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Raising Ducks and Geese in Small Numbers

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TABLE OF CONTENTS

	Page
BREEDS OF DUCKS AND GEESE	4
MATING AND BREEDING	11
Water for swimming	11
Determining the sex	12
Nests	13
Storing and incubating eggs	13
REARING DUCKLINGS AND GOSLINGS	14
FEEDING DUCKLINGS AND GOSLINGS	15
KILLING AND DRESSING	16
DISEASES AND PARASITES	17
REFERENCES	18

RAISING DUCKS AND GEESE IN SMALL NUMBERS

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During the years before and immediately after World War II, commercial duck farming for eggs and meat was a thriving industry in Hawaii. Today, it is non-existent. There has never been a commercial goose industry. At the present time, backyard raising of ducks and geese in small numbers either as a hobby or as a way to supplement family diets is becoming very popular. However, many of the backyarders have little or no knowledge of the basic requirements of breeding, feeding, and caring for these waterfowls.

This publication was prepared as a guide for small-flock owners.

BREEDS OF DUCKS AND GEESE

While most people know the male chicken as a *rooster* or *cock* and the female as a *hen,* they do not understand the terms used for the different sexes of ducks and geese. The male duck is called a *drake* and the female, a

Table 1. The more common breeds of ducks

	Standard weights (pound)			
	Adult male	Adult female	Young male	Young female
Breeds for meat				
Pekin	9	8	8	7
Aylesbury	9	8	8	7
Rouen	9	8	8	7
Cayuga	8	7	7	6
Buff	8	8	7	6
Muscovy	10	7	8	6
Breeds for laying				
Indian Runner	4½	4	4	3½
Khaki Campbell	4½	4½	4	4

duck. The male goose is known as a *gander* and the female as a *goose.* While the young chicken is called a *chick,* the young duck is known as a *duckling,* and the young goose as a *gosling.*

The most popular breeds of ducks raised in Hawaii are the Muscovy and the Pekin. Although there are other breeds in evidence, their numbers are small.

Pekin. The Pekin is primarily a table duck. It matures quickly and carries a good quantity and quality of breast meat. It can also lay very well, depending on the breeding background. The feathers of both sexes are creamy white and the bill, yellow.

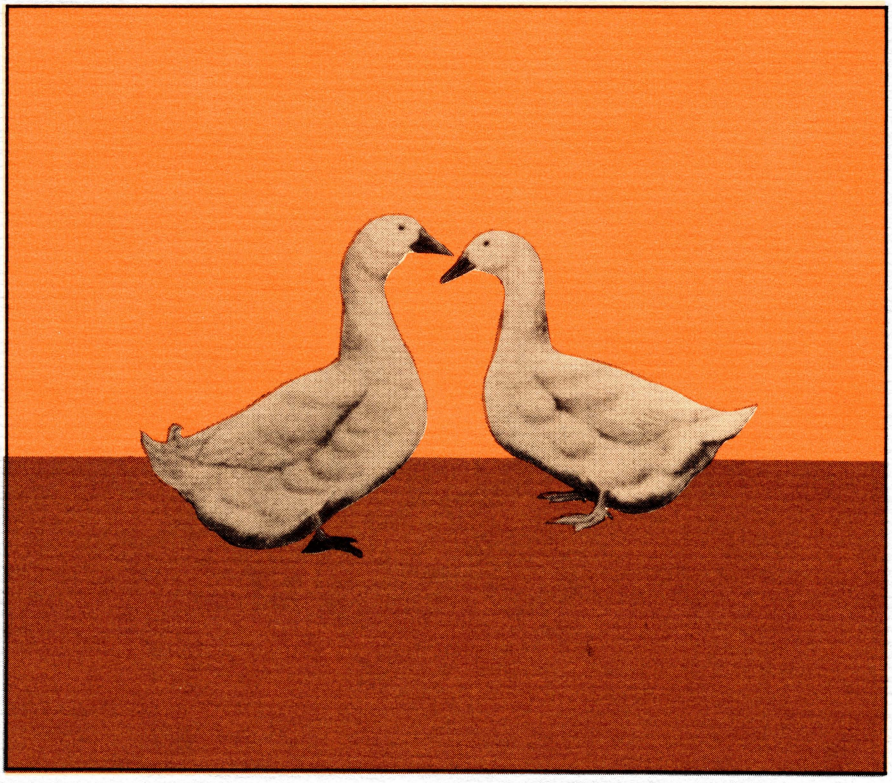


Figure 1. Pekin ducks. Male on left with curled tail feathers. Female on right.

Muscovy. Muscovy ducks are a distinct race, originating in South America. They do not "quack" but make hissing sounds. The progeny of Muscovy ducks crossed with other breeds are sterile.

The Muscovy can be called a dual purpose breed because the ducks lay reasonably well and the meat is of excellent quality. Unlike the other domesticated breeds, Muscovy ducks can fly easily, but they rarely stray from home. They are perching ducks and roost like chickens. The drake is considerably larger than the duck. Characteristically, both sexes have "warts" on the exposed portion of the head but, in addition, the male has a fleshy knob at the base of the bill. There are two varieties of this breed—the colored and the white.

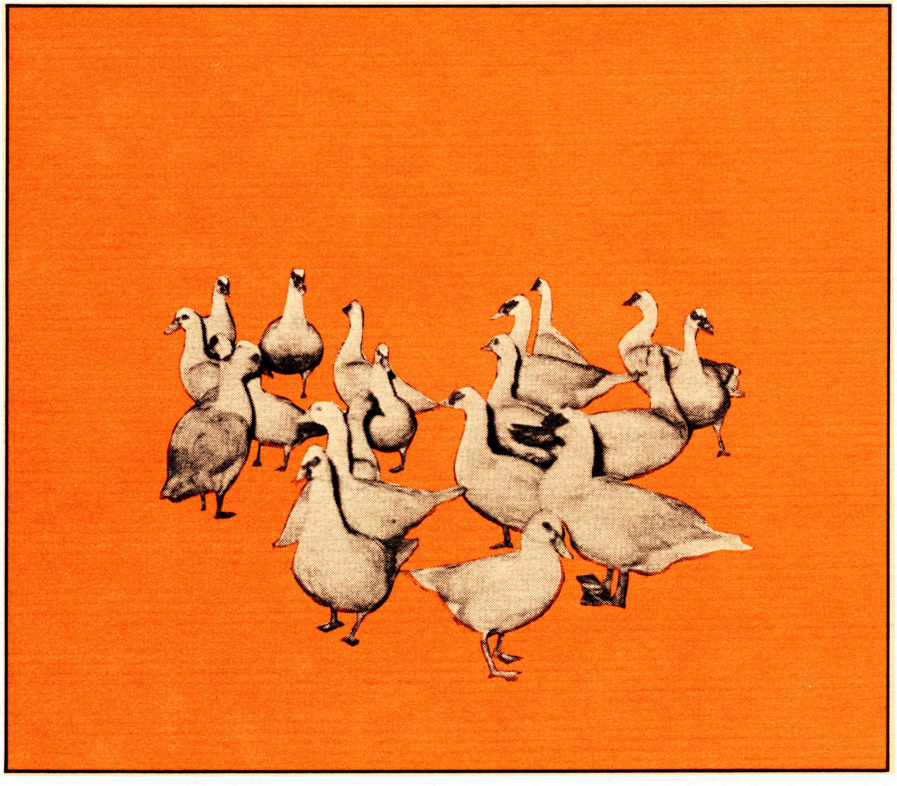


Figure 2. Muscovy ducks. Males are larger than females.

Khaki Campbell. This breed is primarily an egg-laying one, although the eating quality of the meat is good. Overall, the duck is khaki-colored. The drake is bronze or bronze-green in the head, neck, and tail. The bill is yellow. Laying averages of 250 to over 300 eggs per year have been reported for large commercial flocks.

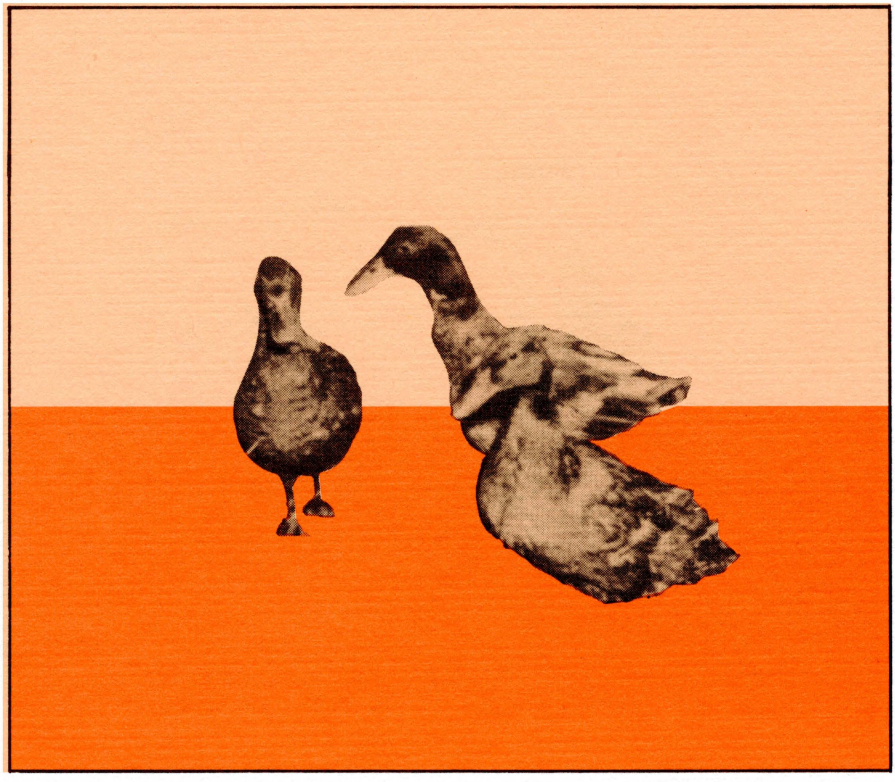


Figure 3. Khaki Campbell ducks. Male is in the center.

Indian Runner. Like the Khaki Campbell, the Indian Runner is an egg-laying breed. Unlike the Khaki Campbell, it is not suitable as a table bird. There are several varieties—White, Fawn, and Fawn and White.

Figure 4. Indian Runner ducks. Note curled tail feather on male at right.

Table 2. The more common breeds of geese

Breed	Standard weights (pound)			
	Adult male	Adult female	Young male	Young female
Toulouse	20	20	20	16
Emden	20	18	18	16
African	20	18	16	14
Buff	18	16	16	14
Pilgrim	14	13	12	10
Chinese	12	10	10	8
Canada	12	10	10	8

The popular breeds of geese in Hawaii seem to be the White Chinese, Emden, and Toulouse.

Chinese. There are two varieties of the Chinese goose—Brown and White. This breed matures early and is a better layer than the other breeds, averaging from 40 to 65 eggs per bird yearly.

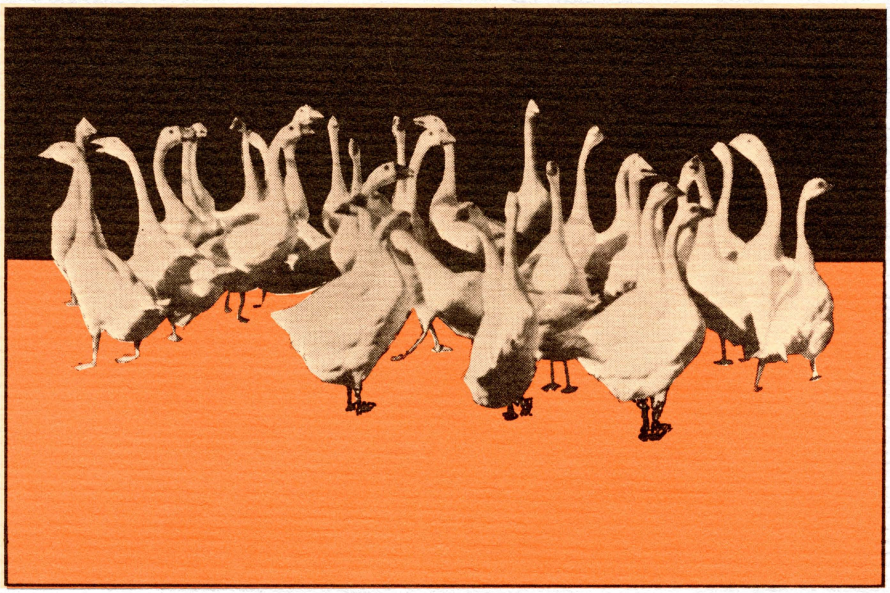


Figure 5. Chinese geese. Males are lager than females.

Emden. The Emden is pure white and is tightly feathered, compared with the Toulouse. Egg production averages 35 to 40 eggs per bird. It grows rapidly, matures early, and is a better sitter than the Toulouse.

Toulouse. The Toulouse goose has dark-gray feathers on the back, gradually shading to light-gray edged with white on the breast and to white on the abdomen. It has a broad, deep body and is loose-feathered. Egg production per goose is slightly less than it is for the Emden.

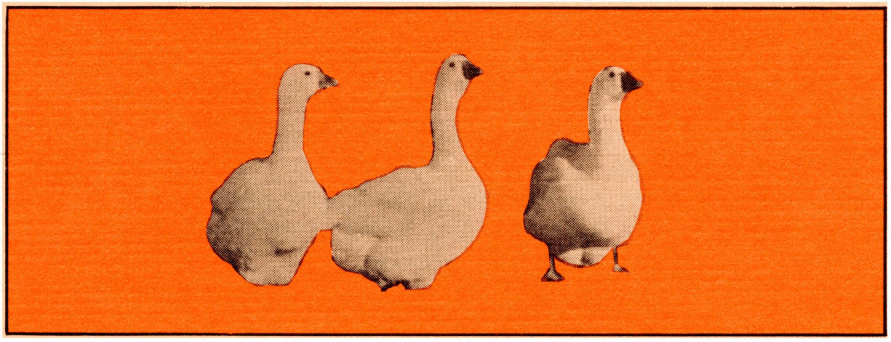


Figure 6. Emdem geese.

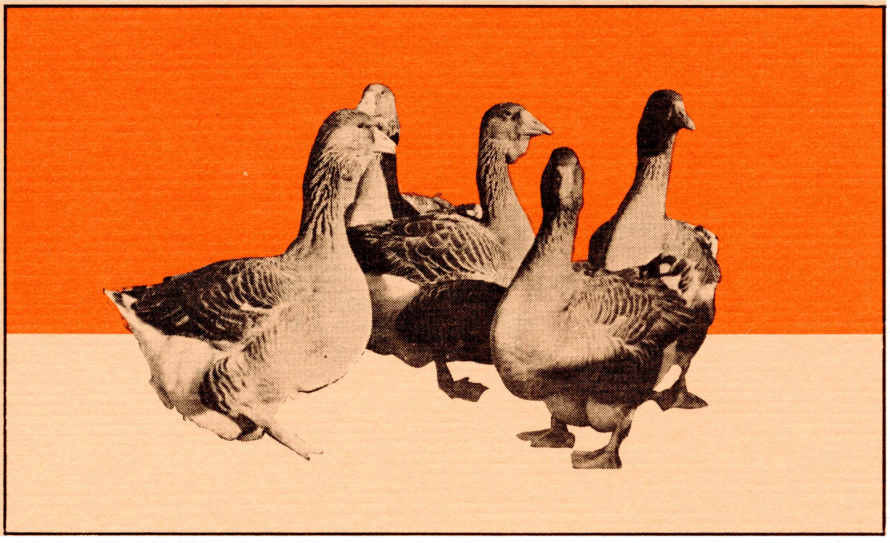


Figure 7. Toulouse geese.

MATING AND BREEDING

While the domesticated ducks lay steadily up to 6 months or longer during the year, geese are essentially spring layers. In Hawaii, Chinese geese sometimes start to lay from December. Usually, however, they start in late January and lay until mid-May. Other breeds come into production a month or two later.

Single male matings or mass mating may be used for breeding ducks. The number of ducks for each drake varies with the breed and the type of mating made. For single drake matings, 6 to 8 ducks can be allowed to each Khaki Campbell or Runner drake. For Pekin, the ratio should be one male to 5 or 6 ducks, while for the Muscovy, the ratio should be one drake to 4 or 5 ducks. When ducks are mass mated, the number of females per drake may be increased by one or two birds over the figures given for single drake matings.

It is common to mate ducks in their first laying season to drakes of the same year. Breeder ducks may be kept and used for several years, but preferably, they should be mated to drakes in their first year.

Geese should be mated at least one month before the breeding season. The larger breeds mate best in two's or three's or in a ratio of one male to 3 or 4 females in mass matings. Ganders of the smaller-bodied breeds will mate satisfactorily with 4 or 5 females.

Young ganders make good breeders, but both sexes usually give best breeding results when they are 2 to 5 years old. Good fertility may be obtained in eggs from young birds, but these eggs may not hatch well. Although young flocks are considered more profitable, females will lay until they are 10 or more years of age, and ganders may be kept to more than 5 years.

Water for swimming.

Most breeds of ducks will mate satisfactorily and produce strongly fertile eggs without having access to water for swimming. This is also true of the several breeds of geese, although the larger breeds mate more readily in shallow water. A creek or pond may therefore be an asset if the water is kept clean. Small concrete pools may also be installed in the yard, but these must be supplied constantly with clean, fresh water.

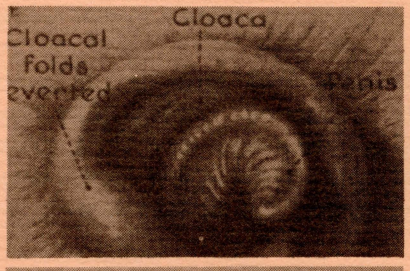
Ducklings and goslings can be reared successfully without access to water for swimming, but plenty of clean and fresh water for drinking must always be available. Water for drinking should be in troughs deep enough for the birds to dip their bills and heads into the water, at least far enough to clean their nostrils.

Determining the sex.

In some breeds of ducks, such as the Khaki Campbell, Indian Runner, Rouen, and Pekin, the drakes may be recognized by the upward curls of two feathers on the top of the tail (see Figure 1). The drake of the Muscovy is much larger than the duck; also, its head area is much coarser than that of the duck.

In all breeds of geese except the Pilgrim, however, determining sex by physical appearance is difficult. Sex must be determined by examining the reproductive organs, as follows:

Lift the bird by the neck and lay it on its back, either on a table or over your bended knee, with the tail pointed away from you. Insert your index finger into the cloaca (inside of the vent) and relax the sphincter muscle which closes the opening. Next apply some pressure directly below and on the sides of the vent to evert or expose the sex organs. The organs of the female and male are shown in Figure 8.



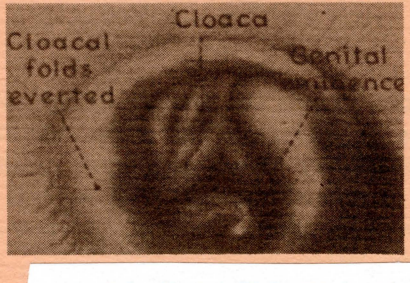


Figure 8. (Top, left) Exposed reproductive organ of an immature male. (Top, right) Reproductive organ of sexually mature male. (Bottom) Genital eminence of maturing female.

Nests.

Nests for ducks are easily made. The top and bottom should be left open. Partitions 12 by 14 inches in size are held apart by nailing them at 11-inch intervals to a 6-inch board running along a wall of the pen or shed. A 1- by 2-inch board is then nailed along the bottom front of the series of nests to make the construction more rigid. This leaves the bottom, top, and front open. Straw or shavings are then placed in these nests to encourage the ducks to develop a habit of laying in the nests rather than on the floor or outside on the ground. Fresh bedding should be added when required to keep the nests clean and to reduce egg soilage.

Breeding geese prefer to be outdoors. They make nests on the floor of the house or in coops, boxes, or barrels provided in the yard. Outdoor nest-boxes should be at least 24 inches square (2 feet by 2 feet). Straw or wood shavings are used for outside nests as well as for nests on the floor of a house or shed. Provide one nest for every 3 females. Inside nests should be separated by partitions and outdoor nests should be some distance apart to minimize fighting. *Caution:* Locate the nests where the eggs will be protected from the mongoose.

Geese should be fed a pelleted breeder ration at least one month before egg production begins. Pellets are preferred over mash because they perform much better on pellets and waste less feed. Since there is no such feed available here, use a high protein chicken layer ration. Provide oystershell (or other calcium source such as crushed coral), grit, and plenty of clean, fresh drinking water at all times.

In order to maintain egg production, broody (characteristic of sitting on eggs) geese should be confined away from, but in sight of their mates and the eggs should be gathered often to break up broodiness.

Storing and incubating eggs.

Eggs from ducks and geese gathered from the nest should, if soiled, be cleaned first and then stored. For hatching, avoid using eggs with rough or cracked shells. The cleaning should be done with a detergent-sanitizer, available at most farm supply stores. Follow the manufacturer's direction on the use of these detergent-sanitizers. It is important that the washing solution be warmed to a temperature of about 110 F. Wash the soiled eggs only and dry them immediately. Following this, store the eggs at about 55 F. and at a relative humidity of 75 percent until they are set for hatching, either artificially or naturally.

If eggs are stored for more than 2 days, they should be turned daily. It is not a good idea to store eggs for more than a week before setting because hatchability decreases fairly rapidly if they are stored for a longer period. If

the eggs are stored under proper conditions, they may be held for 10 to 14 days with fair results.

The incubation period for duck eggs, except for the Muscovy, is 28 days. The Muscovy duck eggs require 35 days, as do the eggs of the Canada and Egyptian geese. All other goose eggs hatch in 30 to 31 days.

Duck and goose eggs may be hatched naturally or artificially. Where only a few eggs are available for hatching, a broody duck, goose, or chicken would be preferable. However, since broody chicken hens are now somewhat rare and egg production of geese and ducks can be increased by "breaking up" broodiness, it is often better to use artificial incubation. Also, broody females of any species are not always reliable sitters and may desert the nest in mid-hatch, break eggs, or trample the young at hatching time.

A chicken hen will cover from 4 to 6 goose eggs and from 9 to 11 duck eggs. Goose eggs set under a hen should be turned by hand twice daily because the hen will not be able to turn them. She will, however, be able to turn the duck eggs without difficulty. A broody goose could cover 9 to 10 eggs while a Muscovy duck could cover about 10 to 12 goose eggs.

Waterfowl eggs usually hatch best when the nests are made on the ground, on a moist, upturned sod, or where additional moisture can be supplied in some other way. It is helpful to sprinkle the eggs with warm water once daily.

Nests should be watched at hatching time. As soon as they hatch, the first ducklings and goslings should be removed from the nest and held in a basket or box lined with a material such as flannel until the youngest are several hours old. If this is not done, the female may leave the nest before the hatch is completed.

For artificial incubation, small, inexpensive electric incubators are available. This method is more difficult to use with waterfowl eggs than with chicken eggs, because of the longer incubation period and the higher humidity required. When using an incubator, always follow the manufacturer's instructions. During incubation, duck and goose eggs should be turned at least twice a day. Goose eggs should be turned a full 180 degrees, or completely over, each time. It helps to draw a black line down one side of the egg and a red line down the other. The eggs are turned black line up at one turning and red the next.

REARING DUCKLINGS AND GOSLINGS

Both ducklings and goslings can be brooded successfully by broody chicken hens and most breeds of geese and ducks, except Pekin and Indian Runner. If the young birds are not of the broody female's own hatch, it is best to place them under her at night. Otherwise, even though they may be

accepted by the foster mother, they may be picked or trampled to death.

A hen with her brood may be put outdoors in a coop, which should have a waterproof roof and a slatted front or door to confine the hen but allow the young to go outside. A good quantity of clean, dry litter material placed on the ground is advisable.

Both the hen and the young need a constant supply of fresh drinking water but not in containers that will allow the young birds to become wet. The young should be left with the hen until they are sufficiently feathered.

Brooding may be done with artificial heat. The brooder house should be waterproof with a solid concrete floor. A suitable litter material such as wood shavings should be spread over the entire brooding area to a depth of about 3 inches. A 250-watt heat ray lamp placed about 24 inches from the top of the litter should be sufficient to supply about a 90-degree temperature at bird height. After the second week, the lamp may be turned on only during the night. After the 3rd week, it can be removed. When using artificial heat, pay special attention to the litter; it may become wet or caked, especially when brooding goslings. Replace the wet or caked litter with fresh and dry litter material.

FEEDING DUCKLINGS AND GOSLINGS

Although ducks can be raised successfully without access to greens, it is advantageous to have succulent greens available. Ducklings should be fed a commercial chick ration containing 18 to 20 percent crude protein. The ration for goslings should contain 20 to 22 percent crude protein for the first 3 weeks. After 3 weeks, the ducklings' ration can be changed so it contains about 15 percent crude protein. The ducklings can be fed this ration until they are about 6 weeks old, or until they are slaughtered for meat (about 8 or 9 weeks of age for the Pekin). Ducks and drakes to be kept for breeding purposes can be continued on the same ration.

After 6 weeks, Muscovy ducklings can be fed large amounts of table scraps (garbage), some commercial mash, oystershell, and whatever succulent greens are available. *Caution:* When feeding garbage, maintain satisfactory sanitary conditions around the duck house or yard. It is essential to clean the feed troughs frequently to minimize undesirable odors and flies.

Similarly, goslings can be fed a ration containing 15 percent crude protein after 3 weeks and until they are 5 or 6 weeks old. Since geese are largely herbivorous (plant-eaters), they can be grown to maturity on grasses alone, provided there is a sufficient amount of young and tender grasses available. Geese are very selective and tend to pick out the palatable forages. They reject alfalfa and narrow-leaved tough grasses and select the more succulent clovers and grasses. Since they eat weeds without harming certain cultivated

plants, they are used as weeders on the mainland U.S. for such crops as strawberries, sugar beets, corn, cotton, and ornamental plants. They are also used in orchards and vineyards.

Insoluble grit should be freely available to ducklings and goslings during the growing period.

KILLING AND DRESSING

Meat-type ducks are ready for slaughter when they are 8 to 9 weeks old. At this age, ducklings come into full feathering and are then most easily defeathered. If they are held longer before slaughter, molting begins, accompanied by a heavy growth of pinfeathers, making feather removal difficult. Muscovys, however, are best killed when they are about 17 or 18 weeks old. Goslings are best slaughtered when they are from 12 to 16 weeks old.

Both ducks and geese should be starved from 4 to 6 hours or overnight before killing, but water should be available. To slaughter, the duck or the goose may be placed in a killing cone (a cone-shaped metal container open at both ends) or hung by the legs from a crossbar. Hold the bill with one hand and cut the throat on the side at the base of the beak to sever the jugular vein and carotid artery. Make sure the cut allows rapid and thorough bleeding.

Both geese and ducks can be dry-picked. If well done, dry-picking results in an attractive carcass, but it is a very time-consuming technique. There is also a greater possibility of skin tears.

Hand-scalding is recommended when only one or two birds are slaughtered at any one time. A small container, but large enough to completely accommodate the bird, should be used. For ducks, the scald water should be heated to between 135 and 145 F. and for geese, between 145 and 155 F. The time of scalding varies from 1½ to 3 minutes or slightly longer. Scalding time is longer for geese than for ducks.

To scald, grasp the bird firmly by the bill with one hand and by the legs with the other, and then submerge its body, breast down, in the scalding water. Pull the bird repeatedly through the water against the lay of the feather so that water is forced through the feathers to the skin.

After scalding, the feathers may be picked by hand until what remains are only pinfeathers and down, which are difficult and time-consuming to remove by hand. To complete the process, grasp the pinfeathers between the thumb and a dull knife and pull. Another method to remove pinfeathers is to use melted wax, i.e., wax especially formulated for use on poultry. After the bird is rough picked, it should be dried slightly; then dip the carcass several times in the melted wax, held at 150 to 160 F., to build up a layer of wax

heavy enough to supply good pulling power. For best results, use 2 tanks of wax, one held at 160 to 170 F., and the second at about 150 F. The hotter wax is used for penetration and the cooler one for buildup. After waxing, the carcass should be sprayed with or dipped in cold water to cool and harden the wax. The wax can then be removed by peeling. To reclaim the wax, remelt and strain it from the pinfeathers, down, and feathers. *Caution:* Poultry wax is inflammable; make sure there is no contact between the wax and an open flame or similar source of heat.

The head and feet should be removed immediately and the carcass eviscerated. If cooking is to be delayed, the carcass should be chilled or frozen immediately to avoid deterioration. Chilled carcasses should not be held for more than a few days prior to cooking.

DISEASES AND PARASITES

Ducks and geese are subject to relatively few of the many diseases common to most poultry. This is true when these birds are raised in small numbers and have access to somewhat large areas. Diseases and parasites can become a problem when birds are confined in a small area. In any case, sanitation is very important for disease control. Do not allow old feed, fecal matter, and other filth to accumulate in the yard. Diseases and parasites can also become a problem when the birds have access to stagnant water in pools and ponds. Remember, prevention is the best insurance against disease, and sanitation in all phases of incubation, brooding, rearing, and general management is the best preventive measure.

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