IRISH CATTLE BREEDING FEDERATION

IGenoP – Progress Report

Andrew Cromie, Donagh Berry,
Francis Kearney, Sean Coughlan, Brian Wickham

2nd August 2010

Leipzig

National Development Plan
Transforming Ireland

Agenda

- Motivation.
- Standards
- Database
- Agreement
- Discussion & Feedback
- Future Meeting
- AOB

Motivation.

- Countries want to;
  - Provide genomic indexes in their base & scale.
  - Evaluate candidates from other countries.
  - Ensure their evaluation system is free from bias due to genomic pre-selection.
  - Provide an efficient service to its industry.

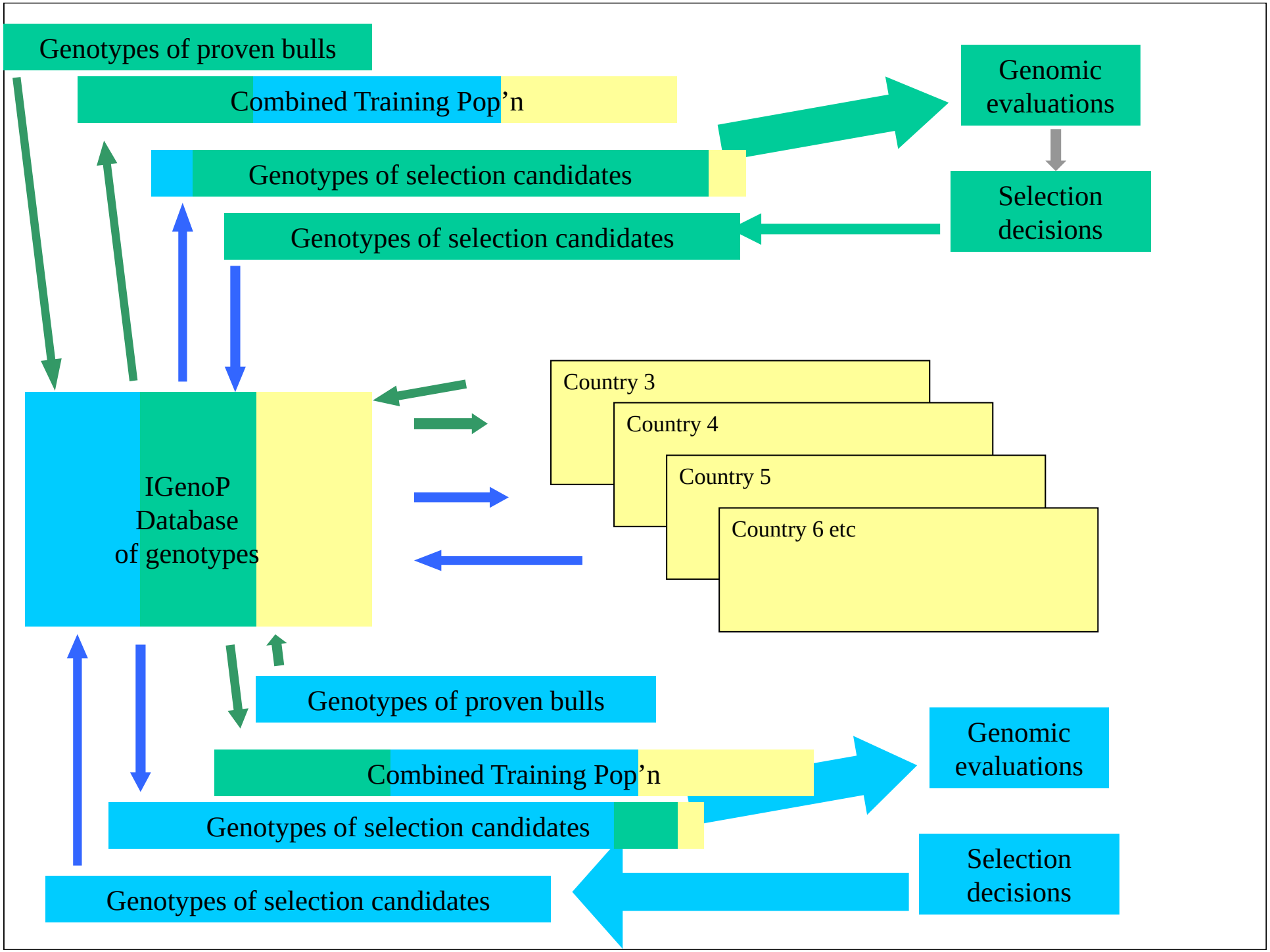
IGenoP – Getting started.

- Under IGenoP this would be achieved through;
  - Establishment of an IGenoP database.
  - Proven bulls within countries – avoid duplication.
  - Pool genotypes, access MACE proofs and develop genomic key for that country.
  - Repeat as required.

ICBF.com

IGenoP – Moving forward.

- Genotypes for all selection candidates stored on IGenoP database.
  - Genotypes sent directly from co-operating laboratories.
- Each country has access to all genotypes for identification of superior animals for their country.


Genotypes of proven bulls
Combined Training Pop'n
Genotypes of selection candidates
Genotypes of selection candidates
Genomic evaluations
Selection decisions
IGenoP Database of genotypes
Country 3
Country 4
Country 5
Country 6 etc
Genotypes of proven bulls
Combined Training Pop'n
Genotypes of selection candidates
Genotypes of selection candidates
Genomic evaluations
Selection decisions

(i) Standards

- Animal identification
  - All animals must be identified by their Interbull ID.
- File formats.
  - Files submitted/uploaded to the database
    - Must comply with a standard naming convention (to be defined)
    - Must have a consistent file format
- Working with many groups on this aspect.

(ii) Database

- Progressing a sustainable mechanism for storing genotypes for ICBF that can be easily transferred to Interbull (we have to do this!).
- Will facilitate a number of different communication mechanisms with animal evaluation units and laboratories (upload via web-screen, web-services, etc).
- Will facilitate storage of chips of varying densities
- Will be in contact with all parties over the coming weeks with a view to optimising the design
- Will make the design document available to all interested parties (mid September)

(iii) Draft Agreement

- Version 1 complete – available on request for consideration and feedback
- Key elements:
  - **Parties:** ICAR, Interbull, Animal Evaluation Units (**Contributors**) & Laboratories
  - **Purpose:** researching, developing and operating genetic evaluation services in the base and scale of a contributor's own country, breed and trait set combination
  - **Decision making:** Interbull Steering Committee, Annual Meeting in accordance with the rules and procedures adopted by ICAR

Draft Agreement - Obligations

- Contributors (AE Units)
  - Must:
    - Provide all genotypes owned or available to contribute
    - Contribute genotypes of bulls exclusively progeny tested in own country
    - Provide genomic evaluations on non-discriminatory basis
  - Must **not:**
    - Provide genomic evaluations in base & scale of any other country
    - Supply genotypes to the project that they do not own or have the right to supply
    - Pass information obtained through the project to third parties

Draft Agreement - Obligations

- Interbull
  - Securely holds the genotypes in a database and ensures they are available
  - operates a secure website for transfer of genotypes.
  - arranges all meetings and provides administrative support

Draft Agreement - Obligations

- ICAR
  - ensures that phenotypic data of relevance to commercial cattle production continues to be collected according to well defined standards on a worldwide basis
  - provides administrative support by facilitating membership to organisations wishing to become involved as Contributors or Laboratories.

Draft Agreement - Obligations

- Laboratories must:
  - have been directed by one or more of the contributors to provide genotypes directly to the Interbull database
  - provide genotypes electronically according to the formats and standards established by Interbull
  - identify each animal genotyped according to formats and standards established by Interbull
- Laboratories may:
  - request and receive access to the genotypes held in the Interbull database for the purposes of: validating parentage, and laboratory quality control.
- Laboratories must not:
  - provide genotypes obtained from the Interbull database to any third party.

Draft Agreement - Fees

- Determined by Interbull
- Cover costs of providing service

Discussion & Feedback