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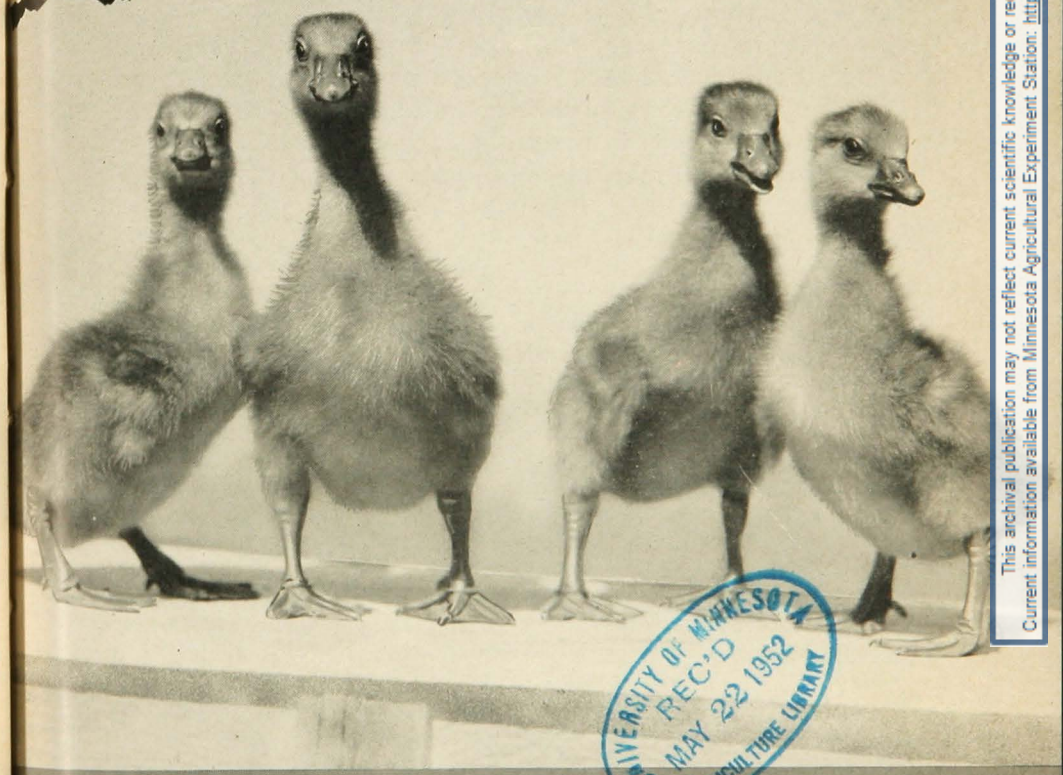
SEX DETERMINATION OF Geese



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Sex Determination of Geese

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MANY PEOPLE experience considerable difficulty in determining the sex of geese, even fully mature geese. Only in the Pilgrim breed, where the plumage color of the gander is white and of the goose, gray, can the sexes be easily separated.

There are, of course, general characteristics expressing masculinity, such as large body and head parts, present in the average male (figure 1). Ganders of the African and Chinese breeds (figure 2) ordinarily have a larger and more prominent knob on the head at the base of the bill than the females. In the African breed and in some strains of Toulouse the males commonly have a larger dewlap (pendulous skin development under the throat) than the opposite sex. Immature birds are not likely to show these differences to any degree, however, (figure 3), and even in mature geese there may be oversized females and small males.

Breeder selection is ordinarily made in November or December so that surplus birds can be advantageously sold to meet the strong holiday demand. Since geese in the heavy breeds are generally mated in the proportion of one gander to two females (sometimes in pairs) and frequently in Chinese in as wide a ratio as one male to five females, the breeder must be able to determine sex. As the young geese are about six months old at the time of selection, it is very difficult to separate the sexes except by a careful examination of the reproductive organs.

In 1948 Peyton drew illustrations of the sex organs of both goslings and mature geese and described methods for making the determination. Authors have previously given only vague descriptions and have occasionally furnished totally inadequate illustrations. It seems advisable to us to illustrate the sex organs in even more detail so that those unacquainted with the art can become skillful after a little diligent practice.

The following illustrations and descriptive material are therefore designed to aid the poultryman in determining the sex of geese of any age with accuracy.

SEXING GOSLINGS

Figure 4 illustrates the method used for holding a gosling to be sexed. A right-handed person solds the bird in his *left* hand.

Figure 5 shows a convenient arrangement for sexing a number of goslings under artificial light. Goslings to be sexed are held in the center box. The males are then placed in the box on the

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Fig. 4. Day-old gosling held in sexer's left hand.

right and females on the left. A two hundred-watt bulb with reflector is very suitable, although good natural light is sufficient illumination.

Figure 6 demonstrates a method for everting the cloaca by rolling back the lower edge of the vent. (A similar method is used by some chick sexers.) The left thumb and right forefinger extend the dorsal (upper) surface of the vent upwards. Then the right thumb is placed on edge below the ventral (lower) portion, with the nail on the median (center) line. While the left thumb and right forefinger hold their original positions, pressing slightly down, the right thumbnail is pushing upwards, thereby rolling out or everting the ventral portion of the cloaca.

To expose the genital eminence (sex organ) completely, the thumbnail is pushed upwards at the base of the vent,

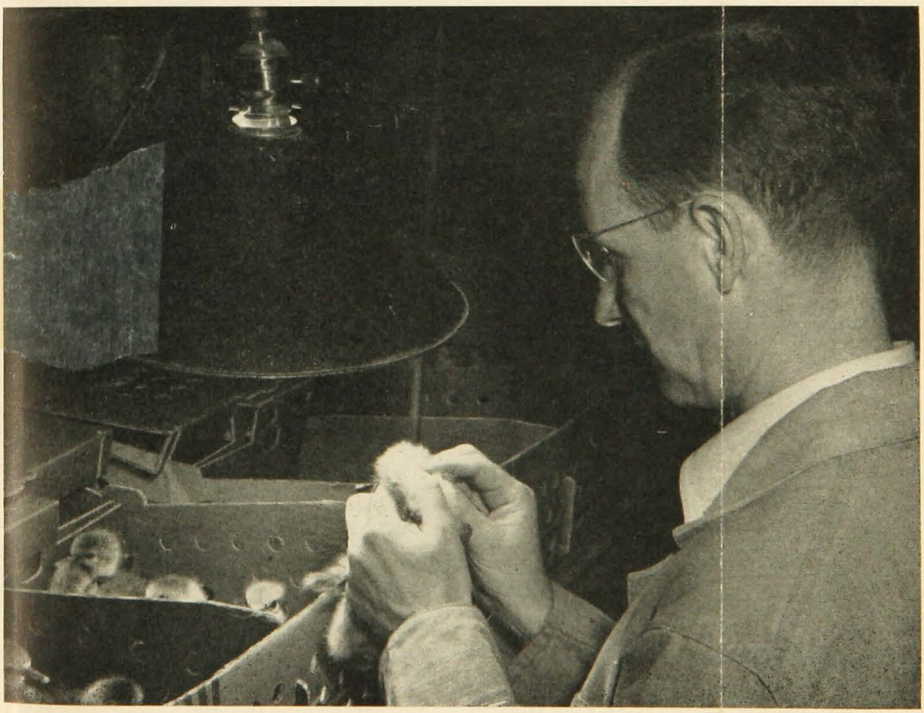

Fig. 5. The author demonstrates a convenient arrangement for sexing day-old goslings.

and at the same time the left thumb and right forefinger pull the vent gently sideways.

The day-old male eminence or penis is shown almost completely exposed in figure 7. It has a distinct spiral cork-screw-like appearance. When pressure is released, the penis withdraws into its sheath where it is entirely concealed.

The genital eminence of the female (figure 8) varies somewhat in size and amount of dark pigmentation. It lies flat against the inner-lower side of the cloaca and is shaped somewhat like a yellow summer squash with the head end sharply bent downward. When the gosling is held as illustrated, the head with the neck bent is on the right. One must have good exposure, look carefully, and possess normally keen eye sight to identify the female eminence as described above.

Nearly 100 per cent accuracy can be attained if the sexer will take the care necessary to make a complete exposure of the eminence. When only partial exposure is obtained, a large female eminence may be mistaken for an immature male penis, or the male organ may not be unsheathed fully enough to be distinguished as such.

SEXING PARTIALLY GROWN OR ADULT GEESE

After the goose is caught, lift it 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, as shown in figure 9. Move the tail end of the bird out over the edge so that this portion can be bent down readily. Then insert your pointer finger (sometimes it helps to have a little vaseline on it) into the cloaca about half an inch and move it around in a circular manner several times to enlarge and relax the sphincter muscle which closes the opening. Next, apply some pressure directly below and on the sides of the

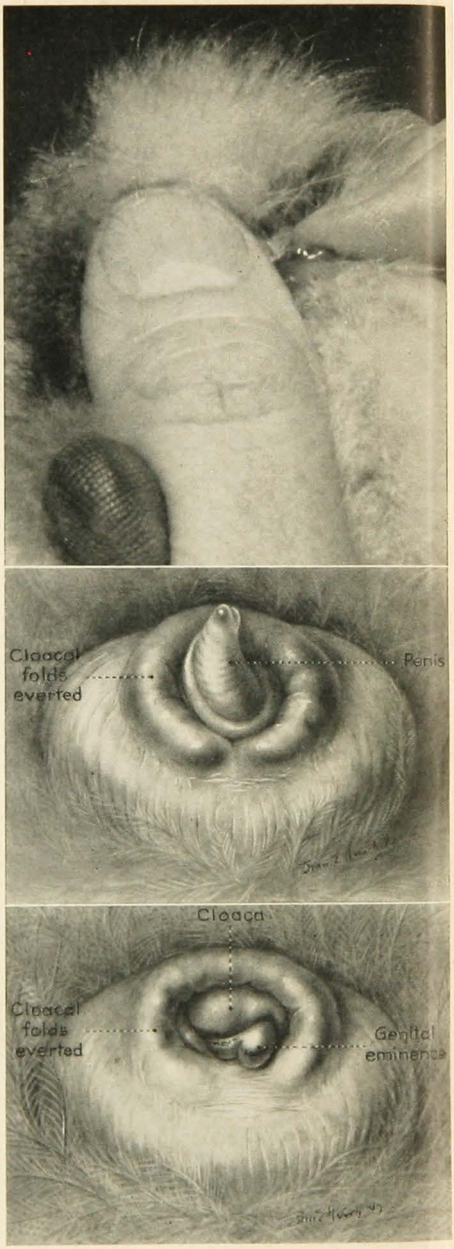

Fig. 6. (Upper) Everting the cloaca. Fig. 7. (Middle) Exposed reproductive organ of day-old male. (Magnif. approx. 4X) Fig. 8. (Lower) Genital eminence of day-old female. (Magnif. approx. 4X)

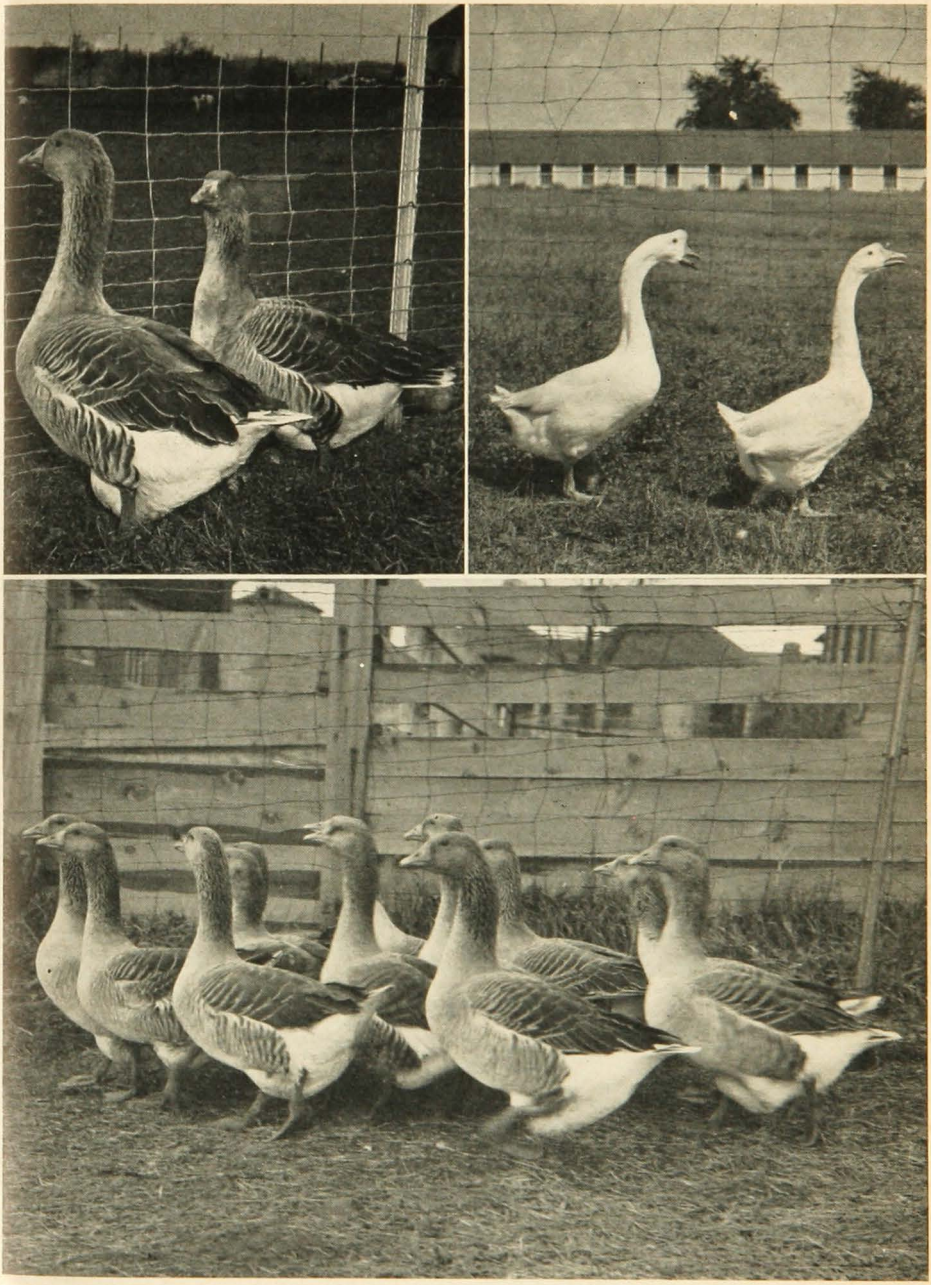

Fig. 1. (Upper left) Two-year-old Toulouse gander (left) and goose. Fig. 2. (Upper right) White Chinese gander (left) and goose. Fig. 3. Flock of six-month-old Toulouse males and females.

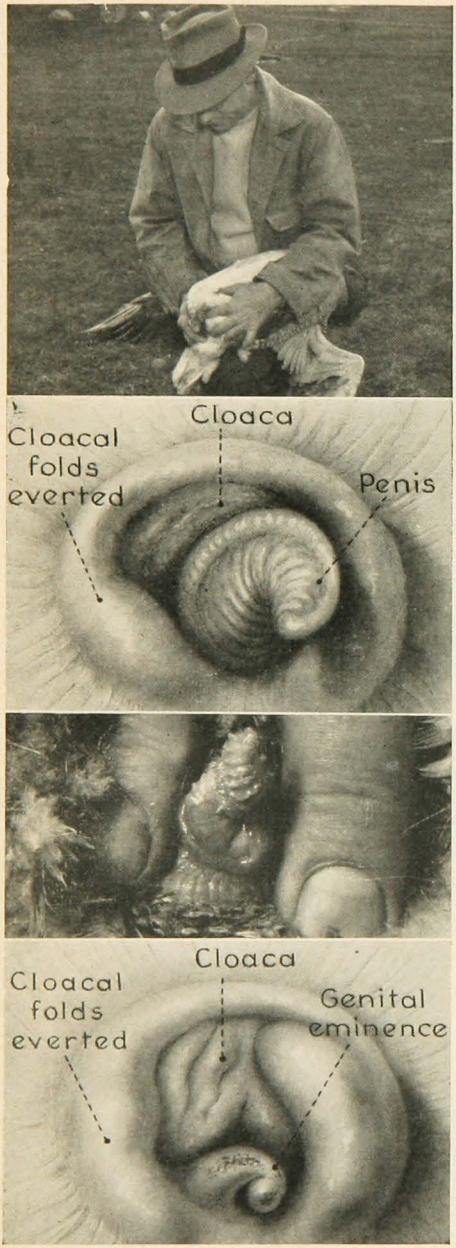

Fig. 9. (Upper) Holding a goose for sexing. Fig. 10 (Upper middle) Exposed reproductive organ of an immature male. (Magnif. approx. 1½X) Fig. 11. (Lower middle) Reproductive organ of sexually mature male. Fig. 12. (Lower) Genital eminence of mature female. (Magnif. approx. 1½X)

vent in order to evert or expose the sex organ.

Figure 10 shows the exposed penis of an immature male at about six months of age. Its general shape is identical with that of the day-old gosling (figure 7), although it begins to show more maturity through slightly greater size and more prominence of the concentric rings. Figure 11 illustrates the penis of the sexually mature gander. At full maturity the organ may reach a length of several inches. Variations in size occur in geese until shortly before the breeding season when adult maturity is reached.

Figure 12 shows the adult female eminence. Its location and shape are essentially the same as in the day-old gosling (figure 8). The slight shape differences illustrated in the two female genital eminences (figures 8 and 12) are presented primarily to show the small amount of variation that ordinarily may occur in form.

As the male penis is somewhat difficult to unsheath, sex determination based on the absence or presence of this organ often leads to mistakes. An inexperienced sexer might easily call a bird a female if, after a slight amount of pressure, the corkscrew-like male organ did not protrude. Positive identification of a female can, therefore, be based only upon the *presence of a female genital eminence.*

Acknowledgment

Figures 7, 8, 10, and 12 are photographs of original drawings prepared with the aid of Jean E. Hirsch, director of the Medical Art Shop. Her artistic skill made these true-to-life illustrations possible.

The author is indebted to John L. Peyton for instruction in the art of sexing geese.

Literature Cited

PEYTON, J. L. How to determine sex in geese and goslings. Bulletin 17, Route 2, Box 743, Duluth, Minnesota. 1948.