

Model Aviculture Program Guidelines

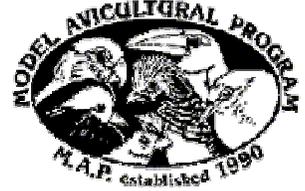
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These MAP Guidelines have been prepared to assist the aviculturist and their veterinarian. It is recommended that aviculturists establish rapport with their veterinarians and work with them to design a written, standardized health protocol for their flock and facility. Important note: questions number 3, 4, 10, 11, 26, and 27 on the MAP Inspection Form now require a "yes" or "no" answer instead of a number.

QUARANTINE AND DISEASE CONTROL

(Refer to Questions 1 through 7 on the MAP Inspection Form.)

Explanation

The purpose of quarantine is to protect one's present collection from the introduction of disease, and to determine whether or not new additions are diseased, and to protect the new birds. Thus, quarantine provides an opportunity to prepare the new bird(s) for introduction into the collection by giving them the opportunity to adjust to any differences in their new environment. These may include a difference in water supply, diet, housing, climate, feeding schedules and caretakers. Since the importation of most psittacines has ceased, many of the new additions to avian psittacine collections are domestic-bred young birds, which may be more vulnerable than older birds during transition to a new environment.

Regulations

- A) Quarantine Isolation. New birds to be added to one's collection should first be isolated in a distinctly separate area from the birds presently within the collection.
- B) Avoiding Cross Contamination
 - 1) The quarantine room/area/building should be the last one serviced each day to help prevent cross contamination.
 - 2) This quarantine area should be a separate room/building/area, which you can enter and leave without passing through your permanent collection or nursery.
 - 3) If the quarantine area is a separate room in a building containing other birds, which has central air and heat, then the air entering and leaving that quarantine room must not enter from the other parts of the building nor exit into other parts of the building; the air traffic should be separate from that of all other sections of the building.
 - 4) Quarantine Records
 - i. Minimum quarantine records should address the source of each bird, date admitted to quarantine, date released from quarantine and the results of any medical tests or treatments that were necessary.
 - ii. Each new bird should be individually identified by some means.
- C) Quarantine Period
 - 1) Birds should be isolated and quarantine procedures kept in effect for a minimum of 45 days.
 - 2) During this time period, any testing required by the inspected facility's written Health Protocol should be performed and treatments effected.
 - 3) The birds should be kept in the quarantine location until the results of all tests performed are returned, and all treatments have been concluded.
 - 4) No new birds should be added to the quarantine area until those in quarantine finish the 45 days without incident and are removed.
 - 5) The quarantine area should be disinfected prior to adding new birds.
 - 6) If new birds are added to the quarantine area, prior to release of any birds in quarantine, the 45 day time line for all birds in quarantine starts anew on the date of the latest additions.
 - 7) Individual cages should be available so that single birds that appear to be ill can be separated from the group and housed in a cage alone.

Recommendations and Suggestions

- A) Observation of the birds in quarantine is an important part of obtaining information about the birds. It is preferable that the birds do not see the observer so that their normal behaviors can be observed. Birds quarantined as a group from the same source may be housed together, as appropriate for the species.
- B) Indoor quarantine facilities present a far greater opportunity for transmission of disease onto clothing, hair and shoes, than outdoor quarantine facilities where the sunlight and air movement greatly reduce the disease transmission. Foot baths may be used at the entrance to and exit from the quarantine area. Special booties can be obtained for wear over shoes in the quarantine area, or shoes worn in the quarantine area can remain there. One might also choose to wear a pair of coveralls and a shower cap to prevent clothing and hair from contamination. It is important that outdoor quarantine facilities be located at a sufficient distance from all other flock facilities. It is recommended for outdoor quarantine facilities that consideration be given to the direction of prevailing winds so that the winds are not primarily directed from the quarantine facilities towards other bird facilities.
- C) Under certain circumstances, it is recommended that one of change clothing and shoes and a full body shower, after servicing the quarantine area, and then bag the contaminated clothes. Handle those clothes separately and launder them separately using an appropriate disinfecting agent in the laundering process, following instructions to assure disinfecting. Check with a veterinarian if needed.

Health Status Determination

It is important that there be uniformity in the health management practices implemented during the quarantine period. Aviculturists might want to consider the following options if a disease process is suspected with a new bird or birds: visual observation, physical examination by a qualified veterinarian, laboratory testing of an individual quarantined bird (or of one or more representative individual(s) from a group of quarantined birds). Screening tests might include any of the following, as appropriate: hematology, parasitology, bacteriology, mycology, virology and testing for chlamydia.

Chlamydia Infection Control and Prevention

Explanation

It is not the intent of MAP to dictate the details of any specific disease control program. Rather, our suggestions are intended to provide guidelines within which to operate and meet minimum requirements.

Regulation

- (A) If there is evidence anywhere in the flock of chlamydia, the entire flock must be treated.
- (B) Under these circumstances, a population of birds in the same facility with inconsistency in their chlamydia infection control or prevention program is unacceptable.
- (C) If chlamydia is diagnosed only in the birds held in quarantine, and proper quarantine protocols have been observed, (see Quarantine Regulations above.), then all the birds in the quarantine facility are the only birds that need to be treated.

Recommendations and Suggestions

There are multiple means with which chlamydia disease may be detected: Antigen tests (such as isolation, ELISA, IFA), or antibody tests (such as EBA, LA, CF, BELISA). Combinations of these tests may be applicable in some circumstances. Underlying suggestions of chlamydia disease may be detected by some of the more common screening tests such as CBC (complete blood count) and biochemistries. Each of these chlamydia or basic screening tests has pro and con arguments pertinent to sensitivity, specificity, cost, and practicality in individual management settings. The specifics of these testing protocols should be discussed and decided upon by the aviculturist and the attending veterinarian for the flock. MAP strongly encourages that collections of birds as well as any new additions, be either uniformly tested by the same means, or be preventatively medicated with either Doxycycline or Chlortetracycline for a minimum of 45 days.

ENCLOSURES

(Refer to Questions 8 through 15 on the MAP Inspection Form.)

Regulation

It is a mandatory requirement that a functional safety system be in operation in order to prevent birds from escaping enclosures. The inspecting veterinarian should determine if the applicant has incorporated the means to service birds, remove and replace soiled food and water containers, and remove birds from enclosures when necessary, without permitting them means of escape.

Recommendations and Suggestions

Aviculturists have devised many different types of acceptable safety systems for enclosures for birds. Some of them are described as follows: a) an area enclosed by fencing for waterfowl, b) an area enclosed by fencing on all sides and top for pheasants, c) a bank of free standing cages surrounded by wire, d) free standing cages with service doors for food and water, and in some cases, nest boxes, e) bird barns with cages or flights inside, f) bird buildings with cages or flights inside in cold climates, g) separate bird rooms in homes with flights or cages, and h) small portable attachable enclosures to be placed in front of free standing small walk-in flights for removing and working with one bird from that flight, such as a large macaw. There are probably other designs for functional safety systems that are quite adequate but not listed here.

Another aspect of safety is the importance of preventing access to the birds by unwanted persons. All methods that are sufficient for securing entries to the enclosures may be implemented. Locks on enclosures are desirable in locales where birds might be easily accessed by vandals or criminals. However, in most cases, locks on cages are not considered necessary because of other conditions or measures that restrict access to the birds. Other safety measures include but are not limited to the following: isolation of the facility, maintaining restricted entry to property, workers on site, guard dogs, and alarm systems.

CAGES, ENCLOSURES, FLIGHTS, AND NESTS

Explanation

This section addresses the concern that the enclosures be appropriate for the species in order to provide healthy and humane housing, and refers to the size, shape, materials and design of the enclosure. Considerations to address include:

- A) Exercise.
- B) Enclosure materials.
- C) Vermin control.
- D) Barriers between enclosures.
- E) Ease of cleaning enclosures.
- F) Ease of capturing birds.
- G) Ease of cleaning/replacing nest box or nest area and ease in accessing the nesting area without the birds escaping.

Regulation

The minimum requirement is that one use appropriate material for construction of the enclosure, and provide for full wing extension for species that fly, and sufficient floor space for ground dwelling species.

- A) Birds should be able to extend their wings fully.
- B) Materials for enclosures should be of the correct size and type of material to keep the birds from escaping and of a material that is not hazardous to the birds.
- C) Enclosures should be constructed so that mice and rats are discouraged from entry. Food and water containers in outside enclosures must be situated so as to prevent contamination from the droppings of wild birds.
- D) Enclosures or cages that are situated close to each other may need physical barriers to prevent contact between occupants of different enclosures to prevent injury and disease transmission.
- E) Enclosures for birds should be designed so that they are easily cleaned. Build up of droppings on wire enclosures or on the floor of enclosures with concrete floors or earthen floors should be removed unless the birds are in their breeding cycle or would be seriously disturbed by the cleaning activities. For stacked cages, trays should extend the length and width of the cage in order to prevent fecal contamination to the lower cages. Cleaning and sanitation should include annual disinfection of walk-in flights where appropriate and the periodic or routine cleaning of cages. Disinfecting a cage is necessary if there has been an incidence of disease in that cage.
- F) Cages must be constructed in a manner that facilitates the ease of capture of any bird that needs to be removed.
- G) It is important to be able to easily access the nest box or nesting area. Nest boxes must be constructed in a manner or placed in a way to preclude the birds from escaping by chewing destruction or when checking on the parents, eggs or chicks. The nest box or nesting area should be cleaned and disinfected or replaced whenever the birds or a clutch of chicks has soiled the area or after a disease outbreak. In the case of birds in a community flight, soiled nests, nest boxes or nesting areas may be cleaned, replaced or disinfected at the end of the breeding season, so as not to disturb other breeding pairs during the breeding season.

Recommendations and Suggestions

- A) Full wing extension means the enclosure must be wider than the bird with fully extended wings. It is advisable to have the enclosure a minimum of twice as long as it is wide. Size of enclosure space for ground dwelling birds should be based on the needs of specific species housed and the number of birds housed in a specific enclosure.
- B) Contamination and physical threat from vermin are detrimental to the health and life of birds. Suspended and standing flights provide some measure of control. Extra control may be achieved, if necessary, when the support system has rat and mice deterrent shields. In some areas raccoons are a threat and measures should be taken to address this threat. Eradication programs for mice and rats, such as traps and poisoned bait, may need to be implemented where they are prevalent. Of course, the birds should be protected from the traps and bait.
- C) Visual barriers may be desirable between some enclosures to reduce stress between aggressive birds during breeding season.
- D) There is no requirement that enclosures be placed on concrete pads, or be placed inside wire or wood structures or be suspended. There should be routine cleaning of suspended flights for psittacines, flushable ponds for waterfowl, and cement or sand floors for pheasants. Some walk-in flights may need cleaning and disinfecting more often, depending on the number and species of birds housed. Empty cages, enclosures and flights should be disinfected prior to introducing new birds into them. Cages, flights and enclosures that are kept clean on a regular basis and have no buildup of droppings may or may not be disinfected on a yearly basis if there has been no incidence of disease in that or adjoining cages, flights or enclosures.
- E) Ease of capturing birds is important as time is of the essence in reducing stress and responding to accidents or illness. Placement of extra service entry doors on the sides or ends of suspended flights or cages may be helpful in providing easy access. It is important to note that with aggressive species, protective measures may need to be employed to protect the handler or other birds during the process of capturing and removing a bird from its enclosure.
- F) It is important that cleaning or replacing the nest box or nesting area is relatively easy in order to minimize upsets with the breeding pair, which could result in destruction of eggs or damage to chicks. When eggs are removed for incubation and the nest box does not contain fecal material from chicks, it may not need disinfecting and it may need less cleaning than a nest from which chicks have been removed. With nest building birds, the area around the nest should be cleaned and disinfected between each clutch or brood, after the clutch has left the nest. Nest box and nest area cleaning protocol adequate for pathogen control should be utilized. For some birds, such as finches set up in a colony situation, nest box access may not be desired. Nest box access can vary from a nest box located inside the flight or cage with an opening on top, to a nest box located in the safety aisle outside the enclosure, or a nest box located inside the flight with access through the cage wire, and other variations. With cages or flights inside a building or wire structure, the nest boxes can be conveniently hung on the outside of the cage. Many nest box designs require a latch on the box to prevent the adult breeding birds from exiting the box through the access door. In wood destructive species, when nest boxes are wire or metal lined, they can be hung on the outside of flights without the worry of occupants chewing out.

DIET AND NUTRITION

(Refers to Questions 16 and 17 on MAP Inspection Form.)

Explanation

Nutrition concerns the feeding program or diet provided to the birds, based on the natural feeding behavior and needs of the species. Appropriate food storage is important for maintaining safe and nutritious foods.

Regulation

- A) There should be no evidence of malnourished birds, including fat birds.
- B) Foods should be stored in containers or buildings that are vermin proof and moisture proof.
- C) Foods should be rotated and stored in a manner that maintains it in a fresh and wholesome state.

Recommendations and Suggestions

Foods provided to birds will differ according to the type of bird: Seeding eating birds; Frugivores or fruit eaters; Carnivores or meat eaters; Insectivores or insect eaters; Nectivores or nectar eaters; Omnivores or those which eat all types of foods.

Seed and feed should be rotated and used on a "first in, first out" basis. Containers for opened bags can be made of metal, plastic, wood, or other appropriate material. Seed and feed containers should not be placed directly on soil or concrete floors in order to prevent condensation inside the container, which would moisten the seeds or feed, creating molds and bacterial growth. Sealed bags of feed can be stored on pallets in vermin proof areas. Some foods require refrigeration.

PEDIATRICS

(Refer to Questions 18 through 25 on MAP Inspection Form.)

Regulation

- A) The sanitation procedures and the thermal support of those young in the nursery area should be sufficient to produce healthy normal youngsters and avoid the transmission of disease.
- B) There must be a regular and appropriate use of disinfectants in the nursery.
- C) Artificial egg incubators should be disinfected at least once annually.
- D) Young in the nursery must be managed in a manner that minimizes the potential spread of infectious disease.
- E) The young should be developing within the normal physical parameters for their species.
- F) There must be a way to accurately weigh baby birds in the nursery at all times.
- G) Hand feeding formula should be made fresh daily. Frozen formula is considered fresh upon defrosting. Hand feeding formula should not be reheated and reused and anything left after feeding should be discarded. Dry unmixed commercial hand feeding formula should be handled and stored in a manner that prevents bacterial, mold or fungal contamination.
- H) Hand feeding equipment should be cleaned, disinfected and stored in a manner that will eliminate the growth or spread of infectious vectors on those instruments.
- I) Humidity and temperature requirements for different species at different hand rearing stages should be met.
- J) A system of record keeping for young birds should be kept as per necessity. The extent or the necessity of records on the chicks in the nursery will be commensurate with the experience of the aviculturist who is responsible for the chicks.

Explanation

- E) The purpose of defining groups of chicks in the nursery is to assist with infectious pathogen control. For small bird farms, a clutch usually means all young hatched from the same clutch of eggs from one pair of birds. Since nurseries in small bird farms may be set up in a room in a house, or an adjoining area to the house, procedures for servicing babies in the nursery will differ from those in the large commercial facilities. In order to minimize disease transmission in the nursery, each clutch should be housed in a separate brooder. It is not recommended that individual chicks from separate clutches be intermingled. Hands and all apparatus should be cleaned and disinfected between handling clutches. It is recommended that separate feeding instruments be used for each clutch in order to avoid cross contamination.

It is very important to separately house and service incubator-hatched chicks from parent-reared chicks, as the parent-reared chicks could pose potential disease risk to those that are incubator hatched.

Large commercial facilities that incubator hatch all offspring that are in the nursery will delineate brooding groups rather than clutches. These brooding groups should consist of birds of similar size and/or age. Since these birds have never had any contact with the adult birds that have produced the eggs, the aviculturist may choose not to disinfect hands or other feeding apparatus or employ the use of separate feeding instruments for each brooding group housed together in the same room. If this route is chosen, then it must be understood that the addition of any birds that were hatched in the nest would be prohibited entry into the room. Babies housed in such an area should be protected from exposure to outside sources of contamination. Hands should be washed thoroughly or examining gloves used and clean clothes should be worn for all activities in the room. It should be understood that maintaining such an operation would require that all birds in the room be treated for any disease that appears in the room.

- F) Young must be fed and cared for in a manner that allows development in a pattern that is within the accepted norms for the species. In those species where developmental photos are not available and neither the aviculturist nor the veterinarian are familiar with acceptable appearance for age and species, comparison to published weight charts for the species should be used. A 'no' answer to question 20 means that there are sufficient numbers of stunted or dehydrated babies to point to faulty husbandry practices as the cause rather than isolated problems with individuals. Dehydration may be identified by the limbs having protruding bones, especially at the bend of the wings, and skin tone that is reddish and/or taut against the skeleton. This situation, if not reversed, can lead to permanent stunting which can be identified by physical abnormalities such as over sized head in relation to the body and protruding eyes that are not common to the species. A dehydrated or stunted chick is usually grossly underweight for its age.
- G) A functional scale can be an essential tool to adequately monitor normal development and is especially helpful for individuals new to hand rearing birds and for monitoring the condition of chicks with developmental or health problems.

- H) Storing unmixed commercial formula in the freezer and refrigerator can assist in preserving the freshness of the formula. Commercial formula can become outdated and should not be used after the expiration date, as the necessary nutrients for chicks to develop normally have deteriorated.
- I) For bird breeders new to hand rearing chicks and for experienced bird breeders working with a species new to them, it is recommended that daily information be recorded on chick development. A functional record keeping system for such baby birds includes an individual record with designated space for the identification of the chick by their ID number (leg band or chip or other), including hatch date, species, and formula being used, as well as daily empty weight and formula intake, and any additional information deemed important. Experienced bird breeders raising young birds with which they are familiar do not need to weigh birds daily. Daily pediatric record keeping at large breeding farms is inappropriate. The examining veterinarian should determine if the record keeping is that which is necessary for the type of operation that is being inspected and for the experience of the individual aviculturist.

RECORD KEEPING SYSTEM

(Refer to Questions 26, 27, and 28 on MAP Inspection Form.)

Explanation

Record keeping is important because it provides tracking information on the many different aspects of bird farm management and thus provides a basis for decision making regarding all aspects of bird farm management.

Regulation

- A) It is mandatory that a functional record keeping system be in operation.
- B) Records will indicate egg production, fertility and hatchability of eggs for breeding birds.
- C) Records should have easy accessibility, be applicable to the needs of the facility, be current, have permanence, allow for evaluation, and include overall productivity of the facility.
- D) Bill of Sale. A written statement or contract of the conditions of sale shall accompany all birds sold by MAP participants to members of the public. Such documents should include names of buyers and sellers, bird identification (species and ID number), price, conditions of sale, clearly stated time period of seller's guarantee of health status, history and genealogy of the bird(s), and be accompanied by information about basic care, including nutrition, housing and husbandry.

Recommendations and Suggestions

Record keeping can cover the identification of individual birds, the species, the sex, the location of pairs, the production history on pairs, the medical history of individuals and pairs, and the origin of the birds. Additional information may be gathered if desired. See Addendum A. for sample record keeping items.

Bird breeders who sell their birds wholesale to professional clients, such as brokers or stores, do not need such detailed sales documents as those selling to members of the general public. Bird breeders selling birds wholesale may determine what type of sales document, if any, is useful.

CONCLUSION

These Guidelines are for the information of the MAP applicants and the inspecting veterinarians and will be updated as new information is available. Questions regarding these MAP Guidelines may be addressed to the MAP Office at 1-530-823-1677, or by e-mailing map@modelaviculture.org.