



WBFSH

WORLD BREEDING FEDERATION
FOR SPORT HORSES

OPU-ICSI Impact Survey results

By Breeding Department

General Assembly
CASCAIS 2024

Context



At its last General Assembly in October 2023, the WBFSH expressed its intention to develop a platform to inform and assess the impact that the latest equine assisted reproduction techniques such as OPU-ICSI can have on breeding, both genetically and economically. This initiative is part of Item 2 of the 2024 Annual Plan: *Develop a platform to inform and evaluate how biotechnologies such as ICSI and potential future technologies will impact breeding.*

However, before any further development and action on the subject can take place, it was unanimously agreed that it is first necessary to identify the breeding practices of these new reproduction methods internationally, including traceability.

The first step of this survey consists of a digital inquiry among WBFSH members.

We got :

41 Answers

38 completed

3 uncompleted (non exploited)

General information about answers



Members (geographic)

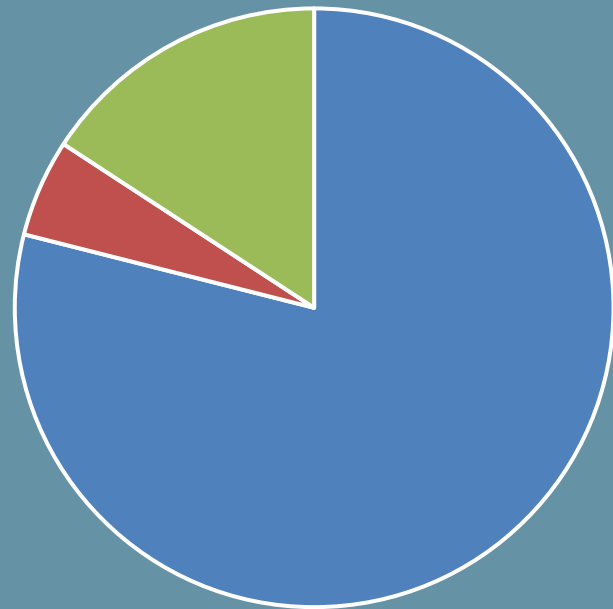


■ EUROPE ■ OCEANIA ■ AMERICA (North&South)



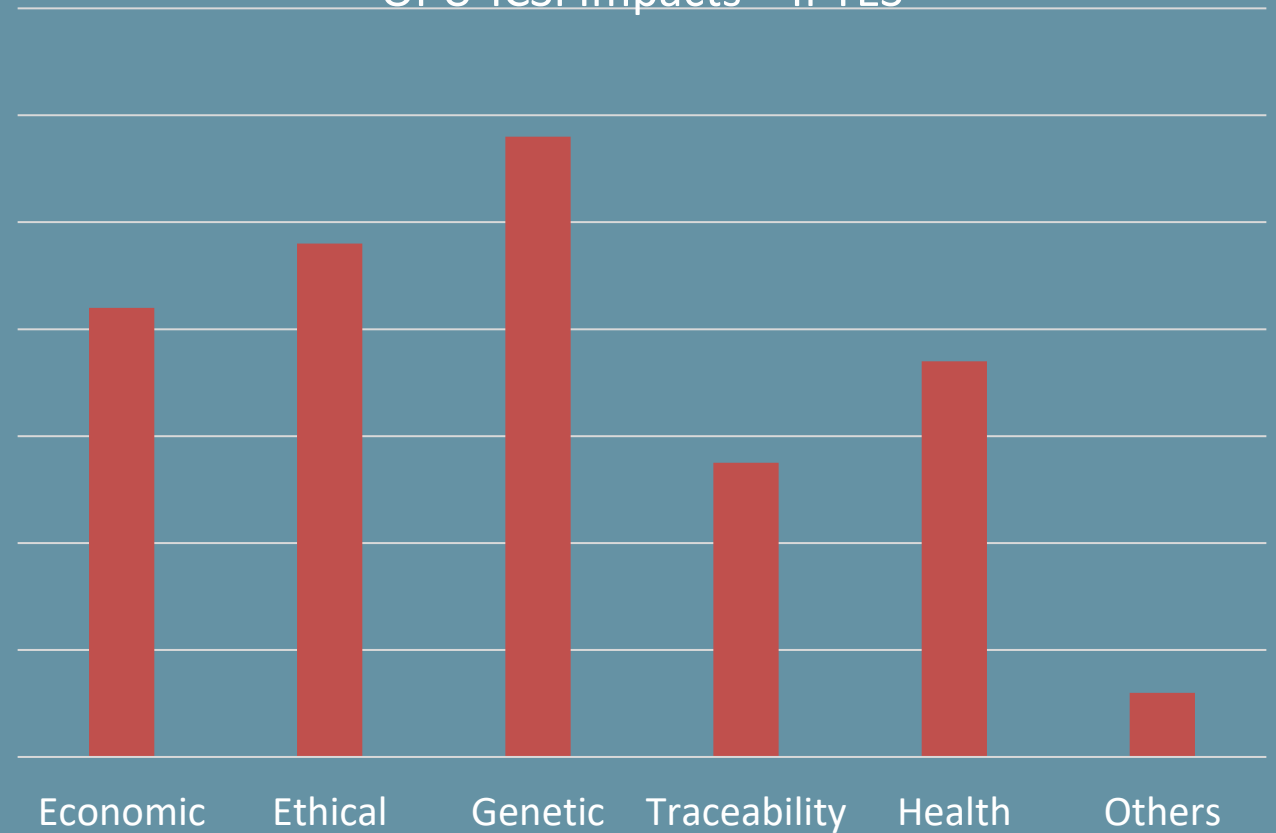
Does your Studbook believe that the latest assisted reproduction techniques (OPU/ICSI) have or will have an impact on breeding?

OPU-ICSI will have impact on breeding ?



YES NO I DON'T KNOW

OPU-ICSI Impacts – If YES



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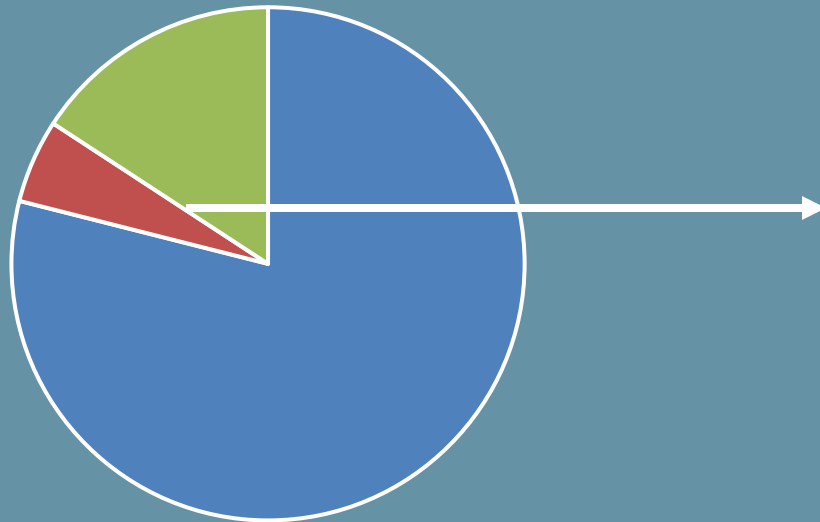


Regulations in Countries Global level



Are the new assisted reproduction techniques (OPU-ICSI) authorized in your country?

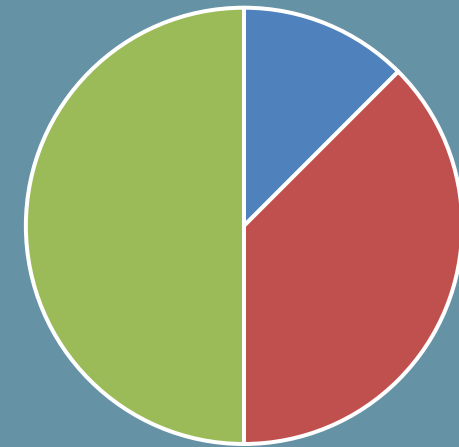
OPU-ICSI authorised in country



■ YES THEY ARE ■ NO ■ I DON'T KNOW ■ USED TO BE

No one answered « Used to be »

Would you like OPU-ICSI to be authorised



■ YES ■ NO ■ I DON'T KNOW

If No / I Don't know :

Yes : GENETIC – ECONOMIC

No : - It will eventually destroy the healthy diversified gene pool (AWR)

- Allows misuse of breeding stock's natural cycles (SCSL)
- Animal welfare issues, Narrowing of the genepool (DSP ZWEIB)

Do your government authorities legislate on the new assisted reproduction techniques (OPU-ICSI)?

Government legislates OPU-ICSI



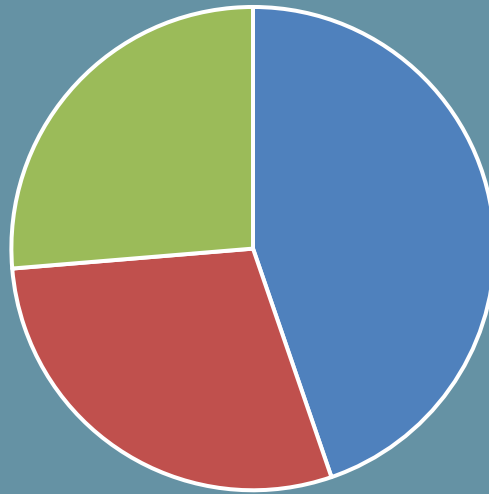
- YES THEY DO
- NO
- THEY INTEND
- I DON'T KNOW

Stud Book	Government legislates OPU-ICSI since	How Government legislates OPU-ICSI
ACE Studbook - Australian Continental Equestrian Group Inc (ACE)	Our government don't have a legislation so breeders are free to use what ever techniques they choose	The Australian Government do not have any legislation in place for horse breeders.
Verband der Züchter und Freunde des Ostpreussischen Warmblutpferdes Trakehner Abstammung e.V. (TRAK)	since ever	no issue yet
Associacao Brasileira de Criadores do Cavalo de Hipismo (ABCCH)	2019	Our Ministry of Agriculture has regulations for laboratories and veterinarians who collect oocytes at OPU and produce embryos after ICSI, controlling the stocks and production of these embryos annually.
Irish Sport Horse (ISH)	There is legislation around who can carry out ET, this would be covered under that domain.	Must be a qualified vet, but doesn't substantiate the type of vet
Westfälisches Pferdestammbuch e.V. (WESTF)	Not sure	There are specifications for documentation
Verband der Züchter des Oldenburger Pferdes e.V. (OLDBG)	EU Richtlinie 686/20	it's EU regulated
Italian Sport Horse Studbook / Ministero dell'Agricoltura della Sovranita Alimentare e delle Foreste (MASAF)	since 2006	State degree
Studbook for Polish Sport Horses - Polish Horse Breeders Association (PZHK SP)	I don't know, but we haven't special document for it	In our law we have only information about embryos transfer to recipient mares



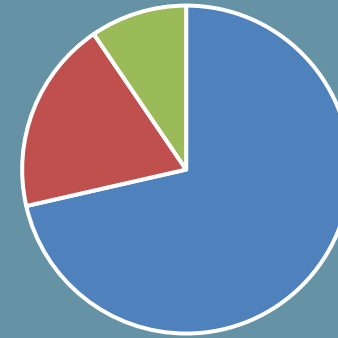
Is the procedure of the new assisted reproduction techniques for OPU regulated in your country (i.e. who may carry out the procedure)?

OPU procedure is regulated



■ YES ■ NO ■ I DON'T KNOW

How OPU procedure is regulated



- The procedure must be performed by a veterinarian
- The procedure is possible by a Laboratory/technician
- Procedure possible by others (please specify)

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Breeders practices

Breeders Practices



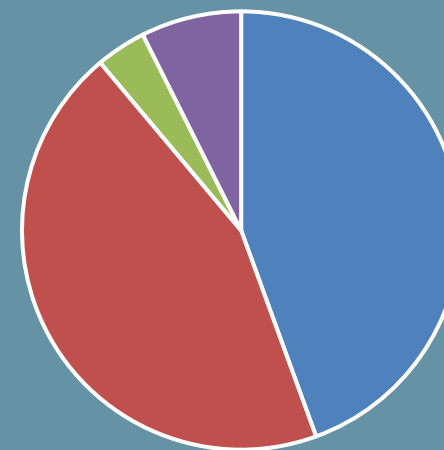
Breeders practice OPU-ICSI



■ A LOT
 ■ MODERATELY
 ■ A LITTLE
 ■ NOT AT ALL
 ■ I DON'T KNOW

A LOT	0
MODERATELY	5
A LITTLE	22
NOT AT ALL	6
I DON'T KNOW	5

If A LOT / MODERATELY / A LITTLE



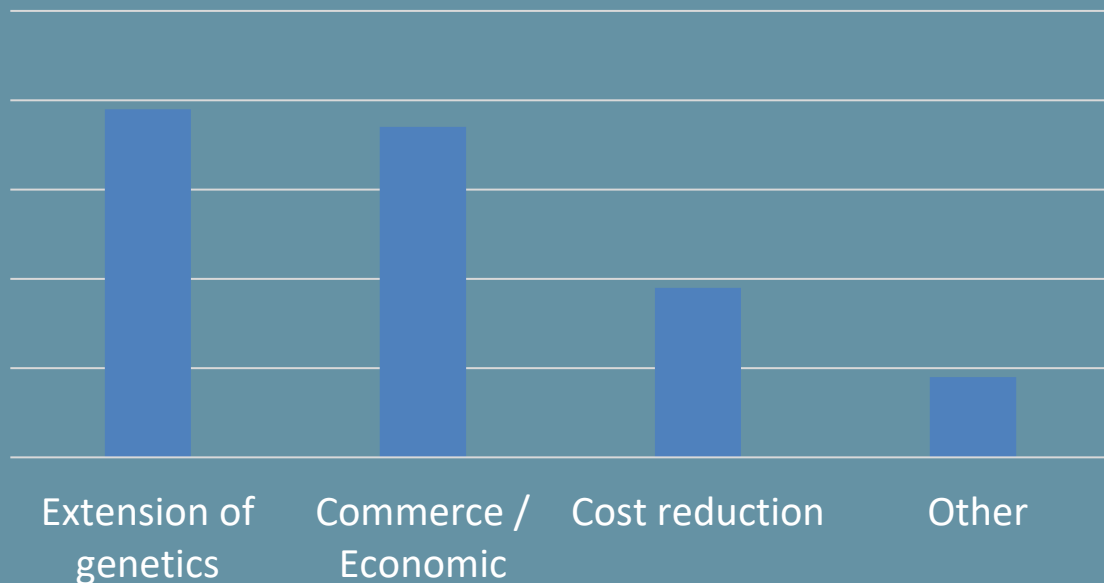
■ Increasing
 ■ Stable
 ■ Decreasing
 ■ A don't know

Increasing	12
Stable	12
Decreasing	1
A don't know	2

Reasons Increasing vs Decreasing



Reasons for OPU-ICSI increasing



Decreasing :

- 1 : High Cost – not practical
- 2 : Lack of ethics / Animal Welfare

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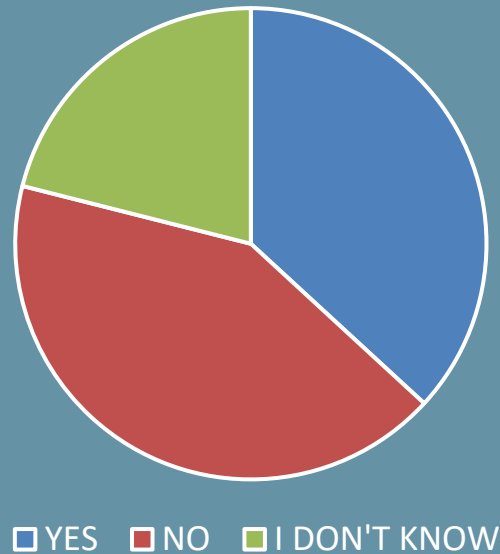


Stud Book Data collection



Can your studbook distinguish between foals derived by embryo flushing compared to foals derived from OPU-ICSI?

Can distinguish between ET and ICSI foals



Comments :

Since 2020 to 2024 according to answers collected

Information supplies by :

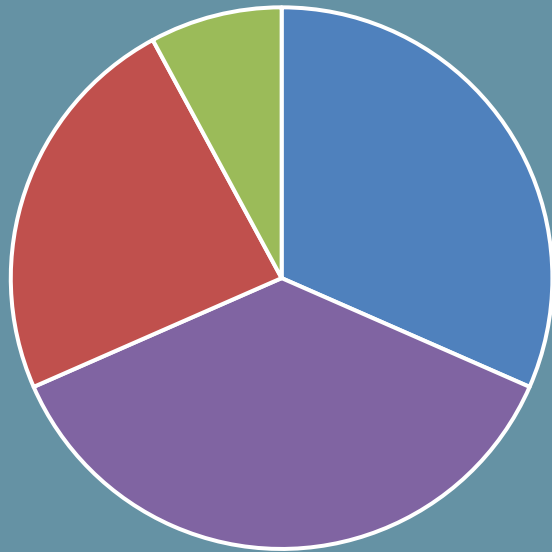
- Vet statement (i.e Portugese Warmblood / Luso Warmblood)
- Type of covering in database (OLD / OS)
- On passport application or passport (AES / HOLST / DSP BAD-WU / ABCCH)
- At birth (SBS)

Not necessarily a compulsory information



Does your Studbook record products from the latest assisted reproduction techniques (OPU-ICSI)?

Record products from OPU-ICSI

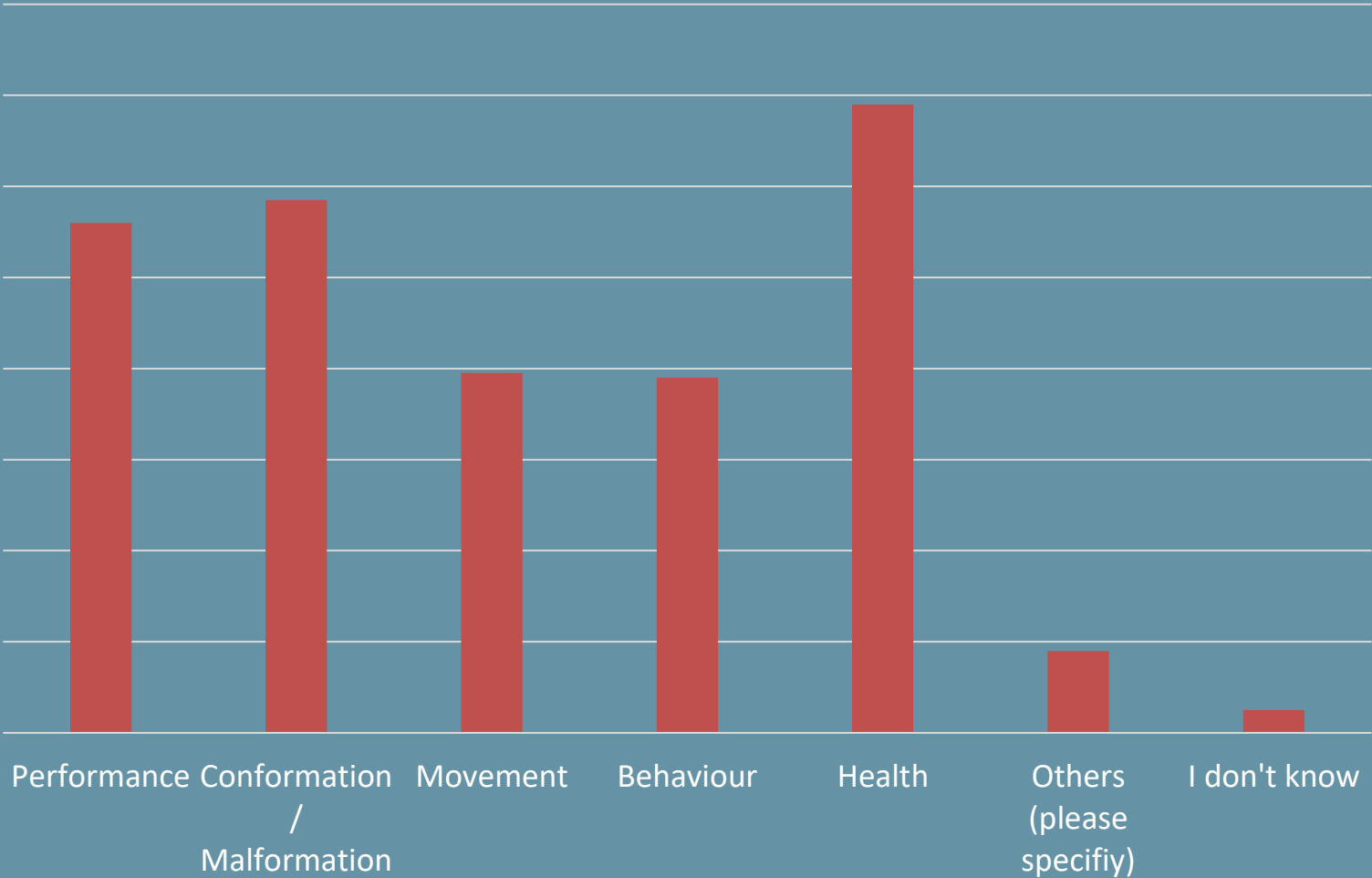


■ YES WE RECORD ■ WE INTEND TO ■ NO ■ I DON'T KNOW

Since 2016 and 2022 for those who record by :

- Coverage certificate with official laboratory certification (ANCADES)
- Since June 2023, breeders are asked to mention if their foal is produced by ET or ICSI on the birth declaration. (SBS)
- As with embryo transfers - the vet supplies the records to the breeder and the breeder supplies us (NZHS)
- For the traceability of donor reproduction (stallion and mare) communications with the technique used that originated the embryo and then the birth of this foal (ABCCH)
- Corresponding documentation on production and transfer must be submitted (WEST)
- As type of covering in our database (OLD / OS)
- In the studbook and in the equine passport (DSP BAD-WU)

What information or data should be recorded/tracked to measure the impact of the latest assisted reproduction techniques (OPU-ICSI) on breeding compared to traditional breeding?

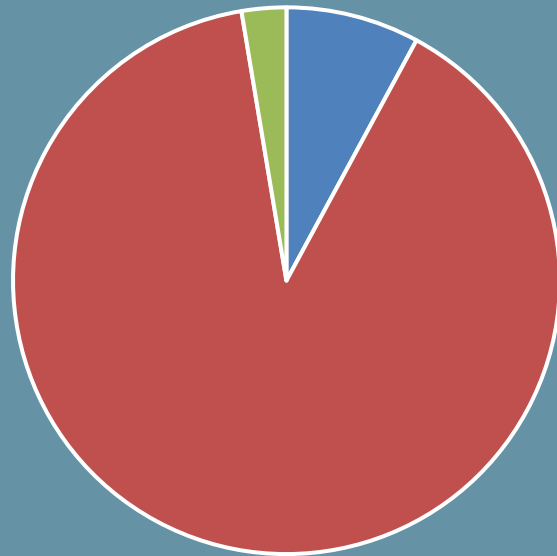


Has your Studbook been aware of, or been alerted to issues with foals derived from the latest assisted reproduction techniques (OPU- ICSI)?



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Alerted issues with ICSI foals



□ YES □ NO □ I DON'T KNOW

Comments :

only "what people says" no measure done yet ; most of the time about conformation (SBSF)

Death, OCD (NZHS)

The foal's health can be weaker than the natural gestation foal, influencing its development. Problems with foal immunity (ABCCH)

Does your Studbook believe that the use of the latest assisted reproduction techniques (OPU-ICSI) should be limited?



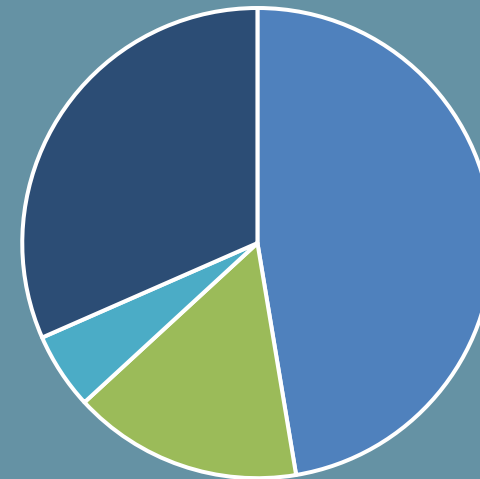
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Should OPU-ICSI be limited



YES NO I DON'T KNOW

If Limitation :



- Limitations on both the sire's and the dam's sides
- Limitations on the dam's side (e.g. number of offspring)
- Limitations on the sire's side (e.g. number of offspring)
- Other

Additional comments

American Warmblood Registry & North American Sportpony Registry (AWR)	As a trained geneticist I am against this experimentation as it relates to horses. In the field of endangered species conservation I agree to use anything that is scientifically available but not in horse breeding
ACE Studbook - Australian Continental Equestrian Group Inc (ACE)	In Australia there is only one known breeder who has used this technique and has not been successful to date.
Canadian Sport Horse Association (CSHA)	Not sure the purpose or value of this survey.
Asociación Española de Criadores de Caballos Anglo-árabes (AECCAá)	THE GENETIC VARIABILTY THAT IS SO IMPORTANT IN BREEDING WOULD BE LIMITED IF THEESE TECHNICS, GOOD STALLIONS WOULD HAVE THOUSANDS AND THOUSANDS OF PRODUCTS, LIMITING NEW STALLIONS POSSIBILITIES. FEMALE LINES WILL BE ALSO LIMITED. WE THINK IT'S A HELPFULL TECNICH BUT SOULD BE LIMITED.
Hannoveraner Verband e.V. (HANN)	The Hanoverian Association is currently working intensively on this topic in its committees and is consulting external advisors in order to obtain a comprehensive opinion on this issue.
Verband der Züchter und Freunde des Ostpreussischen Warmblutpferdes Trakehner Abstammung e.V. (TRAK)	Enhancement of changes in membership/ breeder structure. Traditional, smaller breeders going lost, bigger and innovative commercially minded ones will grow
Portuguese Sport Horse Studbook / Associação Portuguesa de Criadores de Racas Selectas (APCRS)	Should be very limited, the possibility of use.
Luso-Warmblood Studbook / Associação Portuguesa de Criadores de Racas Selectas (APCRS)	This technique should be limited. And well regulated.
Canadian Warmblood Horse Breeders Association (CWHBA)	It is in its early stages in Canada. It provides an opportunity to extend the genetic reach of top performance animals. It is too cost prohibitive at this point to anticipate much negative consequence here.
Zuchtverband CH-Sportpferde Swiss Warmblood (ZVCH)	More examinations necessary on the effects on the donor mare and the foal, especially with regard to health, performance and behaviour / onest (!) information/education of breeders about the results / Protection of stallion and mare owners from misuse of their property for commercial purposes / Create uniform minimum regulations for all WBFSH members regarding the registration and labelling of embryos from the new procedures / voidance of "reproductive tourism" where possible

Additional comments

Associação Brasileira de Criadores do Cavalo de Hipismo (ABCCH)	We believe that according to the reports of the breeders, when the process is done respecting the well-fare of the mare at the time of the OPU, since it is a more invasive process, being done by veterinary professionals trained to do so, and with the objective of helping mares with reproductive problems of very good bloodlines, with semen from important and genetically rare stallions as well, the technique is seen as positive. Today we don't have limitations, but there are already studies to start limiting, especially on the mare's side, such as minimum age, number of aspirations in the OPU per year, and the main thing is to inform breeders about the results that can come in the health of the foals, and in the health of the donor mare. As the process is still new, we do not yet have enough parameters to limit the process with rules by the Association, but we believe that with this research that WBFSH is doing we will be able to have more data and better evaluate the next steps soon.
Irish Sport Horse (ISH)	as per previous comments
Westfälisches Pferdestammbuch e.V. (WESTF)	I find it difficult to formulate an answer for the association as a whole. The interests and views on this topic are very heterogeneous
Verband der Züchter des Oldenburger Pferdes e.V. (OLDBG)	in the end, we are dependent on the information breeders send to us. If they state that the foal is produced by normal ET. We cannot check if that's right or if it's ICSI.
Studbook for Polish Sport Horses - Polish Horse Breeders Association (PZHK SP)	now these techniques are expensive, but in the future when OPU/ICSI will be cheaper will be more dangerous for breeding
SBS	SBS is a progressive studbook committed to be attentive to new technologies. While we remain open and interested in innovations, animal welfare will always be our top priority. We will take every measure to minimize any impact on welfare. We also prioritize transparency in the traceability of OPU ICSI production and birth processes, as we are convinced transparency will enable us to draw pertinent conclusions regarding welfare, performance, and genetic improvement.

Statement from Swedish Warmblood could be added

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Conclusions and according to the survey :

 47,5% of answers

OPU-ICSI may affect genetic / Ethic / Economy

OPU-ICSI is authorized but not very much regulated by authorities and/or Stud Books

This is not a common reproductive breeding technique, but could increase for extension of genetic and/or market (commerce)

Only few Stud Books are able to make distinction between ET and ICSI foals in the database/passport

But 69% of the Stud Books record or intend to record information about foal from OPU-ICSI

Main interests about measure of impact of latest techniques are focused on : Health / Conformation-Malformation / Performance

Even if there is no specific alerts about foals born from this technique

However 50% of Stud Books think that the use of OPU-ICSI should be limited

WHAT IS THE NEXT STEP FOR WBFSH'MEMBERS NOW ?

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Opinions on ICSI and OPU breeding techniques vary widely.

Some experts oppose their use due to concerns about genetic diversity and animal welfare, while others see potential benefits in expanding the genetic reach of high-performing horses.

Many emphasize the need for limitations, regulations, and education for breeders to ensure responsible use.

As techniques evolve, transparency in traceability will be essential for evaluating welfare impacts and performance outcomes.

Overall, there's a consensus that careful monitoring and research are crucial as these methods become more prevalent.

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Breeding Department of WBFSH: Recommendations for Members

To ensure transparency and responsibility in breeding practices, we urge all WBFSH members to follow these key steps:

1. Mandatory Registration of Breeding Techniques

The first and most important step is to document and register all breeding techniques used within your breeding program.

2. Evaluate the Impact of Breeding Techniques

Regularly assess and measure the effects of these breeding techniques on animal welfare and outcomes.

3. Consider the Social License to Operate

Ensure breeding practices meet public expectations and uphold societal responsibility.

4. Engage with a Collaborative Online Platform

Engage in the forum, soon to be available on the WBFSH website, to share your experiences, considerations, and expectations regarding breeding techniques and other relevant topics. This interactive platform will encourage meaningful dialogue among members.

As Stud Books, it is our duty to maintain transparency in the horse breeding industry by ensuring that the obligation to register breeding techniques is clearly stated and enforced in our breeding programs.