

COBB

World Quality Assurance Guide





World Quality

Cobb is recognized world wide as having achieved very high quality standards. This has been achieved through the Cobb quality system, which encompasses a recognized quality system with specific standards, employee training and certification and ongoing audits to ensure compliance. Our quality measurement system that monitors outgoing product quality is called "The Perfect Order". This metric aims for continuous improvement of product and service. It means that wherever and whenever customers choose Cobb parent stock, they are assured of consistent product quality, courteous efficient service, the same genetic potential and high health status.

Our charter and role within the Quality Assurance (QA) department is to assist Cobb grandparent operations to achieve these standards, whether owned by the company or franchise distributors.

This Manual provides an overview of the systems, facilities and operating practices which have been proven to enable production of a Quality Product. We would strongly recommend that all GP Operations strive to achieve at least the minimum standards detailed in this publication.

Our continued commitment to quality ensures that both we and our customers will reap the rewards associated with production of an outstanding product.

1. Quality Systems

1.1 All operations within the Cobb organization and Cobb franchisees distributing product must have a quality system recognized by Cobb

This quality system should include training, audits /verification and documented procedures. These procedures should include:

- Management responsibilities.
- Procedures for operations that have a significant impact on quality and/or are too complex to commit to memory. Such procedures must clearly describe the process, specify the Standards required, identify the person responsible for ensuring standards are achieved and detail what action is required when standards are not met.
- Standards for the qualification of operators.
- Determining hazards / controlling processes.
- Non-conformity / corrective action.
- Control limits / inspection and testing.
- Calibration / preventive maintenance.
- Lists of approved suppliers who can supply raw materials to agreed quality standards.

2. Protecting the Genotype

Blood lines, developed by Cobb whose purpose is to supply progeny for commercial breeding stock, must be limited exclusively to Cobb company-owned operations and franchise customers who are legally bound by signed contracts, and no one else.

These franchisees and facilities shall be responsible for implementing systems and monitoring them to ensure that every effort is made to prevent unauthorized distribution or theft of Cobb breeding stock.

2.1 All Cobb stock must remain genetically pure and be mated per the contract agreement

- **Structured security measures must be in place to prevent mixing of lines. Franchiser distributors should check line identification EVERY TIME stock is handled and any non-compliances recorded.**
- **All sexing errors must be removed two weeks before saving hatching eggs.**

A complete detailed record of sexing errors must be available on the farm and reported to Cobb Technical Department

In light of experience QA would suggest the following as the minimum requirements to ensure that the genetic purity is achieved:

- All gates should be fitted with double catches.
- From day old to 6 weeks of age, containment should include adequate partition frames with solid baseboards.
- All feed troughs must be fitted with approved chick guards between partitions.
- Where equipment such as feeders and nipple drinkers pass through partitions, the gaps should be securely sealed with a non-perishable, bio-secure material.
- All males must be clearly identified by artificial spray color (administered at the phenotype selection process).
- If different lines are not sharing the same house/airspace, it is only necessary to re-spray before mate up. The males should retain their color identification until at least 30 weeks of age through re-spraying as necessary.
- All pen divisions should be to a minimum height of 2.4 meters / 8 ft.
- Houses containing more than one line should be provisioned with passageways to separate the lines. Where this is not possible, adjoining pens must be fitted with double security gates. The space between security gates should be a minimum of 2.4m / 8 ft and this area should never be used to hold live birds.

The minimum recommended requirements to prevent line mixing of hatching eggs where more than one line shares the same house are as follows.

- For hand collection, all male line eggs must be marked inside the pen.
- For automated collection systems, with two different lines share adjoining belts it should be made impossible to run both lines at the same time.
- Identification of hatching eggs by flock, line, date of collection and house number and the initials of the person who packed the eggs on the farm should be recorded on the first row of eggs of each hatching tray.
- Color coding of egg marking should be maintained.
- Any floor eggs should be marked with an additional black stroke in addition to the relevant line color.
- For additional lines (Product) international color standards as per QA directive.
- Where possible hatching eggs should be transported/hatched on coordinated colored trays depicting the line.
- Feather typing and color checks of parent stock chicks should be conducted at the hatchery as follows:

One thousand chicks, from the first hatch from each source flock and the hatch when the source flock reaches 32 weeks of age will be checked to confirm feather type, black specks and color. If more than 1.5% of the chicks have the wrong feather type, the hatchery will notify the Director of production and the Complex Managers. If 2% or more of the chicks have the wrong feather type, all chicks from that flock must be vent sexed and sorted for feather type prior to leaving the hatchery and an investigation of the source flock initiated. If >2.0% of the chicks are grey or have grey legs the source flock should be investigated. Grey and grey-legged chicks must not be sent to the customer.

2.2 In order for the Cobb GP breeding program to achieve worldwide consistency, certain standard criteria should be strictly followed

To achieve and maintain breeding program consistency and to safeguard the genetic potential of broilers produced from Cobb Parent Stock worldwide, the following should be achieved:

- Males of both the male and female lines must initially be managed as broilers. The body weight should target maximum growth potential.
- A phenotypic selection must then be performed at the selection pressures and target body weight set by the R& D department.
- Only skilled, Cobb certified “Selectors”, should carry out the selections.
- The rejected stock from this phenotypic selection should be removed from the farm following procedures to maintain genetic security and without compromising bio-security or animal welfare. Such procedures should be approved by Quality Assurance Department personnel.

3. Health Status

It is Cobb's objective to ensure and maintain the highest possible health status for all its flocks through comprehensive vaccination programs and ensure freedom from all salmonellae, Mycoplasma gallisepticum (MG) Mycoplasma synoviae (MS) Avian Influenza (AI) and myeloid leucosis (ALV-J strain) through effective bio-security controls supported by comprehensive monitoring programs.

3.1 Salmonella –flocks must remain free from ALL salmonellae

A comprehensive testing program must be agreed and implemented. This program should include the following:

- Flock status should be monitored at each farm through at least 3-weekly salmonella testing by litter or drag swabs from each air space.
- Flock status should be confirmed by hatchery sampling on every hatch:
Sampling should entail either environmental samples from the chick take-off area/equipment, fluff and/or composite meconium.
- It is recommended that all personnel coming into contact with Cobb livestock should submit three (3) human faecal samples on at least a quarterly basis.
- Feed must be obtained from mills using systems specifically designed to produce salmonella free feed. Unless exceptional control of raw material supply is possible, this should include a heat-treatment process of at least 81°C for 45 seconds plus inclusion of an acid based salmonella inhibitor, preferably including formaldehyde.
- Weekly environmental samples should be collected from Critical Control Point areas in the mill including, raw material intake, coolers and finished feed out-loading.
- Feed suppliers are to be audited at least semi-annually to confirm adherence to their bio-security regimes.
- Evidence of at least annual audits of all raw material suppliers should be available.
 - Audits should include assessment of salmonella monitoring programs, hygiene standards, salmonella control strategies, rodent/bird proofing, vermin control programs and product purity verification.
- Effectiveness of poultry house cleanout/disinfections should be confirmed by environmental testing in accordance with a Cobb approved, documented regime.
 - All samples must be tested by a QA approved laboratory using QA approved and documented methodology.
 - No shavings are to be placed until a negative salmonella result is obtained for all samples.
 - ❖ Shavings should be purchased from an approved supplier who is audited annually.

3.2 Mycoplasma and Avian Influenza – flocks must be free from MG, MS and AI

To achieve and maintain AI mycoplasma free status and to safeguard the health of all Cobb stock, the following minimum requirements should be followed:

- A minimum of 40 blood samples per flock (ensuring samples are collected in every air-space) should be collected at intervals of 3 weeks from 12 weeks old to depletion. All samples must be tested for MG and MS by Rapid Plate Test, using a QA approved antigen supplier. All flocks yielding reactors are to be followed up by re-testing. If re-tests also indicate a potential problem, HI, PCR and/or culture must be used to confirm flock status.
- A minimum of 10 samples from each mycoplasma submission should be tested for AI using ELISA or AGPT methodology. A flock positive profile should trigger a re-test of the flock and submission of samples to a reference laboratory.
- A QA approved laboratory, using approved and documented methodology, must test all samples.

3.4 All parent hatcheries must adhere to an agreed Mareks vaccination program

- Detailed procedures for Mareks vaccine storage, reconstitution, and administration should be written, with a documented regime for checking adherence to these procedures. Records of the checks should be available.
- A documented training program with training records for each individual working with Mareks vaccine is required.

3.5 By 24 weeks, all stock must have adequate antibody titres against significant poultry viruses

To safeguard the health of all Cobb stock, the following minimum requirements should be followed:

- A detailed, documented vaccination and testing schedule mutually agreed by Cobb personnel or Cobb veterinary consultants should be implemented.
- These programs are to ensure that by 24 weeks, all stock have adequate, Newcastle disease, Infectious bronchitis, Chick Anaemia Virus, Infectious Bursal Disease, Reo virus and Avian Encephalomyelitis virus antibody titres.
 - ❖ Stock should also be vaccinated for additional diseases, which are prevalent locally.
- Detailed, documented procedures for all vaccinations should be available on site for all staff conducting vaccinations.
- The individuals conducting the vaccination and the taking of blood should attend appropriate training, and refresher courses, to ensure they are familiar with current “best practice”.
- Periodic internal audits of all vaccinations should be performed.
- The vaccination and vaccine storage facilities should be fully controlled with documented records of vaccine supplier, vaccine batch, expiry date, doses used, individual reconstituting the vaccine.

3.6 Facilities I - Farms should conform to Cobb Quality Standards

These are the minimum recommended requirements to achieve this standard:

- Farms should be at least 1 kilometre / 3,000 ft from other poultry facilities and at least 500 meters / 1,600 ft from other commercial livestock.
- Farms should not be close to roads which carry a high proportion of livestock traffic.
- Controlled access must be provided for both personnel and vehicles.
- Adequate shower-on facilities are required on all units. The changing room should be designed to achieve effective separation of 'off-farm' and 'on-farm' protective clothing and footwear.
- Laundry facilities should be sited 'on-farm'.
- Boot change system should be in operation between housing.
- A QA approved egg sanitation system should be in place.
- Poultry houses must be bird and vermin proof.
 - Farms must be maintained so that areas likely to attract rodents or wild birds are eliminated.
 - All farms must have a documented vermin control program, with records to monitor rodent activity and status of baiting stations.
- Hand sanitation facilities must be sited at the entrance to all livestock areas.
- Water source must be of an acceptable microbiological and chemical standard. (QA department to set the acceptable limits).
- All personnel must be trained to understand the vital significance of bio-security and the importance of adhering to all disease control measures.
- All farms must have a QA approved system for disposal of dead birds and waste. Incineration is the preferred method.

3.7 Facilities II - Hatcheries must conform to Cobb Quality Standards

These are the minimum recommended requirements to achieve this standard:

- All hatcheries should have facilities for sanitizing eggs on arrival, and equipment on departure. Formaldehyde fumigation through a purpose built and validated chamber is the preferred method.
- Ventilation systems must be designed to prevent air from 'dirty' areas (e.g. processing rooms) contaminating 'clean' areas (e.g. setter rooms).
- Workflow should ensure that equipment and people associated with activities prior to transfer is completely separated from equipment and people associated with post transfer processes. This includes the equipment used for cleaning and disinfection of areas and apparatus.
- Hatchery waste should be disposed of so as not to compromise bio-security or breach environmental codes of "best practice".
- Approved and documented cleaning and disinfection procedures for the hatchery and delivery vehicles should be in place.
- The individuals performing cleaning and disinfections should attend appropriate training, and refresher courses, to ensure they are familiar with current "best practice".
- A bi-weekly hygiene monitoring regime (including air-plates and testing of surfaces) should be implemented. Acceptable standards on results should be agreed and actions specified when out of tolerance results are obtained.

3.8 Personnel must conform to bio-security disciplines

These are the minimum requirements to achieve this standard:

- No individual coming into contact with Cobb livestock shall keep any avian species.
- Any person or employee, who has been in contact with any Non-Cobb avian species, in the previous 72 hours, will not be permitted on Cobb facilities.
- All operations must have a documented bio-security program that has been approved by an experienced veterinarian or equivalent.
- All employees and visitors entering Cobb facilities must comply fully with the bio-security controls specified in this program.

4. Testing

4.1 Laboratories and methodologies

Test method alignment must be achieved so that all laboratories and methodologies used to perform tests critical to the health and quality of Cobb products are equivalent. It is necessary to have identified a support facility for confirmation of positive or suspect results.

- All laboratories used by franchisees must be testing in accordance with approved Quality Assurance methodology and should participate in annual ring testing for salmonella and ideally mycoplasma.
- A system for recording all samples and vaccinations must be in place.
- The system should contain reliable and detailed information on the status of all flocks. Information should be stored so as to allow flexible and rapid interrogation of the data for trend analysis, traceability and investigation of bio-security breaks.

5. Animal Welfare

- Cobb is committed to the well-being, proper handling, and humane slaughter of all the birds under our control.
- All GP operations should have a documented Animal welfare policy covering all significant farm and hatchery operations and environments. Each GP operation should also have a nominated Manager whose responsibilities include Animal welfare.
- All GP operations must comply fully with local animal welfare regulations.

6. Environmental Impact

- All GP operations must comply fully with local environmental regulations.
- All GP operations must take a responsible approach on issues such as waste disposal and choice and application of disinfectants and herbicides/pesticides.

7. Traceability

Traceability provides the ability to trouble-shoot and consequently rectify and/or improve. It is necessary to be able to trace all aspects relating to the product. This includes: eggs, chicks, feed, raw materials, personnel, genetics, laboratory and test results and flock performance.

7.1 Full traceability must be available

These are example requirements to achieve this standard: Others may be necessary.

- Traceability for the following should be in place:
 1. Which GP flocks provided eggs for each parent flock.
 2. Which parent flocks provided eggs for each broiler flock.
 3. Records of each feed delivery including salmonella test results and release records.
 4. Which batch / run of feed was delivered to which flock.
 5. When the birds consumed each batch of feed.
 6. Which vaccine; including batch number and expiration date, was used on which birds and when.
 7. Who was on each farm and when.
 8. Line, house, flock and pen for all hatching eggs and who collected them.
 9. Flock and line of all the eggs/chicks in the hatchery.
 10. Records of all required tests and results received.
 11. Full tracking of all lines to ensure complete testing of all pens.
 12. Records of waste disposal - i.e. reject eggs, selection waste, end of lay etc.
 13. Personnel training records.

8. Legal Aspects

To safeguard the legality and integrity of all Cobb operations and franchisees and to ensure the smooth export and import of breeding stock, the following minimum requirements should be followed:

8.1 Franchisees must comply with legal requirements

- All facilities and franchisees must comply with all appropriate local legislation e.g., health and safety and personnel.
- All facilities and franchisees must comply with any national or international regulations, which restrict or limit bird movement.
- All facilities and franchisees must comply with any voluntary restrictions that they have entered into in order to continue business.

9. Communications

To provide a communication platform for all Cobb operations and franchisees and to ensure the timely and accurate transmission of relevant information, the following minimum recommended requirements should be followed:

9.1 Franchisees should maintain good and accurate communications systems

- All operations and franchisees must have a computer system with e-mailing and printing capability so they can send and receive electronic information.
- A flock summary sheet must be returned to the Cobb Regional Technical Manager at the end of each flock.
 - This information is crucial to enable Cobb to accurately compare data from its global business and establish trends.
 - Poor performing flocks can then be better-analysed and corrective measures more easily introduced.
 - Processed information will be circulated without identifying individual flocks.
- Copies of the following should be kept for reference, e.g.
 - Selection reports.
 - Flock sexing error records.
 - 14 day mortality records (GP and Parent).
 - Grandparent / Parent Flock summary Sheet.
 - Hatchery Information data.

10. Continuous Improvement

10.1 To remain competitive globally all Cobb operations and its Franchisees should continuously improve all aspects of their business

To achieve and maintain market leadership and to safeguard the success and survival of Cobb worldwide, the following should be achieved.

- Continuous improvement must be part of any quality system. It is important to identify criteria / Key Performance Indicators (KPI's) and use them to monitor progress. This is the philosophy behind Cobb's "Perfect Order" system.
- Continuous improvement concentrates management time more accurately in areas needing attention.
- Continuous improvement identifies areas where training is required.
- Continuous improvement motivates and energizes team members in that they are able to see the results of their input and can follow progress.
- Continuous improvement at Cobb is measured with interactive information which it considers essential to ensure that the parent stock - the product all Grandparent franchisees sell - is of the highest quality, and can compete and be recognized as achieving World Quality status. The product is then acceptable in any market worldwide. These criteria are:

☐ These are examples of criteria necessary for Parent Chick

Genetically pure	Average overall quality levels (a measure of quality of chick processing)
Salmonella free	Correct box count
MG and MS free	Delivered as ordered
Avian Influenza free	Delivered on time
All chicks from one hatchery	Low dead on arrival
Uniform chick weight	No adverse comments.

☐ These are examples of criteria necessary for Hatching eggs

Egg size	Cracks
Egg shell quality	Fertility/ Hatchability
Eggs are oriented correctly in the flat.	Comprehensive vaccination program on GP source flock

11. Audits

11.1 Franchisees should carry out internal audits and be subject to Cobb audits

Compliance to documented procedures and adherence to quality standards should be achieved so that all facilities and organizations within the Cobb organization produce and sell comparable product. To accomplish and document that this is happening, audits of all practices must be performed both internally and by certified Cobb personnel.

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