

INTERNATIONAL STUD BOOK COMMITTEE ANNUAL REPORT 2022

1. Stud Books – Approved/Under Assessment/Emerging/No Longer Approved

The ISBC reviewed the current stud book reviewing procedures and any unreported annual foal crop returns in each region. This was overseen by the ISBC's Technical Committee. The ISBC also reported on the drafting of training modules for new Stud Book Keepers which are scheduled to be completed in 2023.

Detailed reviews were conducted for the following stud books:

- a) Libya - The ISBC will continue to help the Libyan Stud Book work toward achieving Approved subject to receiving written proof from the Government of National Unity that one Stud Book Authority (SBA) is recognised as the sole organisation in that country with responsibility for the recording of Thoroughbred breeding.
- b) Portugal - Portugal was placed Under Assessment with effect from 27th July. A review was carried out remotely and in person in 2022 and it was agreed to retain Portugal's Under Assessment status until a further inspection is carried out in approximately 6 months and corrective measures have been completed.
- c) Kazakhstan – mentoring is being provided by their Regional Reviewer, Hubert Uphaus, on next steps to help it work towards consideration for promotion to Approved status.
- d) Uzbekistan – an initial period of Under Assessment status imposed by the ISBC on the Uzbekistan Stud Book (USB) concluded on 14 April 2022 with the ISBC automatically rolling that deadline forward for a further one-year period due to the issues identified having not been resolved. It was agreed a programme of training is provided and a review is conducted in 2023.
- e) Lebanon - Lebanon had ceased breeding and its stud book was no longer operating. The ISBC was maintaining a link with the hope the industry will regenerate in the future.
- f) Iran - The ISBC's Regional Reviewer, Satish Iyer, continues to monitor the Iran Stud Book (ISB) in particular DNA parentage verification challenges following closure of the Indian laboratory and problems with sending samples overseas due to sanctions and quarantine. The ISB is now sending samples to Kawsar Biotechnology Company in Iran, an ISAG accredited laboratory.
- g) Jordan and Kuwait – The ISBC supported the approach being taken to help Jordan (Emerging Stud Book) establish a Thoroughbred Stud Book, following a request to the ISBC office from a breeder in Jordan who owns a mare that was imported in foal into Jordan and subsequently foaled in Jordan, by registering the foal as a Thoroughbred in a supplement to the Kuwait Stud Book on behalf of Jordan.
- h) Syria - The Thoroughbred Registration Authority of Syria (TRAS) registered only one foal in 2018 and has not registered any foals in 2019, 2020, 2021 and 2022 due to the political situation. The ISBC will consider next steps at its meeting in early 2023 including a review of its current Approved status.
- i) Turkey – The ISBC will conduct an inspection in 2023.
- j) Pakistan – The ISBC endorsed the AOSBC's recommended approval of a request from the Pakistan Stud Book (PSB) to include six new Pakistan-bred broodmares in the main section of its Volume 2.
- k) Thailand – An inspection was conducted by Regional Reviewers Kyo Shimizu and Jacqueline Stewart in Q4 2022 to determine whether it has met the compliance requirements for consideration of reapproval to Approved status. African Horse Sickness (from imported zebras) has inhibited horse racing and breeding in Thailand in 2020 and 2021: 14 foals registered in 2020 and 1 foal in 2021. An application for reapproval will be considered at the ISBC's February 2023 meeting.
- l) China - arrangements have been put in place by Regional Reviewers Julie Walker and Jacqueline Stewart to ensure that every horse exported from Australia and New Zealand to China is now issued with an export certificate and that this is registered by the China Stud Book. The ISBC has discussed with the Asian Racing

Federation (ARF) to arrange a workshop with Thoroughbred breeding personnel/organisations in China.

- m) Panama – The ISBC continues to monitor Panama through its Regional Reviewer, Rick Bailey, and an inspection will take place before a recommendation is put before the ISBC for reinstatement to Approved status.
- n) South America – The ISBC continued to work with OSAF to ensure up to date foal crop reporting by the South American stud books.

2. Global Statistical Report

The ISBC delivered the 2020 Global Breeding Statistics Report.

3. Internationally Protected Names for Breeding Stock

The ISBC submitted Internationally Protected Names for Breeding Stock to the IFHA.

4. ISBC financial Report and 2023 Budget

The ISBC approved the 2022 financial report and the 2023 budget. It was also agreed that the Secretariat should aim to carry no deficit at year end, traditionally absorbed by Weatherbys, and that any overspend, or forecast overspend, must be reported to the Committee for approval before invoicing at year end.

5. Genetics

a) Update on the Gene-doping Control Subcommittee

With the expert advice of Dr Natasha Hamilton and Dr Teruaki Tozaki the ISBC is kept fully aware of the work of the IFHA's Gene-doping Control Subcommittee (GDCSC), in particular:

- Discussions on the exosome therapy and the GDCSC's recommendation to prohibit its use because exosomes contain DNA.
- Development of a prosecution framework for gene-doping offences which included a seat for the ISBC to ensure the working group's aims aligned with the ISBC's.
- Progress in the development of gene-doping tests and testing.
- Revision of Article 6 in the International Agreement to ensure strong prosecution of any gene-doping offences.
- Development of a definition of gene-doping.

b) Gene Editing Test

The ISBC has also been kept fully informed on gene-doping testing (initially in Japan and Hong Kong) in particular, concerns of genetically modified equines in developmental biology and somatic cell nuclear transfer (SCNT), a laboratory-based technique for creating a viable embryo from a body cell and an egg cell. The technique consists of taking an enucleated oocyte (egg cell) and implanting a donor nucleus from a somatic (body) cell used in both therapeutic and reproductive cloning.

6. Parentage Verification

The ISBC has been liaising with the International Society of Animal Genetics (ISAG) through Romy Morrin-O'Donnell and Dr Natasha Hamilton regarding stud books and laboratories planning to transfer parentage verification from microsatellite to SNPs (Single Nucleotide Polymorphism) which requires approval of a SNP panel for equines. There has been some progress with the setting up of an ISAG working group aiming to report at the next ISAG Conference in July 2023 but, based on the current anticipated ISAG timetable, it is probable this will not be in place for another three foal crops, starting in 2026.

7. Health & Welfare

a) Minimum Welfare Guidelines for Thoroughbred Breeding

The IFHA Horse Welfare Committee approved the ISBC Working Group's draft Thoroughbred Breeding Welfare Guidelines, and it was anticipated these Guidelines would be endorsed by the IFHA ExCo in 2023.

b) Equine Familial Isolated Hypoparathyroidism (EFIH) -

The ISBC considered communication to Stud Books of EFH, a new genetic disorder exclusive to Thoroughbreds, following its awareness campaign on Fatal Foal Syndrome (FFS1). Research conducted by University of California, Davis, has discovered a genetic mutation (foals inheriting two copies of a mutated gene – one from each parent) that is associated with a lethal disorder that causes foals to be born without parathyroid glands. The ISBC has endorsed Dr Hamilton's recommendation that the ISBC Members request all Stud Books in their respective regions to:

- a) inform breeders of the clinical signs and the disorder;
- b) approach their genetic service providers to offer affordable testing;
- c) avoid mating two carriers together;
- d) highlight that carriers of EFH (like FFS) do not need to be removed from the breeding population.

c) Inbreeding research

The ISBC reported that genealogical inbreeding research studies are to be carried out by at least two members. The aim of the GB study is to determine whether there has been a significant increase in the inbreeding coefficient in GB Thoroughbred foals since the previous studies. These included one by the Institute of Zoology in London which looked at foal crops from 1975-1997 which considered a number of breeding matters including inbreeding and modelling some longer-term scenarios. This study reported an average coefficient of 0.140 (14%) from a random sample of 300 horses born in 1989 and extrapolated that the inbreeding impact to the population will be greatest if the number of breeding sires declines to below 100 (current active sire population in GB: 132).

8. ISBC/IFHA Matters

a) Implications of Withdrawal of Thoroughbred Status

The ISBC submitted a paper to the TAC Agenda Committee in March 2022, which recommended a further change to Article 12 (Definition of a Thoroughbred). This was in response to changes made by TAC that allowed Stud Book Authorities to withdraw Thoroughbred status for a horse, for example, if it transpired that its heritable genome had been modified. The ISBC's paper sought discretion in determining the point in time at which disqualification should occur. This should be the earliest time at which there was clear and legally robust evidence of the change having been made. This was referred to the IFHA's Gene Doping Control Sub-Committee (GDCSC).

b) Article 12

The ISBC recommended, together with the IFHA Technical Advisory Committee (TAC), changes to Article 12 in the IABRW and related documents, which aligned previously inconsistent wording in the article. These changes were approved by IFHA Executive Council.

c) Guidance in Relation to Stud Books Placed Under Assessment

The ISBC recommended, together with the IFHA Technical Advisory Committee (TAC), a new 'Related Document' to the IABRW, titled 'Guidance – Stud Books Placed Under Assessment', to clarify procedures for Racing Authorities when faced with an entry from a country whose Stud Book is currently Under Assessment. This addition to the IABRW was approved by IFHA Executive Council.