

Proper Handling of Male Turkeys During Semen Collection



A Hendrix Genetics Company

info.hybrid@hendrix-genetics.com

www.hybridturkeys.com

Artificial insemination is a routine practice in the turkey breeder industry. It was originally implemented in order to control diseases such as *Mycoplasma meleagridis*. It has continued as a means of ensuring high levels of fertility (as much as 95% or more) during the main part of the breeding season when performed by skilled staff.

The expertise of personnel in managing and handling the male dramatically influences the production of semen. Good management can be defined as providing the male with what it requires, when it is required. Semen quality and quantity can be influenced by many factors such as: type of housing, staff changes, light intensity and duration, temperature, nutrition and health.

The increased frame size and body weight of today's male turkey adds difficulty to collecting semen due to extra maneuvering that is required before and during massage. To ensure the health and wellness of male turkeys, feeding regimes and diet compositions should be devised to minimize the development of obesity. A properly weighted male turkey will produce high quality semen with greater ease.

Stimulation

It is essential to pick up the male without undue struggling.

There are several ways of handling males to stimulate ejaculation, the simplest and most common technique usually requires two people. The first person (the operator) holds the bird's legs and operates the semen collection apparatus. The second person (the milker) massages the area around the cloaca.

- 1 Place the male on its chest in a vertical position with its neck under one thigh of the milker and its legs over the milker's other thigh. Hold the legs of the bird firmly in place together by one hand of the operator.
- 2 Massage the soft part of the abdomen with the free fingers and thumb of the left hand to protrude the phallus. At the same time, push the tail back over the male's back with the heel of the right hand. Further stimulate the male (if needed) by passing the palm gently over the vent in the same sequence.
- 3 In a series of simultaneous movements, the operator maintains pressure on the tail head until the thumb and index finger of the left hand are in position to squeeze behind the phallus. Simultaneously, maintain the pressure on the tail head, with the heel of the left hand.

- 4 Using the index finger of the right hand, the operator places pressure below the phallus. NOTE: It is very important to place the thumb and index finger well behind the protruded phallus in order to squeeze the bulbous ductus. The pressure applied will also determine the flow of semen.

Collection

Do not stroke the male more than twice. After two strokes, risk of injury to the cloacal area increases, with minimal additional semen being gained.

Semen is collected off the end of the phallus only. Care must be taken to apply an aspiration rate that will pick up the semen slowly and carefully. Too high an aspiration rate has led to the damage to the tails of the spermatozoa, which results in poor fertility.

To minimize the collection of unwanted contaminants, such as urates and fecal material, the following steps are recommended:

- 1 Do not go up the phallus further into the cloacal region during aspiration.
- 2 Do not feed 4–6 hours prior to semen collection. If semen is to be collected first thing in the morning, feeding should be delayed until after semen collection.
- 3 Maintain adequate lighting to ensure easy visual inspection of the quality of the semen.

Why is the pressure (exerted with the thumb and index fingers) while squeezing behind the phallus so important?

The semen should flow slowly down the phallus to the point of collection. This will also allow the milker to see if the semen being collected is free from contaminant materials. It is also important to note that the squeezing pressure should be done carefully so it does not cause the bird to bleed in this sensitive area.

NOTE: If bleeding occurs, it is an indication that the milker is squeezing too hard or stroking too many times. If this occurs, stop collection immediately and rest the bird for 3–4 days.

An important principle: Work with the male. If the milker is working too hard, he is working against the male and likely causing damage.

After milking and collecting semen, the male should be released slowly and gently lowered to the floor to prevent bruising or injury.

To obtain the maximum amount of good quality semen, males should be collected minimally once a week, but optimally twice a week. Lapses for extended periods can lead to a lowering of semen production and quality of spermatozoa. This is unsatisfactory if semen is intended to be diluted or stored before use. If semen looks visually normal in color and consistency, you can be relatively sure that spermatozoa concentration and motility of semen are satisfactory enough to assure high fertility.

Semen Characteristics

Good quality semen has a thick consistency and a pearly white color.

When the males first begin to produce semen, some may produce semen that has a yellow color. If this persists after 2–3 collections these males should be culled from the flock. Yellow semen has a high content of defective and/or under developed spermatozoa resulting in lower fertility. Yellow semen should never be used. Semen with a reduced number of spermatozoa is grayish in color and watery in appearance.

It is critical not to include samples of these types in a pool collected from many males as they may affect the holding quality and fertilizing potential of the entire pool. When in doubt, discard it.

Cull birds which produce any of the following on a consistent basis (more than 2–3 occasions):

- weak or watery semen
- off-colored semen
- low volumes of semen (less than 0.2cc)

Conclusion

A healthy male turkey is essential to a successful breeding program. It is critical that birds are handled gently by skilled staff, especially during semen collection. Proper handling will ensure the males achieve maximum quality and quantity of semen to aid in the production of viable, fertile eggs and ultimately top quality poults.

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info.hybrid@hendrix-genetics.com
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