Various systems used to record and process AI data on farms
summary of the ICAR questionnaire

L Journaux, A Malafosse
UNCEIA

Introduction

• A questionnaire of the AI & RT WG
  – getting a better view of use of computing equipments by AI technician,
  – the exchanges with central or national database
  – the use of additional technologies to have an identification of straws with an automatic reading.
Answers

• We sent a questionnaire to the major actor of AI in a very large number of countries.
• Quite low number of answers
  – Not enough to establish statistics
  – But large variety = good indicator
    • describe a large number of situations
      – different continents (Europe, Oceania, and America).
• Our picture is
  – Quite good for AI centres providing technician AI service.
  – Less quality for
    • farmers practicing Do It Yourself
    • freelance AI technician.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Country</th>
<th>AI activity considered</th>
<th>Nb of technician</th>
<th>freelance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.N.A.F.I.</td>
<td>Italy</td>
<td>2500000</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>Swissgenetics</td>
<td>Switzerland</td>
<td>922033</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>CIAQ</td>
<td>Quebec</td>
<td>57800</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>FABA Service Coop</td>
<td>Finland</td>
<td>121690</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Gencor</td>
<td>Canada</td>
<td>537720</td>
<td>1595</td>
<td></td>
</tr>
<tr>
<td>SHIUZ Sp. Z.o.o.</td>
<td>Poland</td>
<td>7</td>
<td>1200</td>
<td></td>
</tr>
<tr>
<td>West gen</td>
<td>USA</td>
<td>3400000</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>UNCEIA</td>
<td>France</td>
<td>6000000</td>
<td>1700</td>
<td></td>
</tr>
<tr>
<td>AI Services NI</td>
<td>North Ireland</td>
<td>50 000</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>GENEX</td>
<td>USA</td>
<td>2 000 000</td>
<td>400</td>
<td>10</td>
</tr>
</tbody>
</table>
Type of equipment of AI technicians

<table>
<thead>
<tr>
<th>Structure</th>
<th>PDA</th>
<th>Laptop</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.N.A.F.I.</td>
<td>99%</td>
<td></td>
</tr>
<tr>
<td>Swissgenetics</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>CIAQ</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>FABA Service Coop</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>ABLN</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Gencor</td>
<td>98%</td>
<td>5%</td>
</tr>
<tr>
<td>West gen</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>LIC</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>UNCEIA</td>
<td>35%</td>
<td>60%</td>
</tr>
<tr>
<td>AI Services NI</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>GENEX</td>
<td>50%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Computing equipment of technicians of AI centers

- Laptops or PDA are used
- The 2 systems seem to have a similar popularity
- But proportion of PDA is increasing during the last 5 years
Motivations to develop the equipment

By descending interest:
1. To reduce processing delay
2. To improve accuracy of data recording for the genetic system
   • pedigree-fertility EBV
3. To avoid recording errors
4. To save overhead or processing costs
Use of equipment and specific softwares

- **High frequency**
  - To record and validate AI
    - by checking against a data base
      - embedded on the device or remote computer
      - Direct connection
  - To print AI forms on farm

- **With a lower frequency**
  - To store reproduction records of herds.
  - To match AI data with other data stored in the technician data base
    - calving, movements of straws
  - To manage the semen storage and movements
    - for the technician container only

Data exchange

- **Between technician’s computers**
  - For all types of data (technical, financial, trade)
  - With the Central data base of the company.

- **Technician has a direct access to a central database**
  - National or shared with other structures
  - Only in some situations or countries,

- **Exchanges are daily**
  - 1 case of on line system
AI information participates to...

- 3 types of valorisations
  - validation by the system processing data for genetic purposes
    - consistence-integrity….
  - Use for genetic evaluation of fertility
  - Use for parentage recording and pedigree printing
- In all the answers

The automatic reading of the straw Id

- An additional tool in development ?
- In the answer of this survey :
  - Use only routinely in France
  - Planned in Switzerland
- A recommendation under construction in AI & RT WG of ICAR
DIY breeders

• It’s very difficult to have sound information regarding
  – The equipment of the DIY breeders
  – The way of management of AI activity.

• In every country
  – A part of the services of DIY farmers is notified by paper forms.
  – Exchange of data using specific software’s or internet portal is in progress.

DIY breeders

• Sending of data is
  – Less frequent for farmers than for the AI technicians
    • generally once a month.
  – Data transmitted to
    • regional data base processing any technical records
      (parentage, milk recording…)
    • or to herd book data base

• The use of this information
  – Is exactly the same than for the information coming from AI companies
Conclusion

• It should be worth to improve the description of the situation
  – New answers to the questionnaire are welcomed
  – ICAR WG AI&RT will
    • update the summary
    • publish it at the ICAR web site.

• Computing solution using laptop or PDA
  – Is now very frequent for AI technicians
  – The functionalities are very similar
    • except the adaptation of the specific country’s legislation or database organisation.

• Thanks for your attention
• Thanks for the companies and organisation who answered