



THE GLOBAL STANDARD  
FOR LIVESTOCK DATA



# **Genotype Exchange Parentage SNP Exchange (GenoEx-PSE) Service Agreement Contract**

**December 2017**

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# **Genotype Exchange Parentage SNP Exchange** **(GenoEx-PSE)**

## **Service Agreement Contract**

Between

INTERBULL CENTRE, with head office located within the Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences (SLU), Ulls väg 26, Box 7023, 750 07 Uppsala, Sweden, hereinafter referred to as "ITBC";

And

The organization, \_\_\_\_\_, with head office located at \_\_\_\_\_ hereinafter referred to as "the Service User".

The Service User and ITBC are together referred to as the "Parties" and each as a "Party".

### **Service Agreement Premise**

- The International Committee for Animal Recording (ICAR) holds marks and brands in the field of animal husbandry with regards to measuring the production of milk, meat and all products originating from livestock as well as the technology related to animal-rearing in general.
- ICAR has a legal subsidiary, Service ICAR, which acts as the body for contracting ICAR services from outside entities that best serve the interest of ICAR and its customers.
- ITBC is the operational unit of Interbull and Interbeef currently providing routine computations of international genetic/genomic evaluations of dairy and beef cattle populations. ITBC is located within the Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden.
- An Agreement between ICAR and SLU is in place regarding the establishment and operation of ITBC, which shall also cover the provision by ITBC of all GenoEx-PSE services to the Service User in accordance with this Agreement.
- At the national level, organizations in charge of parentage verification have been successfully exchanging the means to verify parentage amongst themselves for decades. However, the exchange of material internationally, whether through microsatellite results or blood types, has been manual and bilateral, requiring constant interaction with foreign counterparts and manual handling. These organizations have also been adopting new technologies into their work for decades. Now, genotyping technology based on Single Nucleotide Polymorphisms (SNP) is being adopted by these organizations, and there are new opportunities to streamline and automate the exchange of SNP useful for parentage analysis.
- The Service User is an organization that has traditionally been in charge, or is deemed to be in charge for the intent of this service Agreement, of parentage certification in an ICAR Member Country. A country may have more than one

authorized Service User as determined by the stakeholders in that country. Such an authorized Service User may contract the genotype processing for parentage analysis to another organization, referred to as the Contracted Service Provider.

- In view of the global benefits associated with an international platform for the exchange of SNP data, ICAR and SLU have provided financial support for ITBC for creation and purchase of a data management system. While this data management system offers substantial flexibility in terms of services that could be offered to Interbull and/or ICAR members, this current contract is solely related to the exchange of SNP useful for parentage analysis services within dairy and beef cattle breeds.
- GenoEx-PSE simply streamlines the process that has gone on for decades by organizations that have been in charge of parentage certification in populations of dairy and beef cattle.
- Therefore, ITBC and the Service User (or the Contracted Service User if so designated by the Service User) have decided to proceed to the signing of this service Agreement contract.
- This Agreement supersedes all prior Agreements and constitutes a complete expression of all Agreements reached to date between the Parties in relation to GenoEx-PSE.

The above said and considered an integral and substantial part of this Agreement, THE PARTIES HEREBY AGREE TO AND STIPULATE THE FOLLOWING:

## 1 Definitions and Interpretations

1.1 In this Agreement, unless the context otherwise requires, the following expressions shall have the following meaning:

“**Agreement**” means this service contract Agreement (which expression shall be deemed to include its Schedules and any part thereof).

“**Code of Practice**” means the then current Guidelines as described in the GenoEX-PSE Code of Practice documented and maintained by ITBC.

“**Effective Date**” means the date of signing or the date of the launch of the GenoEx-PSE Service, whichever is the latter.

“**Parentage Analysis**” refers to the general process of analyzing SNP from DNA using data accessed through the GenoEx-PSE Service, which may include parentage verification, parentage discovery and/or microsatellite imputation.

“**Service Fee**” means the annual fee payable by the Service User as determined from year to year in accordance with this Agreement.

“**Service User**” refers to the authorized Service User as outlined in this Agreement or its Contracted Service Provider, if so designated by the authorized Service User.

“**Third Party**” means any person, group, company, organization or other entity of any nature whatsoever which is not a Party to this Agreement.

1.2 In this Agreement, the following interpretations shall apply:

- (a) the headings in this Agreement are for ease of reference only and shall not affect the interpretation or meaning of this Agreement;
- (b) the singular shall include the plural and vice versa and, unless the context otherwise requires, references to words in one gender include references to the other gender;
- (c) the expressions “include”, “includes”, “including”, “in particular” and similar expressions shall be construed without limitation;
- (d) words such as “hereunder”, “hereto”, “hereof” and “herein” and other words commencing with “here” shall, unless the context clearly indicates to the contrary, refer to the whole of this Agreement and not to any particular section or clause thereof;
- (e) a reference to a Party shall mean any of the individual Parties (including the individual Service Users) to this Agreement, as appropriate, together with their respective permitted successors and assigns;
- (f) nothing in this Agreement shall affect any statutory rights or provisions granted by mandatory statutory law or regulatory authority, which cannot be waived or limited by contract. In the event and to the extent only of any conflict or ambiguity between the terms of this Agreement and mandatory statutory law or regulatory authority, then the latter shall prevail;
- (g) each Party shall comply with any express obligation in this Agreement to comply with any document, statute, order, enactment, regulation or other similar instrument that is referenced in this Agreement;
- (h) no provisions of this Agreement shall be interpreted as requiring or permitting any act or omission by either Party which is contrary to any mandatory statutory law or regulatory authority; and
- (i) in the event that an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favouring or disfavouring any Party by virtue of the authorship of the provisions of this Agreement.

## **2 Purpose**

- 2.1 The Service User hereby confers to ITBC, which upon execution of this Agreement accepts the responsibility of facilitating and streamlining the work of organizations in charge of parentage analysis by establishing and maintaining a GenoEx-PSE database for the storage and exchange of SNP data at ITBC.
- 2.2 The GenoEx-PSE database and service is not a replacement for national authorities or historic providers of parentage verification.
- 2.3 The current Agreement explicitly does not include the provision of services that perform parentage analysis in its own right by ITBC, nor does it seek to enable new entrants to gain easy access to parentage SNP unless otherwise agreed upon at the national level.

### **3 Underlying Principles**

- 3.1 GenoEx-PSE is a tool to facilitate only the exchange of SNP useful for parentage analysis, which may include parentage verification, parentage discovery and/or microsatellite imputation.
- 3.2 GenoEx-PSE does not include the possibility for ITBC to carry out parentage analysis. Any such new service in the future would require approval from ICAR as well as the Interbull Steering Committee (in case such service may affect the dairy sector) and the ICAR Interbeef Working Group (in case such service may affect the beef sector) and have a separate service agreement established and signed.
- 3.3 The SNP information exchanged via GenoEx-PSE must only be used for parentage analysis and other uses, including the estimation of genomic predictions, are absolutely forbidden and will be considered as a breach of this Agreement as described in Clause 11.3.
- 3.4 GenoEx-PSE is entirely a voluntary initiative allowing various Service Users to enter when comfortable. Once the service is initiated, all SNP genotypes and associated data uploaded to GenoEx-PSE shall be available for downloading by any Service User. In the event of any termination of this Agreement (as outlined in Section 11), all SNP genotypes existing within the GenoEx-PSE database shall remain there and continue to be accessible for future downloading by any authorized Service User at the time of termination but not by any subsequent new Service User. In accordance with the GenoEx-PSE Code of Practice at ITBC, specific erroneous data, including SNP genotypes, may be deleted or otherwise flagged as not accessible by the Service User.
- 3.5 The full member organization(s) of ICAR within each country shall inform ICAR of the authorized organization(s) responsible for parentage verification/certification and the associated population of animals (i.e.: breed, herdbook versus non-herdbook status). ICAR shall compile the list of authorized organization(s) within each country but will not act as judge in the case of a dispute within individual countries about providing parentage services. Such disputes must be settled at the national level for participation in GenoEx-PSE services. Within each country, it is possible to have multiple Service Users for non-herdbook animals of a given breed but normally only one Service User can be designated for herdbook animals of a given breed unless multiple organizations are officially recognized in the country for parentage certification of herdbook animals of the given breed.

### **4 Service Eligibility**

- 4.1 Access to the GenoEx-PSE service is granted only to qualifying organizations as described in this Clause 4 of the Agreement. By the signing of this Agreement, ITBC and the Service User verify that the Service User is a qualifying organization for the GenoEx-PSE service, and is as such included in a list held by ICAR as referred to in Clauses 4.2, 4.3 and 4.4.
- 4.2 Organizations deemed at the national level to be in charge of parentage certification in each of the ICAR member countries, or otherwise providing parentage verification and/or certification services, qualify as a authorized Service User for the purposes of this Agreement. The list of such authorized organizations

by country shall be compiled and maintained by ICAR. The number of such organizations in each country depends, among other things, on the number of breeds, and the rules governing the pedigree (herdbook) or non-pedigree (non-herdbook) animals in any specific country.

- 4.3 Organizations that, in their capacity as the official body in charge of genetic evaluation services in each of the ICAR member countries, and are under contract as a Contracted Service Provider with one or more qualifying organizations identified in Clause 4.2 for providing parentage analysis services, qualify as a Service User for the purposes of this Agreement. In such cases, each authorized organization identified in Clause 4.2 must inform ICAR of such a contractual arrangement, which therefore would allow the designated genetic evaluation centre access only to SNP data from GenoEx-PSE required to perform parentage analysis services for the population (i.e.: breed within country/region) of animals limited to that authorized organization. ICAR shall compile and maintain the list of such a Contracted Service Provider associated with each authorized Service User by country.
- 4.4 Laboratories that are accredited by ICAR for providing parentage analysis services and are under contract as a Contracted Service Provider with one or more organizations identified in Clause 4.2 for providing parentage analysis services, qualify as a Service User for the purposes of this Agreement. In such cases, each authorized organization identified in Clause 4.2 above must inform ICAR of such a contractual arrangement, which therefore would allow the designated laboratory access only to SNP data from GenoEx-PSE required to perform parentage analysis services for the population (i.e.: breed within country/region) of animals limited to that authorized organization. ICAR shall compile and maintain the list of such a Contracted Service Provider associated with each authorized organization by country.
- 4.5 The Service User will be in possession of a valid certificate for ICAR Accreditation of DNA Data Interpretation Centres and maintain the appropriate accreditation status in order to be a Service User of GenoEx-PSE.

## **5 Number of SNP Exchanged**

- 5.1 The exchange of SNP genotypes required for parentage analysis allows for flexibility in terms of the number of SNP to be included.
- 5.2 The minimum requirement for parentage verification shall be those recommended by ISAG (approximately 200) and the ICAR DNA Working Group shall also define a larger number of SNP useful for parentage discovery involving multiple breeds of dairy and beef cattle, as well as additional SNP required for the imputation of microsatellite markers. The list of SNP to be exchanged within the GenoEx-PSE may be updated from time to time in accordance with the GenoEx-PSE Code of Practice of ITBC.
- 5.3 The Service User shall determine which group of SNP (i.e.: parentage verification versus parentage discovery versus microsatellite imputation) that they, or its Contracted Service Provider, will upload into and download from the GenoEx-PSE database.
- 5.4 Only a Service User uploading any additional SNP for parentage discovery and/or for use of microsatellite marker information shall have access to downloading those same SNP submitted by other organizations.

## 6 Service User Rights and Obligations

### 6.1 Service User Rights

As defined under Clause 4 Service Eligibility above, each organization authorized to use the GenoEx-PSE service shall have full access to the data it uploads to the associated database at ITBC, including:

- Access to GenoEx-PSE for uploading and downloading SNP genotypes for animals, including parents, associated with its own designated breed population at the national level.
- Access to GenoEx-PSE for downloading the SNP genotypes required to perform parentage analysis for animals under its responsibility, which will primarily be males in AI but may include other males and potential dams from other countries, especially embryo transfer donor dams. The group of SNP included in the genotypes for downloading must be consistent with the group of SNP uploaded, depending on whether the parentage analysis services are restricted to parentage verification or also include parentage discovery and the use of microsatellite marker information.

### 6.2 Service User Obligations

6.2.1 The Service User agrees to use the data only for parentage analysis. Other uses, especially for genomic predictions, are strictly prohibited.

6.2.2 The Service User commits to uploading the most complete data possible, especially the SNP genotypes defined for each category outlined in Clause 5, on a regular basis with the minimum frequency being every four months. ITBC shall implement internal data verification tools to verify the frequency and completeness of all uploaded data.

6.2.3 Using the defined electronic process, the Service User shall report to the authorized organization in the animal's country of birth, any pedigree conflicts identified through data received via the GenoEx-PSE service.

6.2.4 The Service User agrees to follow ICAR rules and regulations related to the GenoEx-PSE services including policies established by the Interbull Steering Committee and/or Interbeef.

6.2.5 The Service User agrees to follow ICAR accreditation rules and regulations and must first pass the process for ICAR Accreditation of DNA Data Interpretation Centres and maintain the appropriate accreditation status in order to be a Service User of GenoEx-PSE.

6.2.6 The Service User agrees to follow the ICAR quality assurance standards for the SNP and microsatellite data and parentage analysis, as established by the relevant ICAR bodies.

6.2.7 No SNP data accessed by the Service User via GenoEx-PSE may be forwarded, shared or exchanged with any third party organization except for other authorized Service Users for the sole purpose of resolving data conflicts in accordance with Clause 8 of this Agreement.

6.2.8 Breach of any of the above obligations may lead to the termination of this Agreement as described in Clause 11.3.

## **7 Exclusions**

For sake of clarity, the following are explicitly excluded from the GenoEx-PSE services under this Agreement:

- The Service User, and any Third Party associated with the Service User, is strictly prohibited to use SNP data accessed through this Agreement for any use other than parentage analysis.
- The combined group of all SNP for possible exchange will not lead to accurate imputation for inclusion for genomic predictions and, in any event, any such use of the exchanged SNP genotypes is strictly prohibited.

## **8 Resolution of Data Conflicts**

8.1 The GenoEx-PSE service shall include a defined process for reporting data conflicts back to those organizations involved with the submission of any genotype involved with the conflict, and for addressing such conflicts. This process will be described in the GenoEx-PSE Code of Practice of ITBC, and will be updated in line with recommendations by the ICAR DNA Working Group as needed.

8.2 The Service User agrees to handle such data conflicts as stipulated in the GenoEx-PSE Code of Practice of ITBC.

## **9 Service Fees**

9.1 The service fees for the use of the GenoEx-PSE service shall be established by the Interbull Steering Committee.

9.2 The general aim of the established fee structure is that ITBC shall cover its costs associated with the development and maintenance of the GenoEx-PSE database and software, as well as the provision of any related services.

9.3 A service fee is to be paid by each organization with service eligibility to use GenoEx-PSE that signs this Agreement and the signatory Service User shall pay the designated annual service fee to ITBC. In the event that multiple authorized Service Users in a given country designate a common Contracted Service Provider in accordance with this Agreement, a single service fee shall be payable by the Contracted Service Provider, that shall be deemed as the Service User for this Agreement.

9.4 The initial service fee has been set as a fixed annual fee of 1 000 Euro for each organization that accesses the GenoEx-PSE services and database.

9.5 The first service fee is payable to ITBC within 30 days of the effective date of this Agreement, as defined in Clause 1.1.

9.6 Future service fees shall be included on an annual invoice issued by ITBC to facilitate administration of the GenoEx-PSE service fee structure by the Parties.

## **10 Expanded Services in the Future**

10.1 The current GenoEx-PSE database and services is the first of various possible services that may be offered through ITBC using its data management system.



- 10.2 The expansion of services, both in terms of applications and scope, will depend on the interests and demand of the members of ICAR, the Interbull Steering Committee and Interbeef.
- 10.3 Future services would be offered on a voluntary basis and would only occur if, and only if, the national authorities/service providers decide to request such services from ICAR or ITBC.
- 10.4 Two specific areas of potential interest in the coming years include (a) ITBC offering parentage analysis services directly, with an associated service fee, over and above the concept of the GenoEx-PSE service outlined in this Agreement, and (b) expansion of the GenoEx-PSE service to include the exchange of higher density SNP genotypes for the purpose of genomic predictions in beef breeds and/or dairy cattle breeds with a more limited population size.
- 10.5 This current Agreement does not provide any additional rights to the Service User for any such future services that may be offered. A separate Agreement will be required to have access to such additional services.

## **11 Duration, Renewal and Termination**

- 11.1 This Agreement shall commence on the effective date, as defined in Clause 1.1, and will automatically be renewed annually on the first day of July in the calendar following the effective date, unless either party wishes to terminate it in accordance with Clauses 11.2 or 11.3 of this Agreement.
- 11.2 Each party has the right to terminate this Agreement, at any time, including prior to its annual renewal date, by written communication to the other parties with an advanced notice of at least 3 (three) months.
- 11.3 In the event of any breach of the terms, conditions and obligations of this Agreement by any party, this Agreement shall be terminated with an advanced notice of at least 30 (thirty) days.
- 11.4 Termination of this Agreement in accordance with Clauses 11.2 or 11.3 will result in the loss of access to the GenoEx-PSE database and services and all existing data within GenoEx-PSE will remain there and accessible to other authorized Service Users at the time of termination but not to any subsequent new Service User. Immediately upon termination of this Agreement, any data previously accessed by the Service User from the GenoEx-PSE database must be removed from all databases associated with the Service User and any further use of such data is strictly prohibited including the subsequent use for parentage analysis.

## **12 Disputes**

This contract is subject to the regulation of Swedish law. Any and all disputes that may arise in connection with this contract, including its validity, interpretation, execution and/or termination shall be resolved in Stockholm by the Stockholm Chamber of Commerce (SCC) under its Rules for Expedited Arbitration. The arbitration procedure will be held in English.

For any issues not expressly established in this contract, guidance will be sought in the Letter of Agreement between ICAR and Swedish University of Agricultural Sciences (SLU) regarding the establishment and operation of ITBC as well as in Swedish law, which is the law that governs this said Letter of Agreement.

**13 Execution**

This Agreement may be executed via facsimile or electronically in .pdf format and in counterpart copies, each of which shall be deemed to be an original but all of which together constitute one and the same agreement.

**14 Acceptance and Signature**

The undersigned acknowledge and accept the terms and conditions of this Agreement and are legally authorized to sign on behalf of the respective Party.

For the INTERBULL CENTRE, herein referred to as "ITBC";

_____	_____	_____
Name	Signature	Date
_____		
Head of Department		
_____		
Title		

_____	_____	_____
Name	Signature	Date
_____		
Interbull Centre Director		
_____		
Title		

For \_\_\_\_\_, herein referred to as "Service User";

_____	_____	_____
Name	Signature	Date
_____		
Title		