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لائسٹنک بریڈنگ سرورسز اتھارٹی کی جانب سے ڈیری اور پیف جانوروں کے

غیر ملکی ایمبریوز، سیمن اور سیکسٹ سیمن

کی امپورٹ اور مقامی پروڈکشن کیلئے نئے قواعد و ضوابط جاری

سرورسز اتھارٹی ڈاکٹر حیدر علی خان کا کہنا ہے کہ محکمہ لائسٹنک جانوروں کی بہتر پیداوار کے حصول کے لیے نسلوں کی بہتری پر کام کر رہا ہے۔ ان کا مزید کہنا ہے کہ یہ نوٹیفکیشن بریڈرز حضرات اور ایمبریو درآمد کرنے والے حضرات کو مکمل رہنمائی فراہم کرے گا۔

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جرسی، نیدر لینڈ اور اسٹریلیا وغیرہ سے ایمبریو درآمد کرنے کے لیے ہوگا۔ ملکی سطح پر ایمبریو اور سیکسٹ سیمن کی پروڈکشن کے لیے بھی قواعد و ضوابط جاری کر دیے گئے ہیں تاکہ مقامی سطح پر دودھ اور گوشت کی پیداوار کو بہتر بنایا جاسکے۔

اس حوالے سے رجسٹرار لائسٹنک بریڈنگ

کے لیے ضروری شرائط و ضوابط پر اپورٹرز حضرات کا عمل کرنا لازمی ہے۔ اس نوٹیفکیشن کے تحت ڈیری نسل کے جانوروں میں ہولسٹین فریزین اور جرسی، جبکہ گوشت والے جانوروں کی نسلوں میں براہمن، اینگس، ہیری فورڈ، شارلیرنسلین شامل ہیں۔ اس نوٹیفکیشن کا اطلاق امریکہ، کینیڈا،

لاہور (جاسرافٹاب ڈاٹ کام) لائسٹنک بریڈنگ سرورسز اتھارٹی پنجاب نے غیر ملکی جانوروں کے ایمبریوز اور سیمن کی درآمد اور لوکل سطح پر ایمبریو اور سیکسٹ سیمن کی پروڈکشن کے حوالے سے نئے قواعد و ضوابط کا نوٹیفکیشن جاری کر دیا ہے۔ اس نوٹیفکیشن کے تحت غیر ملکی ایمبریو کو درآمد کرنے

[Jassaraftab.com/regulations-for-embryo-and-semen-import-and-production](https://jassaraftab.com/regulations-for-embryo-and-semen-import-and-production)



OFFICE OF REGISTRAR
LIVESTOCK BREEDING SERVICES, AUTHORITY
GOVERNMENT OF THE PUNJAB

Dated Lahore the, 26th February, 2025



NOTIFICATION

No: LBSA/PB/53 In exercise of the powers conferred under Section-45 of the Punjab Livestock Breeding Act, 2014 (XIII of 2014), the Livestock Breeding Services Authority, Punjab is pleased to make the following Regulations regarding Standards for Local Production of Embryo through Invitro Fertilization and Invivo Fertilization, and Sex Semen Production with immediate effect.

1. Short title, extent and commencement. - These Regulations may be called as Standards for Local Production of Embryo through Invitro Fertilization and Invivo Fertilization, and Sex Semen Production, 2025 and they shall come into force at once.

CHAPTER-1

STANDARDS FOR LOCAL PRODUCTION OF EMBRYO THROUGH INVITRO FERTILIZATION AND INVIVO FERTILIZATION, AND SEX SEMEN PRODUCTION

The Company/Organization/Institution, as the case may be, shall maintain the record of Embryo and Sex Semen Production and shall submit the traceable production data to the Authority on monthly basis or as & when required on the prescribed format.

The Standards for laboratory and laboratory equipment's shall be followed as per guidelines of International Embryo Transfer Society (IETS) as well as the Standards of World Organization for Animal Health (WOAH) along with advice of Technical committee.

CHAPTER-2

SELECTION CRITERIA OF DAM AND SIRE FOR LOCAL PRODUCTION OF EMBRYO (INDIGENOUS AND EXOTIC BREEDS)

2(1) Selection Criteria of Donor for Local Production of Embryo of Indigenous breeds;

2(1)(1) Breeds: Nili Ravi Buffalo, Sahiwal & Cholistani Cattle.

2(1)(2) The Donor Cattle/Bufaloes should be selected for embryo production with the following characteristics:

- i. The donor should preferably be between the 03 to 10 years of age;
- ii. Should have at least one normal calving history;
- iii. Valid pedigree record and proof of production;
- iv. Dam and sire selected for embryo production should have parentage confirmation through DNA. The Dios confirmation through DNA (Bull with its Dam) shall only be accepted, if the dam of the bull is champion/competition winner/member of the National Red Gold Club/Black Gold Club, etc;

v. Donor/Dam of the embryo have normal reproductive organs & free from reproductive/genetic diseases.

2(1)(3) The criteria for the selection of Dam & Sire of Indigenous breeds should be as mentioned below;

Breed	Dams' lactation milk yield (Liters) in a Standard Lactation of 305-days		Sire
	1 st lactation yield (liters)	Best lactation yield (liters)	
Nili Ravi Buffalo	2500	3000	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam milk yield of the test bull should be same as mentioned for dam).
Sahiwal cattle	2500	3000	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam milk yield of the test bull should be same as mentioned for dam)
Cholistani cattle	2000	2500	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam of the test bull should have milk yield same as mentioned for dam)

2(1)(4) The embryo production laboratory shall provide certificate of the following parameters of Embryos quality:

- i. Should be unhatched;
- ii. Intact Inner cell mass;
- iii. Trophoblast of Grade-I.

2(2) Selection Criteria of Donor for Local Production of Embryo of Exotic breeds;

2(2)(1) Exotic Breeds: Holstein Friesian & Jersey.

2(2)(2) The Donor cattle Holstein Friesian & Jersey should be selected for embryo production with the following characteristics:

- i. Should have at least one normal calving history;
- ii. Valid pedigree record and proof of production;
- iii. Dam and sire selected for embryo production should have parentage confirmation through DNA and in case of import of animal valid pedigree record/ genomically tested from internationally recognized laboratory;
- iv. Donor/Dam of the embryo have normal reproductive organs & free from reproductive/genetic diseases.

2(2)(3) The Criteria for the Selection of Dam and Sire of Exotic Breeds should be as mentioned below;

Breed	Dams' lactation milk yield (Liters)	Sire
Holstein Friesian Cattle	9000 (in 305 days)	Sire selected for the embryo production should be proven/genomically tested. In case of test bull (the sire of the test bull should be proven/genomically tested from internationally recognized laboratory along with compliances of the Standards and Procedure for Breeding Animals, 2015.
Jersey Cattle	7000 (in 305 days)	

2(2)(4) The embryo production laboratory shall provide certificate of the following parameters of Embryos quality:

- i. Should be unhatched;
- ii. Intact Inner cell mass;
- iii. Trophoblast of Grade-I.

CHAPTER-3

SELECTION CRITERIA OF SIRE (INDIGENOUS & EXOTIC BREEDS) FOR LOCAL PRODUCTION OF SEX SEMEN

3(1) Selection Criteria of Sire for Local Production of Sex Semen of Indigenous breeds;

3(1)(1) Breeds: Nili Ravi Buffalo, Sahiwal & Cholistani Cattle.

3(1)(2) The criteria of Sire for local production of semen should be as follows;

Breed	Dams' lactation milk yield (Liters) in a Standard Lactation of 305-days		Sire
	Dams' 1 st lactation milk yield (liters)	Dams' best lactation milk yield (liters)	
Nili Ravi Buffalo	2500	3000	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam milk yield of the test bull should be same as mentioned for dam).
Sahiwal cattle	2500	3000	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam milk yield of the test bull should be same as mentioned for dam)
Cholistani cattle	2000	2500	Sire should be proven/ test bull (the sire of the test bull should be proven and the dam of the test bull should have milk yield same as mentioned for dam)

3(2) Selection Criteria of Sire for Local Production of Sex Semen of Exotic breeds;

3(2)(1) Breeds: Holstein Friesian & Jersey.

3(2)(2) The criteria of Sire for local production of semen should be as follows;

Breed	Dams' lactation milk yield (Liters)	Donor Bull for Sex Semen Production
Holstein Friesian Cattle	9000 (in 305 days)	Donor bull selected for the Sex Semen production should be proven/genomically tested/Trios confirmed through DNA, A2A2 for beta casein. In case of test bull (the sire of the test bull should be proven/genomically tested from internationally recognized laboratory, A2A2 for beta casein along with compliances of the Standards and Procedure for Breeding Animals, 2015.
Jersey Cattle	7000 (in 305 days)	

Hallam
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LIVESTOCK BREEDING SERVICES
AUTHORITY

No. & Date Even:

A copy is forwarded for information and necessary action to:-

1. The Superintendent, Government Printing Press, Punjab, Lahore for publication in the official gazette.
2. Secretary, Livestock and Dairy Development Department, Govt. of the Punjab, Lahore.
3. Secretary, Finance Department, Govt. of the Punjab, Lahore.
4. Secretary, Planning and Development Department, Govt. of the Punjab, Lahore.
5. Secretary, Law & Parliamentary Affairs Department, Govt. of the Punjab, Lahore.
6. Vice Chancellor, University of Veterinary & Animal Sciences, Lahore.
7. Vice Chancellor, Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
8. Dean, Faculty of Veterinary Sciences, University of Agriculture, Faisalabad.
9. Dr. Tasneem Akhtar, Ex-Technocrat (Retd. Director, L&DD).

Hallam
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LIVESTOCK BREEDING SERVICES
AUTHORITY



**OFFICE OF REGISTRAR
LIVESTOCK BREEDING SERVICES, AUTHORITY
GOVERNMENT OF THE PUNJAB**

Dated Lahore the, 26th February, 2025



NOTIFICATION

No: LBSA/PB/57 In exercise of the powers conferred under Section-45 of the Punjab Livestock Breeding Act, 2014 (XIII of 2014), the Livestock Breeding Services Authority, Punjab is pleased to make following amendments in Chapter-6 (Guidelines and Standards for Import of Exotic Semen) of the Standards and Procedure for Breeding Animals, 2015 with immediate effect.

1. Short title, extent and commencement. - These Regulations may be called as amended Guidelines and Standards for Import of Exotic Semen, 2015 and they shall come into force at once.

CHAPTER-6

GUIDELINES AND STANDARDS FOR IMPORT OF EXOTIC SEMEN, 2015

Import of exotic semen must conform to breeding policy which requires development of indigenous breeds of various species to meet the indigenous and export demand of various livestock products and services. Progeny tested cattle semen is however, allowed for crossing with non-descript cattle both for dairy and beef purposes. Import of semen for species other than cattle for experiment (or other purposes) will require special permission.

6(1) DAIRY CATTLE:

6(1)(1) Breeds: Holstein & Jersey

6(1)(2) Form of Semen: Frozen in Liquid Nitrogen (in Plastic Straws).

6(1)(3) Origin: USA/ Canada, Italy, Germany, Netherland, Spain, France, Australia & Denmark.

6(1)(4) For Holstein & Jersey, average lactation milk yield of daughters in a standard lactation of 305 days for North American, European & Australian setups along with Average lactation fat percentage (%) is given as below;

Breed	USA		EUROPE		AUSTRALIA	
	Milk	Fat %age	Milk	Fat %age	Milk	Fat %age
Holstein	12500	3.8%	9000	3.7%	7500	3.7%
Jersey	9500	4.8%	8000	4.8%	6500	4.8%

6(1)(5) The index of each country is as follows;

Sr.	Country of Origin	Index	Holstein	Jersey
1.	USA/ Canada	NM\$	Daughter proven: ≥350	Daughter proven: ≥100
			Genomic tested: ≥ 700	Genomic tested: ≥ 400
2.	Australia	BPI	Daughter proven: ≥200	Daughter proven: ≥150
			Genomic tested: ≥ 350	Genomic tested: ≥ 250
3.	Netherland	NVI	Daughter proven: ≥50	-
			Genomic tested: ≥ 150	-
4.	Germany	RZG	Daughter proven: ≥100	-
			Genomic tested: ≥ 130	-

5.	Italy	PFT	Daughter proven: >2000 Genomic tested: > 4000	- -
6.	Denmark	NTM	Daughter proven: >0 Genomic tested: > 15	Daughter proven: >0 Genomic tested: >10
7.	Spain/ France	The Criteria for import of semen from Spain & France shall be the same as that of USA Criteria while the daughter production averages will be as per European Production Standard.		

6(1)(6) Estimated Breeding values or Predicted Transmitting Abilities (Genomic or otherwise) for milk should be positive (for PTA Milk & EBV for milk for Denmark ≥ 100) with reliability more than 80% for daughter proven and > 70% for genomically tested bulls in the recent most genetic evaluation or annual evaluation where evaluations are annual.

6(1)(7) Bulls should be A2A2 genotype for Beta Casein while Kappa Casein allele E is not allowed.

6(1)(8) Bull should be free from genetic diseases such as Bovine Leukocyte Adhesion Disease (BLAD), Deficiency of Uridine Monophosphate Synthetase (DUMPS), Complex Vertebral malformation (CVM), Citrullinemia, Factor XI, Mule Foot etc. and should also be free from Haplotypes (Holstein) HH1, HH2, HH3, HH4, HH5, HH6, HCD, HMW & for (Jersey) JH1, JH2, JNS etc.

6(1)(9) Should be free from scheduled reproductive problems transmittable venereal diseases duly certified by the concerned department of the country. Health certificate from competent authority of the country of origin will have to be supplied.

6(1)(10) The motility percentage of sperms in after-thawing of semen should be better than 40%.

6(1)(11) Each semen straw (0.25/0.5ml) should carry at least 10 million sperms of non-sexed and 2 million for sexed semen. Accuracy of female births should be 90% or better with sexed semen.

6(1)(12) Should be registered with and traceable from Breed Association / Semen Supplier Website.

6(2) BEEF CATTLE:

6(2)(1) Breeds: Angus, Hereford, Charolais, Brahman (for export of beef from crossbreds)

6(2)(2) Origin: United State of America, Canada, Germany, Australia and Brazil. Moreover, the import of Brahman cattle bulls' semen of Thailand origin will be as per the criteria defined for North America.

6(2)(3) Must be registered with relevant Breed Association.

6(2)(4) Expected Progeny Difference or (Breeding Value) for North America, Australia and Brazil for import of semen of Brahman Cattle Bulls should be;

Sr.	Country of Origin	Birth Weight EPD	Birth Weight Accuracy	Yearling Weight EPD	Yearling Weight Accuracy
1.	North America	≤ 3 lbs	BIF Accuracy $\geq 20\%$	≥ 30 lbs	BIF Accuracy $\geq 10\%$
2.	Australia	≤ 3 kg	$\geq 70\%$	≥ 30 kg	$\geq 70\%$
3.	Brazil	≤ 1 kg	$\geq 20\%$	≥ 5 kg	$\geq 20\%$

- 6(2)(5) Each semen straw (0.25/0.5ml) should carry at least 10 million sperms of non-sexed and 2 million for sexed semen. Accuracy of female births should be 90% or better with sexed semen. The motility percentage of sperms in after-thawing of semen should be better than 40%.
- 6(2)(6) The donor bull should be certified not to have any genetic and venereal diseases.


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1. The Superintendent, Government Printing Press, Punjab, Lahore for publication in the official gazette.
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4. Secretary, Planning and Development Department, Govt. of the Punjab, Lahore.
5. Secretary, Law & Parliamentary Affairs Department, Govt. of the Punjab, Lahore.
6. Vice Chancellor, University of Veterinary & Animal Sciences, Lahore.
7. Vice Chancellor, Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
8. Dean, Faculty of Veterinary Sciences, University of Agriculture, Faisalabad.
9. Dr. Tasneem Akhtar, Ex-Technocrat (Retd. Director, L&DD).


REGISTRAR
LIVESTOCK BREEDING SERVICES
AUTHORITY



NOTIFICATION

No.LBSA/PB/58 In exercise of the powers conferred under Section-45 of the Punjab Livestock Breeding Act, 2014 (XIII of 2014), the Livestock Breeding Services Authority, Punjab is pleased to make the following Regulations regarding Standards for Import of Exotic Embryo with immediate effect.

1. Short title, extent and commencement. - These Regulations may be called as Standards for Import of Exotic Embryo, 2025 and they shall come into force at once.

CHAPTER-1

STANDARDS FOR IMPORT OF EXOTIC EMBRYO

Import of Frozen embryos from exotic cattle breeds; Dairy (Holstein Friesian and Jersey) & Beef breeds (Angus, Hereford, Charolais, Brahman) shall be allowed according to the following guidelines.

1(1) Import of exotic bovine frozen embryos will be permitted for breeding purpose only.

1(2) Eligibility for Importers;

1(2)(1) Institutes/ organizations/ Dairy Farms capable of maintaining performance records of exotic bovine frozen embryos shall only be permitted to import exotic bovine frozen embryos. Moreover, already registered semen importing companies have to be registered themselves separately with LBSA for the import of embryos.

1(2)(2) Application for import of bovine frozen embryos shall be accompanied with the following documents:

i. Complete genetic and production data/ information as per standards, including genetic marker report with respect to the bovine frozen embryos proposed to be imported;

ii. The justification for import of embryo;

iii. The future road map for utilization of imported germplasm.

1(2)(3) Information on the bovine frozen embryos proposed to be imported, shall be authenticated by agencies recognized by the concerned country (for example, USDA in case of US, CDN for Canada, Data Gene for Australia, CRV for Netherland etc.) from which the germplasm is proposed to be imported.

1(2)(4) The institutes/ organizations/Dairy farms permitted to import bovine frozen embryos must maintain records to ensure traceability of imported bovine frozen embryos. Afterwards, the information from the date of import to the date of disposal shall be maintained and submitted by the importer in prescribed formats.

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- 1(2)(5) The guidelines formulated by OIE, Codex Alimentarius and International Embryo Transfer Society (IETS) shall be strictly adhered while importing the bovine frozen embryos.
- 1(2)(6) The pre and post import quarantine for bovine frozen embryos shall be strictly adhered in accordance with Government of the Pakistan health protocols (Animal Quarantine Department).
- 1(2)(7) The importing agency shall furnish the details of traceability of previous bovine frozen embryos import, if applicable, upto individual animals along with success rate of embryo transfer.

1(3) Screening Committee:

- 1(3)(1) Technical Committee of the LBSA will critically evaluate data submitted by the importer and breeding companies.
- 1(3)(2) All the applications for the import of bovine frozen embryos will be examined by the Registrar, LBSA.

1(4) Guidelines for Dairy Cattle Breeds Embryos:

- 1(4)(1) Breeds: Holstein Friesian and Jersey
- 1(4)(2) The imported embryos shall not be implanted in the established indigenous cattle breeds.
- 1(4)(3) Form of embryo: Frozen in liquid nitrogen (in plastic straws).
- 1(4)(4) Embryos must have valid traceable data regarding parentage confirmation/ trios confirmed through DNA/genomically tested from the genomic tested laboratory e.g. (Zoetis USA)/ Neogen or any internationally reputed genomic testing laboratory.
- 1(4)(5) Origin should preferably be (but not restricting to) United State of America, Canada, Germany, Netherland and Australia. Other countries only when average performance of the sire of the Frozen Embryo meet the following criteria:
- i. Genomic breeding value of the genomically tested embryo should be positive (above average) for milk and fat yield with accuracy for the traits greater than or equal to 70%;
 - ii. Semen of sire (proven/genomic) used for Frozen Embryo production should meet the criteria already defined for import of semen from time to time under the Punjab Livestock Breeding Act 2014 and subsequent Standards and Procedures for Breeding Animals, 2015.
- 1(4)(6) Frozen Embryos should be A2A2 genotype for Beta casein and not having allele of Kappa Casein E.
- 1(4)(7) Frozen Embryo should be free from genetic disease such as Bovine Leukocyte Adhesion Disease, (BLAD) Deficiency of Uridine Monophosphate Synthetase (DUMPS), Complex Vertebral malformation (CVM), Citrullinemia, Factor XI, Cholesterol Deficiency (CD), Mule foot etc. and should have normal karyotype.
- 1(4)(8) Frozen Embryos should be free from haplotypes such as HH1, HH2, HH3, HH4, HH5, HH6, etc. for Holstein Friesian and JH1, JH2 etc. for Jersey.
- 1(4)(9) Frozen Embryos should be free from scheduled reproductive problems transmittable venereal diseases duly certified by the concerned department of the

country. Health certificate from competent authority of the country of origin will have to be appended.

1(4)(10) Frozen Embryos to be imported must be collected, processed and handled in accordance with World Organization for Animal Health (WOAH) guidelines and recommendation of the International Embryo Transfer Society (IETS).

1(4)(11) Embryos should be Grade-I and should have valid traceable pedigree record and must conform the following quality parameters:

- i. Should be unhatched;
- ii. Intact Inner cell mass;
- iii. Trophoblast of Grade-I.

1(4)(12) In case of sex embryo, female sex ratio should be 99%.

1(4)(13) Should be registered with and traceable from Breed Association / Embryo Supplier Website.

1(5) Guidelines for Beef Cattle Breeds Embryo:


1(5)(1) Breeds: Angus, Hereford, Charolais, Brahman

1(5)(2) Form of Embryo: Frozen in liquid nitrogen in plastic straws.

1(5)(3) Embryos must have valid traceable data regarding parentage confirmation/ trios confirmed through DNA/genomically tested from the genomic testing laboratory e.g. Zoetis USA/ Neogen or any internationally reputed genomic testing laboratory.

1(5)(4) Origin should preferably be (but not restricting to) United State of America, Canada, Germany, Australia and Brazil and frozen beef Embryo should meet the following criteria:

1(5)(5) Embryo may be genomically tested and Genomic Expected Progeny Difference (or breeding value) of the embryo should be positive (above average), birth weight (near to zero), weaning weight, yearling weight, with accuracy for the traits greater than or equal to 70%;

 1(5)(6) Semen of sire used for embryo production should meet the criteria already defined for import of semen from time to time under the Punjab Livestock Breeding Act 2014 and subsequent Standards and Procedures for Breeding Animals, 2015;

1(5)(7) Should be registered with and traceable from relevant Breed Association / Embryo Supplier Website;

1(5)(8) Embryos should be free from scheduled reproductive problems transmittable venereal diseases duly certified by the concerned department of the country. Health certificate from competent authority of the country of origin will have to be supplied;

1(5)(9) The embryos are collected and handled in accordance with World Organization for Animal Health (WOAH) guidelines/ recommendation of the International Embryo Transfer Society;

1(5)(10) The embryos should be free from any genetic and venereal diseases and