

## **Guidelines for export /import of bovine germplasm (Revised October 2013)**

The import and export of the cattle/ buffalo germplasm is under restricted list and is allowed against the license issued by Directorate General of Foreign Trade, Ministry of Commerce on the recommendation of this Department.

Introduction of temperate dairy breeds in the country for crossbreeding indigenous non - descript cattle has been accepted for quite some time now. In pursuance to this, the need has been felt by number of State Governments/ Organisations to import exotic germplasm to produce the quality cross-bred animals. With the extension of the breeding programme and the artificial breeding network, a surge in the demand for the exotic germplasm is also expected. Accordingly, the import of the germplasm must be from the sires, which have been progeny tested and are in active use in the cattle breeding from which such germplasm are being sourced.

There is a definite demand for the germplasm of Indian breeds of cattle and buffalo in South America, South Asia and other countries. Keeping in view our responsibility towards conservation of the rich diversity, it is important to broadly categorize the germplasm of cattle and buffalo meant for breeding purposes and for the export purposes. Imposing a complete ban on the export of Indigenous germplasm because of conservation concern could be counterproductive, since such a ban may encourage the flow of germplasm through illegal trade which is not desirable. It can be used for the upgradation of the indigenous stock.

Accordingly, it has been felt that some guidelines shall be put in place for processing such applications for import and export of germplasm so that unrestricted drainage of the quality germplasm from the country may be controlled. The aim of the preparation of this interim guideline is to streamline the procedure and ensure quicker and more transparent method for processing the applications received for the export/import of the bovine germplasm.

### **Interim Guidelines for export /import of bovine germplasm**

#### **Guidelines for the Import of bovine germplasm:**

**1: Import of bovine germplasm will be permitted for breeding purpose only.**

**2: Eligibility of Importers**

2.1: The institutes/organizations capable of keeping and maintaining the performance records of exotic germplasm shall only be permitted to import bovine germplasm and these institutions will be evaluated by the Department of Animal Husbandry, Dairying and Fisheries (DADF) for grant of permission.

2.2: No objection certificate from the concerned State Government shall be submitted along with the application for imports.

2.3: Complete genetic and production data /information including genetic marker report with respect to the germplasm to be imported shall be submitted to this Department along

with application for imports. The justifications for import and future roadmap for utilization of imported germplasm shall be supplied with other documents.

2.4: The import shall be based on the standard lactation yield, milk fat, protein, somatic cell count (SCC) and other milk component character standards. The type evaluation shall form the integrated component of selection. Breeding value for production and type traits shall be estimated on the basis of the daughters' born in the exporting country.

2.5: ***Information on the germplasm proposed to be imported shall be authenticated by agencies recognised by the Government of the country (for example , USDA in case of US, CDN for Canada, INRA for France, etc.) from which germplasm is proposed to be imported.***

2.6: The information on feeding ingredients and feeding schedule shall be provided along with other documents.

2.7: The institutes/organization permitted to import bovine germplasm must maintain records to ensure traceability of imported germplasm and must submit post import information from the date of import to the date of disposal in prescribed proforma (Annexure-I to IV) to Department of Animal Husbandry, Dairying and Fisheries and State Governments.

2.8: The guidelines formulated by OIE, Codex Alimentarius and IETS shall be strictly adhered to while importing the genetic material.

2.9: The pre and post import quarantine measures for live animals and germplasm shall be strictly adhered to according to GOI health protocols.

### **3: Screening Committee:**

3.1: ***Technical committee constituted by DADF will critically evaluate data submitted by breeding companies dully authenticated by recognised Government agency. The committee will comprise of: a) ADG, AP&B ICAR; b) representative of NDRI c) One subject expert from NDDB and c) representative of DADF.***

3.2: All the applications for the import of germplasm will be examined by 'Trade and Investment Matter Committee' of the Department of Animal Husbandry, Dairying and Fisheries (DADF).

### **4: Veterinary Certificates:**

4.1 The imports shall be regulated as per the provision of Livestock Importation Act, 1898 amended from time to time and as per the protocols/ veterinary certificates for import of cattle and buffaloes, gonads/ embryos/ semen as prescribed by DADF and as amended from time to time.

**5: Order of import:**

5.1 For import of germplasm, the order of preference shall be frozen semen, frozen embryos and live animals. Import of live animals shall be allowed only if there is a strong justification. Import shall be based on the assessment of the domestic requirement of bulls and bull mothers and their availability in the country.

**6: Standards for Import of Germplasm:**

**6.1: Semen:**

**6.1.1: Unsexed semen**

6.1.1.1: Semen from progeny tested sires with positive sire indices/breeding values for conception rate (DPR/SCR), volume of milk and total fat and total protein.

6.1.1.2: Sire's daughters' average standard lactation yield above 9000 kg in HF and 6000 kg in Jersey.

6.1.1.3: Sire's daughters' average milk fat shall be above 3.5% or above 315 kg for standard lactation yield in HF and above 4.5% or above 270 kg in Jersey.

6.1.1.4: Sire's daughters' average protein % or total protein per lactation shall be above average of that breed in that country.

6.1.1.5: Sire's daughters' average somatic cell count (SCC) shall be below the prescribed limit average of that breed in that country.

6.1.1.6: Reliability of breeding value for production characters shall be more than 80% for both HF and Jersey.

6.1.1.7: Sires shall be improver for type characters like udder and feet conformation.

**6.1.2: *Sire shall be free from all known genetic disorders including bovine leukocyte adhesion disease (BLAD), deficiency of uridine mono-phosphate synthetase (DUMPS), citrulinemia (deficiency of argino-succinate synthetase), Factor XI, Complex vertebral Malformation (CVM) etc.***

**6.1.3: *Sexed semen shall be from credible sources and shall meet the standards of sires given under item No. 6.1.1 to 6.1.2 above. The percentage of error of sex shall not be more than 10% and reduction in fertility shall not be more than 10% of normal semen use.***

**6.2: Embryos:**

**6.2.1: *Embryos shall be from donor cows with minimum standard 1<sup>st</sup> lactation yield above 9,000 kg in HF and above 6,000 kg in Jersey or from genomically tested heifers whose dam shall be with minimum standard lactation yield above 9,000 kg in HF and above 6,000 kg in Jersey.***

**6.2.2:** *Donor cow's or heifers dam average milk fat shall be above 3.5% or 315 kg for standard 1<sup>st</sup> lactation yield in case of HF and above 4.5% or above 270 kg in case of Jersey.*

**6.2.3:** *Donor cow's or heifers dam average protein % or total protein for standard 1<sup>st</sup> lactation yield shall be above average of that breed in that country.*

**6.2.4:** *Donor cow's or heifers dam average somatic cell count (SCC) shall be below the prescribed limit average of that breed in that country.*

**6.2.5:** *Semen of sire used for inseminating donor or genomically tested heifer for embryo production shall meet the specifications for semen given under item 6.1.*

### **6.3: Young bulls**

#### **A. Young bulls produced from cows and Embryos produced from donor cows**

**6.3.1.1:** *Young bulls born to dams or produced using embryos produced from donor cow with standard 1<sup>st</sup> lactation yield shall be above 9,000 kg in HF & 6,000 kg in Jersey. If progeny tested bulls are not available the young bulls shall be genomically tested with 50% or above reliability.*

**6.3.1.2:** *Dam's or donor cow average milk fat shall be above 3.5% or 315 kg for standard 1<sup>st</sup> lactation yield in HF & 4.5% or 270 kg in Jersey.*

**6.3.1.3:** *Dam's or donor cow average protein % or total protein for standard lactation yield shall be above average of that breed in that country.*

**6.3.1.4:** *Dam's or donor cow average somatic cell count (SCC) shall be below the prescribed limit average of that breed in that country.*

**6.3.1.5:** *Young bull shall fulfill all other health and breeding soundness criteria for selection.*

**6.3.1.6:** *Sire of young bull should meet the specifications for semen given under item No. 6.1 above.*

#### **B: Young bulls produced using embryos produced from heifers**

**6.3.1.7:** *Heifers dam and sire shall meet the standards specified under items 6.3.1.1 to 6.3.1.6*

### **6.3.2: Young Heifers**

#### **A: Young heifers produced from cows and embryos produced from donor cows**

**6.3.2.1:** *Early pregnant heifers with pregnancy not more than 4 to 5 months at shipping;*

**6.3.2.2:** *Young heifers born to dams or produced using embryos produced from donor cow with standard 1<sup>st</sup> lactation yield shall be above 9,000 kg in HF & 6,000 kg in Jersey.*

**6.3.2.3:** *Dam's or donor cow average milk fat shall be above 3.5% or 315 kg for standard 1<sup>st</sup> lactation yield in HF & 4.5% or 270 kg in Jersey.*

**6.3.2.4:** *Sire of heifer shall meet the specifications for semen given under item 6.1.*

**6.3.2.5:** *Young heifer shall fulfill all other health and breeding soundness criteria for selection.*

**B:** *Young heifers produced using embryos produced from heifers*

**6.3.2.5:** *Heifers dam and sire shall meet the standards specified under item 6.3.2.1 to 6.3.2.5.*

**6.4:** *Import of germplasm of indigenous breeds*

**6.4.1:** *Government agencies/others identified by the State Government may be allowed to take up import of indigenous germplasm either in the form of semen, embryos or live animals.*

**6.4.2:** *Donor/animal shall be true to the breed type*

**6.4.3:** *Performance of the donor/animal shall be above the elite animals of that breed available in the India.*

### **Guidelines for Export of bovine germplasm:**

1: Export of live animals (bovine) and bovine germplasm will be permitted for breeding purposes only.

2: The export of germplasm will be allowed subject to the fulfillment of following conditions:-

2.1: For export of germplasm, order of preference shall be frozen semen, frozen embryos and lastly live animals.

2.2: Animal shall conform to breed characteristics.

2.3: Milk production records of breed averages will be considered during export of live animals. However elite animals (top 20% of the production level) of each breed having best milk production level shall not be exported. *The export component shall not exceed 5% of the estimated population of that breed in India each year.*

2.4: The health certificate requested by the importing authorities will be provided by the registered Veterinarian authorized by DADF.

2.5: *The concerned State Government will issue an NOC for the proposed export and will keep the detailed data on the exported animals and shall regularly inform DADF.*

2.6: For export of Embryo/ ova, the collection and processing techniques as stipulated under section 3.3 Appendix 3.3.1.1 to 3.3.1.13 and micro- manipulation of the Bovine Embryos at Appendix 3.3.3.1 to **3.3.3.5** of the OIE Terrestrial Animal Health code (**2005**) as amended from time to time may be adhered to.

2.7: Collection and processing procedure of semen as per section 3.2, Appendix 3.2.1.1 to 3.2.1.10 of the OIE Terrestrial Animal Health code (**2005**) as amended from time to time may be complied.

2.8: However, export of live animals of some of the indigenous breeds categorised as **threatened/ endangered** shall not be allowed.

2.9: The exporting agencies will provide the requirement of import of the countries which are interested in importing bovine germplasm (live animals, semen, ova, embryo and gonads) and also provide their import policy documents and health protocols to the Department. The exporting agency from India will comply with the rules and regulations as intimated by DADF.

## ANNEXURE-I

### Format for submission of post-import information on bovine germplasm

1. Name of the organisation:
2. Address with telephone/fax numbers:
3. Year-wise and breed-wise number of bovine germplasm imported since 1980 onwards
  - (a) Bulls:
  - (b) Heifers:
  - (c) Embryos:
  - (d) Frozen Semen:
  - (e) Others:
4. Country of origin of the imported germplasm:
5. Cost on CIF basis:
6. Purpose of importation:
7. Identification No., date of birth and pedigree details: (preferably by RFID tags for imported animals).
8. Name and address of the Farms/Semen Stations where the germplasm were stationed:
9. Best, average and life time lactation yield (in case of milch animal), number of frozen semen doses produced (in case of male stock) during life time/after importation and average production per year:
10. Age at culling/disposal of the imported animal as well as reason and mode of disposal:
11. Report of congenital anomalies in progeny, if any:
12. No. of lactation/calf born during life time/after importation (in case of heifer/cows):
13. Traceability of progeny of imported stock and progeny records in terms of distribution, location, production records and disposal.
14. Other relevant information, if any.

## Annexure-II

### Imported frozen doses usage bull wise:

**Name of the Agency:**

**Quarter of reporting**

S. No.	Bull No.	No. of imported doses used	Conception rate on first AI basis	Overall conception rate	Calves born		Any genetic defect observed	No. of male and female calves alive
					Male	Female		
<b>Total</b>								

### Annexure-III

#### Performance of female born

S. No.	Name of the District	No. of daughters calved	Average age at first calving	Average lactation yield of daughters
<b>Total</b>				

### Annexure-IV

#### Performance of male born gone for semen production

S. No.	Name of the District	No. of males gone for semen production
<b>Total</b>		