

## THE HEALTH STATUS OF HORSES IN THE UNITED ARAB EMIRATES

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### ABSTRACT

Scant published information exists concerning the occurrence of equine diseases in Arabian Peninsula countries.

About 14% of the known horse population in the United Arab Emirates (UAE) were sampled in a serosurvey conducted in 1994 which demonstrated freedom from African horse sickness, glanders, dourine, equine infectious anaemia, equine viral arteritis and vesicular stomatitis. Veterinary records kept by a large horse stud since 1977 were examined. The major disease problems encountered have been colic, insect-related skin conditions, heat stress and traumatic injuries.

Strict import policies are employed to protect the high health status of the valuable equine population. The UAE imports horses by air, under import permit from the UAE Ministry of Agriculture and Fisheries, and only from and via countries approved by the European Union. Import by land (except from Oman) or by sea is prohibited.

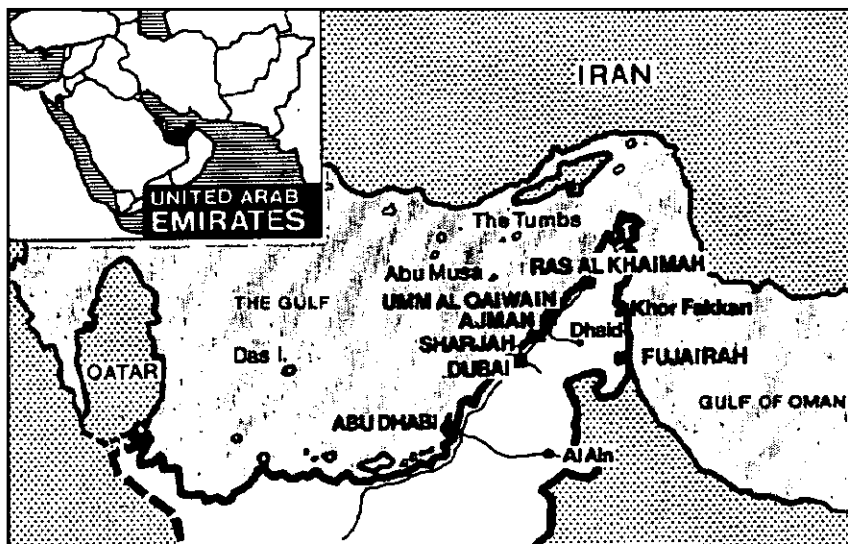
The health status of horses in the UAE is similar to that of other leading racing countries and should not be considered a barrier to expanded international competition.

### INTRODUCTION

Thoroughbred and Arabian horseracing in the United Arab Emirates (UAE) has expanded dramatically in the past 3 years. Maintenance of a high health status is critical to continued international competition and protection of the heavy investment by UAE in bloodstock.

In the past, international trading partners have expressed concern regarding information in official animal health publications on the health status of horses in Arabian Peninsula countries. There is little published literature concerning the occurrence of equine diseases in this region. Ellis (1981) briefly commented on diseases of horses in Bahrain. Information on African horse sickness (AHS) in Saudi Arabia has been published by Rafyi (1961),

Fig 1: UAE is a union of 7 emirates in the south eastern corner of the Arabian Peninsula.



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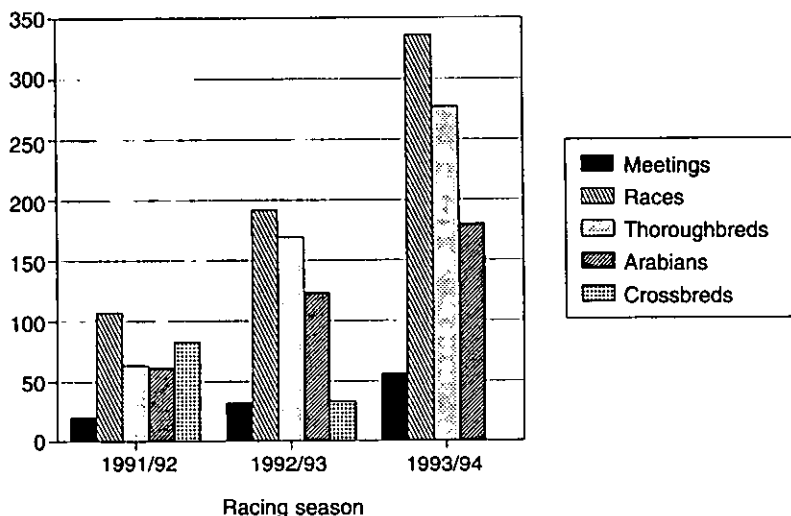


Fig 2: Details of race meetings and runners 1991-1994.

Mellor *et al.* (1990) and Hashem (1993); and vaccine-related cases of AHS in Qatar were reported by Hassanain *et al.* (1990). In Oman, the prevalence of equine piroplasmiasis has been examined by Donnelly *et al.* (1980). Hedger *et al.* (1980) included horses and donkeys in a survey for virus diseases in Oman in 1978 in which they found antibodies to AHS but not equine infectious anaemia (EIA) or vesicular stomatitis (VS) viruses.

This paper presents information on the health status of horses, the horse industry, veterinary services and import policies in UAE. It includes the results of a countrywide serosurvey for significant equine diseases conducted in 1994.

## THE UNITED ARAB EMIRATES

The UAE is a union of 7 Emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, Ras Al-Khaimah and Fujairah which covers most of the south-eastern corner of the Arabian Peninsula (Fig 1).

Much of the country consists of desert varying from coastal salt flats to gravel plains and sand dunes inland interspersed with the occasional fertile oasis. Massive sums have been spent on forestation projects during the past 20 years.

The climate is arid sub-tropical and essentially 2-seasonal. During the summer (May to September) daytime temperatures rising to 45°C and stifling humidity are common in coastal regions. Winters are milder with daytime temperatures of around 20°C and infrequent, irregular rainfall.

## THE UAE HORSE INDUSTRY

In early 1994 there were 2,043 horses at known premises in the UAE. Other horses exist but their

numbers would not add significantly to this total. The majority of horses are kept around the cities of Dubai and Abu Dhabi. Feral donkeys are also present in small groups in the northern Emirates and there are 10 zebras in the Al Ain Zoo collection.

Racing is conducted from mid-October to late April, ie the cooler autumn and winter months. Organised horseracing commenced in UAE in 1991, when racing became a professional activity rather than an informal entertainment, and has expanded rapidly (Fig 2). In 1993, the UAE achieved official recognition as an international racing authority by the International Federation of Racing Authorities.

Most Thoroughbreds are imported because the harsh summer climate makes local breeding difficult. Major UAE owners maintain studfarms in Europe and import Thoroughbreds at the age of 3 years, after early rearing at pasture. Arabian horses are better adapted to the climate and small numbers are bred successfully in UAE. However, the majority of Arabian racehorses are also imports. Cross-bred racing ceased after the 1992/1993 racing season but a few are still bred for ceremonial and equestrian use.

Show jumping is a popular leisure activity and is also expanding rapidly. Horses are also used for dressage, polo, pleasure and endurance riding and ceremonial purposes.

## VETERINARY SERVICES AND LEGISLATION

Quarantine matters are the responsibility of the Department of Animal Health in the UAE Ministry of Agriculture and Fisheries (UAEMAF) which operates under the provisions of Federal Law No. 6 (1979) on Veterinary Quarantine Services and Ministerial Resolution No. 104 for 1990 regarding the import of

**TABLE 1: Number of samples collected from each zone of equine population in United Arab Emirates**

Zone	Population	No. Sampled
Abu Dhabi	769	92
Dubai	783	81
Al Ain	218	38
Northern Emirates	285*	93*
Total	2055	304

\*includes 12 donkeys

equidae. This resolution prohibits import of equidae unless prior approval is obtained from UAEMAF and animals are sourced from approved countries.

The following equine diseases are compulsorily notifiable - AHS, dourine, glanders, equine encephalomyelitis (all types including VEE), EIA, VS, rabies and anthrax.

The UAE is a member of the Office Internationale des Epizooties (OIE) and was granted approved status by the European Union (EU) for direct export of horses to EU member states in 1993. Testing of horses for export purposes is conducted at OIE approved laboratories in the United Kingdom and France. There is also a well equipped Central Veterinary Research Laboratory in Dubai which has testing capability for EIA, EVA, AHS, dourine, glanders, rabies and piroplasmosis.

Compared to many countries with large and scattered horse populations which are difficult to monitor, the population of horses is small and the majority are concentrated at locations which are easy to supervise. Surveillance for important horse diseases is facilitated by the close liaison which exists between veterinarians in equine practice, the UAE Equestrian and Racing Federation, the Emirates Racing Association and the UAEMAF.

## **IMPORT POLICY**

UAE imports horses directly by air only, under import permit from UAEMAF, and only from and via countries approved by the EU. Health conditions for importation are based on EU Directives. Horses which do not meet import conditions may be detained in quarantine, re-exported or destroyed.

Horses may only be landed in UAE at approved airports which are supervised by government veterinary officers - Abu Dhabi, Dubai and Sharjah International Airports and Al Bateen Airport in Abu Dhabi. The only exception to the policy of import by air is that land transport is permitted for horses from Oman. Import by sea is prohibited.

Any vaccine imported for use in animals must be imported under permit. Importation of AHS vaccine is not permitted.

## **QUARANTINE AND EXPORT ISOLATION FACILITIES**

Currently there are quarantine stations which conform to international standards in Dubai and Abu Dhabi. Quarantine stables have also been constructed on Dubai International Airport and similar facilities are planned for other approved airports. Another quarantine station with dedicated training facilities is to be built in Abu Dhabi.

Export isolation facilities must receive prior approval from UAEMAF and follow approved operational procedures. These include insect protection programmes such as screening premises, thermal fogging with pyrethroids, treating larval breeding sites with residual insecticides and the use of fly baits and ultra-violet insectocutors.

## **EXOTIC DISEASES**

Freedom from AHS was demonstrated by a serosurvey conducted in 1991, the results of which have not been published. To confirm continuing high health status, another survey was commissioned by UAEMAF in 1994.

### ***Sampling and tests***

For survey purposes the UAE was divided into 4 zones of equine population - Abu Dhabi, Al Ain, Dubai and the Northern Emirates (Table 1). Sera were collected during January to April 1994 under the supervision of UAEMAF approved veterinarians from 292 horses, 8 domestic and 4 feral donkeys during visits to 54 premises. A higher proportion of animals were sampled in smaller stables. All were healthy at the time of serum collection.

Tests for AHS and VS were conducted at the Institute for Animal Health, Pirbright, UK, and the remaining tests at the Central Veterinary Laboratory, Weybridge, UK (Table 2). There was insufficient serum from 22 samples to dispatch to both laboratories and these samples were tested for AHS and VS only.

Between February and June 1994, a further 152 sera collected from horses for export to Europe were tested for AHS, EIA, dourine and glanders.

The number of samples examined was sufficient to detect any disease in the horse population with 95% certainty if the disease existed at a prevalence of at least 2% (Cannon and Roe 1982).

### ***Test results***

***EIA and VS:*** All samples tested negative.

**AHS:** A 20-year-old horse imported from Saudi Arabia, about 10 years previously, tested positive to an antibody detection enzyme linked immunosorbent assay (ELISA) with a titre of 1/20. It was re-sampled 4 weeks later and was serostable. On both occasions it tested negative to the less sensitive agar gel precipitation test. Residual antibodies from vaccination prior to import are the likely cause of the low level positive result.

**Equine viral arteritis (EVA):** Two donkey samples tested positive to the serum neutralisation test (SNT) at 1:8 and 1:32 respectively. Contact between horses and donkeys is minimal and mules are not bred in UAE.

**Dourine (*Trypanosoma equiperdum*):** Samples from 9 donkeys and one horse gave non-specific reactions to the complement fixation (CF) test but tested negative to the indirect fluorescent antibody test.

**TABLE 2: Summary of results of OIE approved serological tests conducted in survey of equine diseases in United Arab Emirates in 1994**

Disease	Test	Positive/Negative
African horse sickness	ELISA	1/304
Vesicular stomatitis (New Jersey and Indiana strains)	SNT	0/304
Equine viral arteritis	SNT	2/282
Equine infectious anaemia	AGID	0/282
Glanders	CFT	6/266
Dourine	CFT	0/282

**TABLE 3: Status of United Arab Emirates (UAE), European Union (EU), United States of America (USA), Australia (AUS) and Japan (JPN) with respect to presence (+) or absence (-) of significant diseases of horses**

Disease	UAE	EU	USA	AUS	JPN
AHS	-	-	-	-	-
VS	-	-	+	-	-
EVA	-*	+	+	+	-
EIA	-	+	+	+	+
Glanders	-	-	-	-	-
Dourine	-	-	-	-	-

\* Serological evidence of exposure to infection in 2 donkeys

**Glanders (*Pseudomonas mallei*):** Three horses and 7 donkeys tested anticomplementary to the CF test. Six samples tested positive. Of these, 3 horses tested positive at 1/10 and another at 1/20. When re-sampled after 28 days, the former tested negative and the titre of the latter had reduced to 1/10. The above 4 horses were subjected to the intradermopalpebral mallein test with negative results in each case. Two feral donkeys also tested positive at 1/20. These donkeys live in a remote region of the Northern Emirates and have no contact with horses. It was not possible to conduct an intradermopalpebral mallein test on these animals. In view of the above results in horses, it is probable that these titres are not significant.

**Export testing:** All samples tested negative for AHS, EIA, dourine and glanders.

**Comparative health status:** Table 3 compares the health status of UAE with other leading racing countries.

## OTHER DISEASES

### General observations

Veterinary records kept by one of the authors (VCT) since 1977 at a large horse stud were examined. The stud was established in the early 1970s and includes both breeding and racing horses. During its history, horses have been imported from a wide variety of Middle Eastern and European countries. Surplus and gift horses are regularly interchanged with other stables in UAE. Each horse entering or born on the stud is allocated a hoof brand number, against which veterinary and breeding records are referenced.

No outbreaks of significant equine diseases or abortion storms have been recorded at this stud. Colic, dermatitis due to insect-bite hypersensitivity, heat stress in Thoroughbred horses and traumatic injuries are the most common conditions requiring veterinary attention. Colic was responsible for 77/122 (63%) deaths over a 13 year period.

### Equine influenza

An acute outbreak of respiratory disease introduced by racehorses from Europe occurred in November 1993. A 2- to 3-fold rise in antibody titre in paired serological samples suggested that the outbreak was due to equine influenza virus. Vaccination of horses is compulsory for horses competing under the Rules and Instructions of the Emirates Racing Association. As most of the racing population was

vaccinated only mild clinical disease was observed and racing was not suspended.

### **Piroplasmosis**

Positive CF tests for piroplasmosis have been recorded but clinical disease is rarely seen. Most large racing stables are tick free.

### **Rabies**

Rabies first occurred in UAE in 1991 (Wernery and Kumar 1993) in goats, sheep, camels and foxes. The outbreak was thought to have extended from neighbouring Oman where rabies was first recorded in 1990. No equine cases were reported. The fox is thought to be the major animal responsible for the spread of the disease.

### **DISCUSSION**

Some countries do not import horses directly from the UAE because of perceived risks regarding the AHS status of the country. The serosurvey reported in this paper confirms that UAE is free from AHS.

The Arabian Gulf region was last affected by AHS during the late 1950s (Howell 1960). Outbreaks of AHS in Spain, Portugal and Morocco between 1987 and 1991 caused great concern in Middle Eastern countries. When AHS was reported in Saudi Arabia in 1989 (Mellor *et al.* 1990) and vaccine-related cases occurred in Qatar (Hassanain *et al.* 1990), the potential threat of the high mortality of AHS, its detrimental effect on participation of horses in international competition and the presence of the AHS vector *Culicoides imicola* in the Arabian Peninsula (Boorman 1989) stimulated efforts toward harmonised controls over the international movement of horses in the region.

The Fédération Equestre Internationale (FEI), OIE and EU have been actively assisting the region. Major meetings which discussed the international movement of horses in the Middle East were held in Cyprus in September 1992 (Anon 1992), Damascus in April 1993 (Anon 1993) and during the 61st General Session of OIE in Paris in May 1993.

UAE has established, by serosurvey, that it is free from all OIE List A diseases transmissible to horses and major OIE List B diseases. It has efficient government animal health services and disease surveillance mechanisms. The country is aware of its international obligations and imposes strict import conditions to protect its valuable bloodstock.

The health status of horses in the UAE is similar to that of other leading racing countries and should not be considered a barrier to expanded international competition.

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