



# Feeding Ducks

Ducks are raised as pets on small ponds or lakes, for release in hunting preserves or conservation areas, and for eating purposes. The mallard is the most popular duck breed in the United States. Domestic ducks, such as the White Pekin and the Muscovy, are also popular. The commercial duck industry in the United States relies primarily on the White Pekin for meat production.

A combination of good nutrition and proper management are essential for raising healthy ducks. Maximum efficiency for growth and reproduction can be obtained by using commercially prepared diets. Because pet ducks are generally raised on open ponds or lakes, they are subject to predation. Predators that can damage your duck flock include: turtles, owl, hawks, raccoons, skunks, opossums, cats, and dogs. If possible, your ducks should be maintained in an enclosure that prevents predator access. If predation becomes a problem, recognition of the predator is imperative. Contact the state Conservation Department or Wildlife Resource Commission on the methods and legalities of removing predators from your property.

## Feed Quality

Good commercially prepared duck feed, is available from most local feed stores. Some large duck operations may find mixing the complete feed on the farm to be less expensive than purchasing it from a commercial source. Regardless of whether feed is purchased or mixed on the farm, it must be stored away from rodents and insects in a clean, dry place to prevent contamination and mold growth. A pair of rats can eat or contaminate over 100 lbs of feed in a year. Use the feed within 3 weeks of the manufacturer's date and sooner during hot, humid weather to prevent loss of vitamins and mold formation. Stale or bad-smelling feed is evidence of spoilage and possible mold contamination. Never use feed that is moldy because some molds produce toxins which could cause serious health problems or poor growth. Ducks are extremely sensitive to mold toxins. For example, ducks are sensitive to as little as 30 of ppb aflatoxin. Mold toxins can cause damage to the ducks' digestive organs, liver, kidneys, muscles, and plumage, and can also reduce growth and/or reproductive performance.

The quality of feed ingredients is also very important. Do not use grains that are contaminated with molds, weed seeds, or dirt. Avoid using old vitamin/mineral packs because they lose their effectiveness with time, especially if they are exposed to sunlight or heat.

## **Feed Form**

High quality pelleted feed is important to maximize the growth rate and feed efficiency of ducks. Performance will decrease as the amount of fines in a pelleted feed increases. Commercial pellet binders are often used to limit fines and improve pellet integrity. Although ducks can be fed mash feed, growth

performance will be reduced by about 10% in comparison to that of ducks fed pelleted feed and feed wastage will be increased.

Ducklings should be fed a starter diet from hatch to 2 weeks of age. The starter diet should be fed as 1/8 inch (3.18 mm) diameter pellets or as crumbles. After 2 weeks of age, feed a grower diet as 3/16 inch (4.76 mm) diameter pellets.

## **Feeders and Waterers**

Growing ducks should be allowed free access to feed and water at all times. Proper feeder and waterer height, maintenance and sanitation are essential for achieving uniform flock growth and health. Small feeders should be used until the ducklings are 2 weeks of age. Larger feed hoppers should be used for older ducks. The feeder pan height should be at a level even with the back of the average duck. Waterer pan height should be even with the lower neck area of the average duck and water nipples should be adjusted at a slightly higher level. Feeders and waterers that are too low result in excessive wastage. Those that are too high restrict feed and water access to the smallest ducks and thus increase size variation in the flock.

Waterers and feeders must be kept as clean as possible at all times. Shelter feeders from the sun, wind, rain, and snow to minimize feed spoilage. Feed hoppers that are used outdoors should have lids that fit securely. If feed hoppers are placed within a building or pen and water supplies are placed outside, the hoppers should be closed overnight to prevent the ducks from choking on dry feed. Water may be supplied in hand-filled water fountains or by automatic waterers. To prevent wet

litter, place the water supply above wire flooring or on a screened drain when in confinement. Waterers should be cleaned and sanitized with a commercial non-toxic disinfectant at least 3 times a week. Avoid pouring the rinse water on the litter, rather pour it into a bucket and remove it from the pen to help maintain a dry, clean environment for the ducks. Check daily to see that the waterers and feeders are working properly and not leaking or spilling.

Because young ducklings grow rapidly, they should have adequate floor, feeder, and waterer space. For the first three weeks, allow 2 square foot of space per duckling on wire and 1 square foot per duckling on litter. If confinement rearing is practiced, increase the floor space to 2.5 square feet per duckling through 7 weeks of age. Ducks should be given at least 1.5 linear inches of feeder space and 0.5 linear inches of waterer space per duckling at all times. Larger ducks such as the Muscovy may require some additional space.

Ducks are waterfowl, so they are instinctively attracted to water. This characteristic can cause a serious wet litter problem if the waterer is not designed properly or maintained at a proper height. If ducks are raised in confinement and subsequently released to a pond, a water bath is helpful for ducks to preen and keep their plumage properly oiled. This will help keep their feathers in good condition and give them the ability to swim in a pond.

## **Nutritional Requirements**

Dietary factors affecting growth and feed utilization have been established for several varieties of ducks. Suggested macro-

and micro-nutrient requirements of most ducks in different age categories are listed in [Table 1](#) and [Table 2](#), respectively. Example rations that follow these nutrient specifications are listed in [Table 3](#).

<b>Table 1</b>					
<b>Suggested Macronutrient Requirements of Ducks<sup>1</sup></b>					
	<b>Starter</b>	<b>Grower</b>	<b>Finisher</b>	<b>Breeder<sup>2</sup></b>	
<b>Nutrient</b>	<b>0-2 weeks</b>	<b>2-6 weeks</b>	<b>6-8 weeks</b>	<b>Developer</b>	<b>Layer</b>
Metabolizable energy (Kcal/lb.) <sup>3</sup>	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

**1. Nutrients shown in this table apply only to the energy level specified.**

**2. Begin feeding breeder layer feed one month before the first egg is laid.**

**3. The energy concentration given is only an example. The energy concentration may vary from 1000 to 7500 Kcal/lb, provided the concentration of each nutrient per unit of energy remains the same.**

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Table 2			
Suggested Micronutrient Requirements of Ducks			
Nutrient	Vitamin-Mineral Level		
	1	2	3
	0-2wks	2wks-adult	Breeder

## Minerals

% Potassium <sup>2</sup>	0.7	0.6	0.6
% Sodium	0.17	0.14	0.14
% Chlorine	0.12	0.12	0.12
Magnesium (mg/lb.)	230	230	230
Manganese (mg/lb.)	25.0	25.0	25.0
Zinc (mg/lb.)	32.0	25.0	30.0
Iron (mg/lb.)	35.0	20.0	30.0
Copper (mg/lb.)	4.0	3.0	3.0
Iodine (mg/lb.)	0.18	0.14	0.20
Cobalt (mcg/lb.)	90.0	90.0	90.0

Selenium (mcg/lb.)	70.0	70.0	70.0
<b>Vitamins</b>			
Vitamin A (IU/lb.)	4000	2500	4000
Vitamin D3 (ICU/lb.)	500	400	400
Vitamin E (IU/lb.)	10.0	5.0	10.0
Vitamin K (mg/lb.)	1.0	0.5	1.0
Riboflavin (mg/lb.)	3.0	1.5	3.0
D-Pantothenic acid (mg/lb.)	6.0	4.0	5.0
Niacin (mg/lb.)	25.0	20.0	25.0



Vitamin B12 (mcg/lb.)	4.0	2.0	4.0
Choline (mg/lb.)	900	450	450
Biotin (mg/lb.)	0.05	0.05	0.05
Folic Acid (mg/lb.)	0.60	0.40	0.50
Thiamin (mg.lb.)	1.6	1.5	1.4
Pyridoxine (mg/lb.)	1.4	1.4	1.4
Ethoxyquin (mg/lb.)	60.0	60.0	60.0

1. Vitamin-Mineral Level(s) should provide the following levels/pound of complete feed.
2. Not needed in commercial Vitamin-Mineral premixes.

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**Table 3**  
**Example Rations for Ducks**

	<b>Percentage of Complete Ration</b>				
	<b>Starter</b>	<b>Grower</b>	<b>Finisher</b>	<b>Developer</b>	<b>Layer 1</b>
<b>Ingredient</b>					
Yellow corn, #2 dent	70.00	73.58	77.25	39.50	59.00
Barley	--	--	--	15.00	15.04
Oats	--	--	--	11.20	--
Soybean meal (48% protein)	18.18	19.70	16.13	12.40	13.95
Alfalfa meal (17% protein)	2.00	--	--	--	--
Fish meal (60% protein)	7.50	--	--	--	--

Meat & Bone meal (50% protein)	--	5.00	5.00	--	5.00
Wheat Bran	--	--	--	10.00	--
Wheat Middlings	--	--	--	8.00	--
D,L-Methionine	0.17	0.22	0.16	0.15	0.14
Dicalcium Phosphate (18.5% protein)	0.55	0.28	0.15	1.30	0.18
Ground Limestone	0.75	0.77	0.86	2.00	6.24
Iodized salt	0.25	0.25	0.25	0.25	0.25
Vitamin-mineral package	0.202	0.203	0.203	0.203	0.204
Chlortetracycline-50	0.40	--	--	--	--

<b>Calculated Analysis</b>					
% Protein	20.00	18.30	17.00	15.00	16.00
Metabolizable energy (Kcal/lb.)	1400	1410	1426	1200	1312
% Calcium	0.90	0.85	0.80	0.75	2.90
% Available Phosphorus	0.45	0.40	0.35	0.38	0.35
% Lysine	1.12	0.90	0.80	0.70	0.75
% Methionine + Cystine	0.90	0.80	0.70	0.65	0.65

**1. Layer diet may be supplemented with free choice ground oyster shell.**

**2. Supplies/pound of complete ration the vitamins and minerals in the amounts listed on package No. 1 ([Table 2](#)).**

**3. Supplies/pound of complete ration the vitamins and minerals in the amounts listed on package No. 2 ([Table 2](#)).**

**4. Supplies/pound of complete ration the vitamins and minerals in the amounts listed on package No. 3 ([Table 2](#)).**

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## **Small Flock Ducks**

Feed that is especially prepared for ducks is ideal. Beware of cheap rations that contain a lot of by-product ingredients because they may cost you money in the form of decreased body weight gain, poor feathering, reduced egg production, and hatchability, or other problems. A quality feed from a reputable dealer is usually the most profitable feed in the long run. If availability or the cost of duck feed is a major limitation, chicken feed could be used as an alternative. A 23% protein chick starter could be used for the first 2 weeks, followed by a 20% protein broiler grower diet. If available, a broiler finisher diet containing 18% protein can also be used. Be cautious, however, because broiler chicken feed may contain feed medications that do not have the Food and Drug Administration's approval for ducks.

## **Feed Medications to Control Disease**

Ducks exhibit greater resistance to most diseases and parasites than do most domestic fowl. As a consequence, medicated feeds for ducks are used less often than with chickens and turkeys. Presently, there are feed medications available to control the common diseases of ducks: colibacillosis, fowl cholera, salmonellosis, and necrotic enteritis.

Colibacillosis is a common disease in ducks caused by the bacterium *Escherichia coli*. *E. Coli* can cause embryonic and duckling mortality by infecting the yolk sac. Infection of the digestive track and air sacs is most common. Infected ducklings appear droopy and listless and exhibit diarrhea and ocular discharge. Cleanliness of the hatching eggs and good management in the hatchery are necessary for prevention of Colibacillosis. The combination of sulfadimethoxine at 0.05% of the diet and ormetoprim at 0.03% of the diet for a duration of 7 days can reduce or prevent mortality from Colibacillosis in baby ducklings.

Fowl cholera is a contagious disease of domestic ducks and other birds, caused by the bacterium *Pasteurella multocida*. Sick ducklings refuse feed and exhibit diarrhea and mucus discharge from the mouth. Mortality may be as high as 50%. A concentration of 0.44% chlortetracycline (400 g/ton) in feed is effective in reducing mortality. Treat infected ducks for 5 days. Chlortetracycline binds to calcium in breeder feed, thus a low calcium diet (0.6-0.8%) should be used during the 5 day treatment period.

Salmonellosis is a common disease of ducks caused by a variety of serotypes of salmonella. Infected ducks are listless, dehydrated, exhibit diarrhea, and show signs of incoordination, and head tremors. Mortality is about 10%. Salmonellosis can be treated with chlortetracycline (.044%) or sulfadimethoxine-ormetoprim (0.04-0.08%) in the feed.

Necrotic enteritis is a common infectious disease of breeder ducks. The exact cause is not known. Infected ducks are weak and unable to stand, and their digestive tracts are swollen and filled with blood-stained fluids. Mortality is high,

approximately 40%. A concentration of 0.02% neomycin sulfate in feed for 2-3 weeks can reduce mortality.

The effectiveness of a disease prevention program, regardless of feed medication usage, is best under good management and sanitary practices. Try to keep houses clean and dry, and do not allow mud holes and slimy areas to form. Always consult a veterinarian for proper medication usage or if a disease problem is persistent or serious.

## **References and Additional Sources of Information**

Ash, W.J., 1976. "Raising ducks", U.S.D.A., Farmer Bulletin No. 2215.

Dean, W.F., 1986. Nutrition of the Pekin Duck in North America: An Update. Proc. 1986 Cornell Nutrition Conference, Ithaca, N.Y., pp.44-51.

Elkin, R.G., 1987. A review of duck nutrition research. World's Poultry Science 43, No. 2:84-106.

Farrell, D.J., and P. Stapleton, eds. 1986. Duck Production Science and World Practice. Printed by the University of New England, Armidale.

Mullin, J. 1987. Game Bird Propagation - Wildlife Harvest System. Arrowhead Hunting & Conservation Club, Goose Lake, Iowa 52750.

National Research Council, 1984. Nutrient requirements of poultry. National Academy Press, Washington, D.C.

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**4/90 PS Facts #2**

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