

Evaluation of hygienic and Quarantine regulations for imported horses in Egypt

Mohamed Morsy El Kamshishy*, Shimaa Abou El-Soud Nasr*,
Sherif Tawfik Moubarak*, Hassan Mostafa El-Agrab**

* Veterinary Hygiene, Faculty of Veterinary Medicine, Cairo University.
** General Organization for Export and Import Control, Cairo Airport.

Abstract

Quarantine regulation requirements for importation of horses in Egypt and the most important 6 quarantines in Cairo and Giza approved by G.O.V.S. used for imported horses to Egypt were hygienically evaluated. Imported horses must be accompanied by International Veterinary Certificate from the veterinary administration of the exporting country. Hygienic and construction criteria of quarantines were hygienically inspected, relation to main road ranged from 20m upto 100m, length of stall ranged from 3.5m up to 4.8m, width of stall ranged from 2.5m up to 3.5m. Type of floor was cement concert in all surveyed quarantines except Cairo stadium were concert and ceramics. Swing door was the type of door in all evaluated quarantines, while sliding door in Concord Hotel Stables. Windows, electric fans, ridge and eave openings were the type of ventilation system surveyed quarantines. Type of light was fluorescent in all evaluated quarantines, while incandescent light in shams club. Concrete, asbestos, wood with insulation and metal were the type of roof in all inspected quarantines. Gable shed and monitor shape were the shape of the roof in Cairo Airport, Cairo Stadium and Concord Hotel stables; respectively. Feeding and drainage system were manual, while drinking system was automatic.

Key words (quarantine-Cairo Airport-imported horses- Veterinary Certificate).

Coprespondering Author: Mohamed Morsy El Kamshishy E.mail: ElKamshishymohamed@yahoo.com

Introduction

Quarantine plays a pivotal role in the control and prevention of the entry and spread of animal diseases in a country. The term "quarantine" is used to cover all restriction on the movement of infected or suspect animals or material to prevent the spread of disease (FAO, 1991).

Quarantine as the first line of defense against infectious diseases and suggested the internal quarantine between natural and administrative areas in a country (i.e. disease free or infected zones) is as equally important as international quarantine in controlling animal movements and limiting the spread of infectious diseases and pests. (El Hicheri, 1997).

Egypt requirements for imported animals and by products are governed by epidemiological situation of the country and by the law of Agriculture No. 53, 1966 and Ministerial Decree No. 47, 1967 concerning veterinary quarantine, and its modifications.

Egypt is one of the most famous countries in breeding Arabian horses for both the local market and exportation. Moreover, considerable horse populations are used in police trooper and tourism all over Egypt (El Barody, 1987).

Material and Methods

I. Quarantine regulation requirements for importation of horses in Egypt (Ministry of Agriculture; 1996).

1. Each consignment of horses must be accompanied by **International Veterinary Certificate** from the veterinary administration of the exporting country (country of origin of horses) legalized by the Embassy of **ARAB Republic of Egypt** in that country. This certificate should include the following information:

A. Zones from which horses are derived should free from dourin, glander equine infectious anemia, African horse sickness and equine viral arteritis.

B. The horses put under quarantine for 30 days before shipment and free from clinical signs of infectious or contagious diseases.

2. All vaccination & tests must be described in the Veterinary Certificate.

3. It must be accompanied by the certificate of origin & identification form and coloured photography for these horses and passport for identification microchip.

4. Horses should be vaccinated against equine influenza not less than 21 days up to 3 months prior to exportation (OIE 2002).

II. Evaluation of hygienic and construction criteria of quarantines:

For evaluation of the hygienic standards of quarantine, a total of 6 quarantines in Cairo and Giza were studied.

General quarantine description	Site	Construction and preventive measures criteria
<ul style="list-style-type: none"> • Name of the quarantine • Date of visiting • Breed • Drinking water source 	<ul style="list-style-type: none"> • Relation to main road • Number of stables • Number of boxes (stalls) • Aspect 	<ul style="list-style-type: none"> • Length of stall • Width of stall • Floor • Roof • Doors • Type of wall • Floor-to-ceiling height • Type of light • Feeding system • Drinking system • Type of ventilation system • Riding area • Drainage system

Results

The most important 6 quarantines certified by G.O.V.S., used for imported horses to Egypt were hygienically evaluated, following criteria as shown in tables (1-5).

Table (1) General description of quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab stud	Concord Hotel Stables
Relation to main road	100 meters	50 meters	100 meters	20 meters	50 meters	20 meters
No of Laborers	6	20	18	32	50	17
No of stables	3	4	3	4	6	1
No of stalls	13	110	185	130	250	50
Breeds	Warm-Arabian-Thorough bred	Warm-Arabian-English	Warm-Arabian-Thorough bred	Warm-Arabian-Thorough bred	All breed	All breed
Drinking water source	Tap water	Tap water	Tap water	Tap water	Deep wells	Tap water

Table (2): Length and width of stalls of surveyed quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab Stud	Concord Hotel Stables
Length of stalls	3.5 - 4.8 m	4 m	3.5 - 4 m	4 m	3.5 - 4 m	3.5 m
Width of stalls	2.5 - 2.8 m	3.5 m	3 - 3.5 m	3 m	3 m	3 m
Floor to ceiling high	3 - 3.2 m	3 m	3 - 3.5 m	2.8 - 3 m	3 m	4 m

Table (3): Feeding system, drinking system and drainage system of surveyed quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab Stud	Concord Hotel Stables
Feeding system	Manual					
Drinking system	Automatic					
Drainage system	Manual					

Table (4): Type of floor and gutter of surveyed quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab Stud	Concord Hotel Stables
Type of floor	Concert.	Concrete	Concrete ,ceramics with insulation rubber material	Concrete	Concrete	Concrete
Type of walls	concrete walls, bricks	Concrete walls	Concrete walls bricks	Concrete walls	Concrete walls	Metal bricks
Gutter	Found	Not found	Not found	Not found	Found	Not found

Table (5) Type of roof in surveyed quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab Stud	Concord Hotel Stables
Type of roof	- Concrete - Asbestos (Gable shape)	- Concrete Asbestos	- Concrete - asbestos (Shed shape)	-Concrete Wood with insulation	Concrete (Gothic shape)	Metal (Monitor shape)
Type of light	Fluorescent	Incandescent	Fluorescent			

Table (6) Type of doors, ventilation system and riding area of surveyed quarantines:

Name of Quarantine	Cairo Airport	Shams Club	Cairo Stadium	Aljazeera Club	Rabab Stud	Concord Hotel Stables
Type of doors	Swing doors	Swing doors	Swing doors Sliding doors	Swing doors	Swing doors	Sliding doors
Ventilation system	Windows	Windows Electric fans Air condition	Windows Electric fans Ridge opening	Windows Electric fan Air pump	Windows Electric fan	Windows Electric fan. Opened ridge and eave openings.

Discussion

1. Evaluation of hygienic and construction criteria of quarantines:

I. Site:

Relation to main road

It is evident from table (1) that variable distances from the main road in 6 studied quarantines were recorded. It ranged from 20 meters up to 100 meters in Aljazeera club and Cairo stadium respectively. From hygienic point of view, it was found that there are no recommended distances from the main road in the surveyed quarantines.

It is clear that minimum distances may play a role in increasing the risk of diseases transmitted from animals passing along the main road in trucks.

II. Construction and preventive measures criteria:

1. Length of Stall:

The obtained data in table (2) revealed that the length of the stall was ranged from 3.5 up to 4.8 meters in the surveyed quarantines housing. These results were closely similar that recommended by *Eileen Fabian(2005)* and *Webster et al (1987)* were recommended the length of stall 12 feet (3.75 meters) and 3.6 meters respectively. Larger horses require more square footage than dosmaller ponies to be able to turn around, lie down, and get up comfortably.

2. Width of the stall :

The collected data in table (2) revealed that widths of the stall in the surveyed quarantines ranged from 2.5 up to 3.5

meters. The obtained results were lower than that recommended by *Webster et al (1987)* and *Eileen Fabian (2006)*.

The recorded data were similar that recommended by *Denkhouset al(2011)*. Principally, box housing has been shown not to be an adequate housing system with regards to the ability to press natural behaviors and thus for the health and welfare of horses.

3. Floor:

Table (4) illustrated that the type of floor in the surveyed quarantines varied from concert, slope 1% toward to the gutter (in Cairo International Airport and Rabab stud) to concert only without slope toward the gutter (in shams club, Cairo stadium, Aljazeera club and Concord Hotel stables), while in Cairo stadium the floor is concrete (100 stall) and ceramics insulated with rubber mats (85 stall). The recorded results agreed with that recommended by *Clarke (1994)*, *Eileen Fabian (2006)* and *Denkhous et al (2001)*. The Floor must be dry, durable, non-slippery, low maintenance, easy to clean and affordable. Concrete may meet most of stall flooring criteria and plays an important role in the overall health of the horse.

4. Roof:

The observed data in Table (5) revealed that the type of roof in the surveyed quarantines were concrete in some stalls and asbestos in other stalls in Cairo international airport, shams club and Cairo stadium, asbestos roof was Gable shape and shed shape in Cairo Airport and Cairo stadium quarantines respectively. On other hand the roof in Rabab stud was concrete (Gothic shape). Concrete in some stalls and wood in other stall roof type in Aljazeera

club quarantine. While the roof type in Concord Hotel stables was metal (monitor or raised control aisle shape). The obtained data in the surveyed quarantines were similar to that recommended by **Eileen Fabian (2006)**. Good roofing materials are essential to prevent water from damaging interior blinding materials.

5. Door:

Table (6) showed that the type of doors in the surveyed quarantines were swing door in Cairo International Airport, sham Club, Aljazeera club, Rabab stud and Cairo stadium. On other hand sliding door in Concord Hotel stables and some of stalls in Cairo stadium quarantine. The collected results were agreed with that recorded by **Eileen Fabian(2006)**. Swing doors should open in to the aisle rather than into the stall, open swing door decrease aisle workspace but may be latched open to alleviate this problem. Sliding doors, in addition to the overhead track, need as top to prevent the door from opening too far and failing off the track. Sliding doors were recommended due to not decreasing aisle workspace and prevent injuries of the horses.

6. Floor to ceiling high:

Table (2) illustrated that the mean roof heights from 3 to 4 meters in all surveyed quarantines. These values were found to be located within the suggested height as recommended by **Eileen Fabian (2006)**. Experience has that higher side elevation improve hot weather ventilation. A low ceiling not only inhibits air circulation but also increases the chance of a horse striking its head

7. Light:

The observed data in table (5) revealed that the type of light in the surveyed quarantines was fluorescent; red light was

found in shams club quarantine only. The observed data agreed with that recommended by **Eileen Fabian (2006)** and **Clarke (1994)**. A100-watt incandescent or 20-watt fluorescents are suitable electric fixture.

Good stable light quality can have a positive influence on worker comfort and improve worker efficiency, safety, and comfort. Lighting may be used for photoperiod control of horse reproductive activities. Horses can sleep in light or dark contrition.

8. Ventilation:

It is evident from table (6) that variable ventilation systems in 6 surveyed quarantines were recorded windows present in all surveyed quarantines, electric fans present in all studied quarantines except Cairo International Airport quarantine, air conditions present in 10 stall only in shams club, air pumps present in some stall of Aljazeera club. Ridge openings present in Cairo stadium and Concord Hotel stables, eave opening present in Concord Hotel stables only. The obtained results nearly located within the reported ventilation system by **Eileen Fabian (2006)** and **Clarke(1994)**.

Fresh air should be viable to every horse for good respiratory health. A window (which opens for each stall), eave, ridge opening and high ceiling will enhance fresh air exchange.

Conclusively, the obtained data from the questionnaire in the 6 surveyed quarantines not in conformity with international standard of horse stables and need to apply strict hygienic and construction regulations under the supervision of veterinary authorities.

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الملخص العربي

أجريت هذه الدراسة لتقييم أنظمة الحجر البيطري للخيول المستوردة عبر مطار القاهرة الدولي، أيضا تقييم المعايير الصحية والبيطرية والانسانية لعدد (6) من المحاجر في القاهرة والجيزة معتمدة من قبل الهيئة العامة للخدمات البيطرية كما تمت دراسة الشروط الواجب توافرها عند استيراد الخيول الي مصران بصاحب هذه الخيول شهادة صحية بيطرية معتمدة من سفارة ج. م. ع. بدولة المنشا كما تم تقييم المعايير الصحية والبيطرية للمحاجر البيطرية واسطبلات الخيول. مسافات متغيرة من الطريق الرئيسي سجلت من 20 متر إلى 100 متر في (6) الستة محاجر التي شملتها الدراسة. إن متوسط طول البوكس 3 أمتار يصل إلى 4 أمتار في (6) الستة محاجر التي شملتها الدراسة. وكان متوسط عرض البوكس 2.8 متر يصل إلى 3-5 متر. أرضية البوكسات خرسانية في نادي الشمس للفروسية ونادي الجزيرة واسطبلات فندق كونكورد. بينما أرضية البوكسات في الحجر البيطري بمطار القاهرة وأكاديمية رباب للفروسية خرسانية ومنحدرة 1% ناحية صرف المياه. السيراميك مع طبقة عازلة في بعض البوكسات في استاد القاهرة للفروسية. الأبواب متارجحة في المحاجر التي شملتها الدراسة وتفتح ناحية الممر بين البوكسات بينما اسطبلات فندق كونكورد الأبواب الزلائية نوع سقف البوكسات في الحجر البيطري بمطار القاهرة ونادي الشمس واستاد القاهرة للفروسية أسمنتية في بعض من البوكسات والبعض الآخر من نوع الاسيستوس - نادي الجزيرة للفروسية نوع السقف أسمنتية في بعض البوكسات وخشبي في بوكسات أخرى. أكاديمية رباب للفروسية نوع السقف في كل البوكسات أسمنتية بينما السقف من النوع المعدني في اسطبلات فندق كونكورد. نوع الأضواء في جميع المحاجر التي شملتها الدراسة الفلورسنت بينما نوع الأضواء في نادي الشمس للفروسية من نوع الضوء الاحمر. نظام التهوية التوافذ والمراوح الكهربائية في 6 الستة محاجر التي شملتها الدراسة، لا يوجد مراوح كهربائية في الحجر البيطري بمطار القاهرة، يوجد عدد من التكييفات في بعض البوكسات بنادي الشمس للفروسية، كما يوجد عدد من شفاطتات الهواء في بعض من البوكسات في نادي الجزيرة الرياضينظام التغطية يدوي في جميع المحاجر التي شملتها الدراسة، في حين كان نظام الشرب أوماتيك.