young ducks that have grown properly will still have a small amount of down attached to their neck and head feathers. A top quality market duck will exhibit a long, deep body with plenty of fleshing in the breast. The keel bone will be covered with a thin layer of fat and smooth.

The judge will ask you how many pounds of feed you have fed your ducks. Quality ducks that are grown with minimal amount of waste will eat about 20 pounds of feed in seven weeks. Knowing the cost of your feed will show that you know the cost per pound of duck your birds have produced regardless if you or your parents paid for the feed. Accurate record keeping is essential to a successful market duck project!

The top ducks will be in excellent feather quality with a minimum of pin feathers. Immature pinfeathers will indicate that your ducks are too young and not ready for market. Remember, “Show Day is Market Day!”

Finally, your birds must be clean and have unstained feathers. Your birds are a display of the quality of food that you are providing the public. Showmen of other species go to great extremes to make sure that their animals are presented in the best possible way to the judge. Besides, the judge does not want to handle dirty birds (and neither do you)!



County Fair time is usually during the hottest days of summer. Keep them as cool as possible during the fair. Plastic soda bottles filled with frozen water placed in their pen will “air condition” the birds. Handle the birds only when necessary. Holding the bird properly will reduce stress for the animal and for the exhibitor. Practice showing your bird before fair to allow it to show its best!

Enjoy your birds. You have worked hard to get them ready! Have fun!

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Your Duck Project and Your Future

A commercial duck project will provide many enjoyable, life-long experiences. You will learn the responsibility of caring for animals and the skills necessary to be competitive in a show. Besides the animal husbandry skills that you learn, you will learn business skills such as handling money, calculating profits and loss as well as marketing a product.

Your duck project may lead to a career in animal health, sales, wildlife management, environmental science or the food industry. Think about the advertisement writers and animal trainers that create the Aflac Duck commercials!

With revived interest in locally grown, natural and organic foods, your duck project could grow into an entrepreneurial business.

You may even expand your commercial duck project into a Fancy Purebred Duck hobby! Imagine raising beautiful Rouens, Call Ducks or Cayugas in your backyard!



Excellent quality exhibition Rouen ducks



International Experience

Young people with agricultural experience might travel the world working for governments and industries. Each country has its own culture. The production, marketing and processing food is essential to the economy and well-being of every nation.

Four-H, FFA, Peace Corps and other youth organizations provide opportunities to experience distant lands and interesting people! Your duck project may help you to see the world!

Culinary Experience

Duck meat and eggs are an economical and palatable alternative for use in the home. Many recipes are available online or in cookbooks. TV cooking shows often tell the virtues of duck and explain how to prepare delightful dishes for your home table. Fresh frozen “Young Duckling” is commonly available in grocery stores year-round, so you can practice cooking before your ducks are ready.

Culinary schools train students the art of preparing high quality duck dishes including roasted duck (*right top*) duck confit, duck l’orange, *Foie gras*, Century Eggs (*right bottom*) and countless baked goods.

Skilled chefs prepare duck in many ways for elegant diners in five-star restaurants. Duck is highly prized in French cooking and is a staple in Chinese meals. So, give your taste buds a treat and experience the world!

