

# Report of a Network Coordinating Group on Forages

*Ad hoc* Meeting, 21-22 April 2005, Lindau, Switzerland

B. Boller, E. Willner, L. Maggioni and E. Lipman, *compilers*

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## EXECUTIVE SUMMARY

### Introduction

Beat Boller, Coordinator of the Network Coordinating Group (NCG) on Forages and Chair of the Working Group on Forages, welcomed the participants and wished them a pleasant stay in Switzerland. This meeting is the first activity of the Forages NCG during Phase VII of ECP/GR and, in view of the workplan and priorities defined at Network level, it had also been decided to extend invitations to some of the Forage Central Crop Database managers and other resource persons who could contribute their expertise to the meeting.

The forage databases represented were: *Lolium* and *Trifolium repens* (Ian Thomas), *Phleum* (Petter Marum, on behalf of the Nordic Gene Bank), *Arrhenatherum* and *Trisetum* (Magdalena Ševčíková), *Dactylis* and *Festuca* (Grzegorz Żurek), *Bromus*, *Trifolium pratense* and Minor forage legumes (Lajos Horváth), *Poa* (Evelin Willner), perennial *Medicago* (Jean-Paul Sampoux, on behalf of Vincent Gensollen), *Trifolium subterraneum* and annual *Medicago* species (Mónica Murillo, on behalf of Francisco Gonzalez Lopez).

Some participants were attending an ECP/GR meeting for the first time: Chris Kik, new member for the Netherlands, replaces Loek van Soest, who was also present as a retiring NCG member; Jean-Paul Sampoux, France, attending on behalf of Vincent Gensollen; and Luigi Russi, Italy, attending on behalf of Valeria Negri.

Vladimir Meglič was invited in his capacity as coordinator of the proposal for the *Medicago* core collection project, which was to be discussed here.

After brief self-introductions by all the participants, B. Boller presented the agenda, pointing out that the role of the NCG is to help in speeding up progress on the activities of the workplan, since working in a smaller group should allow us to achieve more concrete outputs. Meetings of the whole Working Group are mostly dedicated to reviewing and defining the workplan.

Another important task of this meeting is to discuss project proposals to be submitted for funding.

Andres Meerstetter, from the Strickhof Agricultural College, welcomed all the participants and wished them success with the meeting.

### Characterization and evaluation (including use of modern technologies)

#### ***Final evaluation of Lolium core collection trial 1995-1997***

Ian Thomas reminded us that at the last meeting IGER had offered to coordinate with HRI to make a preliminary analysis of the results of the *Lolium* core collection evaluation trials. The report of this analysis is available upon request, to be addressed to Mervyn Humphreys or Ian Thomas. However, the scoring of the trials had been done at different times and in different ways at different sites. Consequently, a statistical analysis of the results would be difficult to perform and IGER is not ready to make this investment in time and effort, although they would be able to maintain the core collection populations by multiplying the seed and making it available, should the Group consider this worth doing.

Comments were made that a lot of work had been invested in the *Lolium* collection trials by several institutions and that the agreed protocols were followed. It would therefore be a pity if no conclusive results were to be obtained. Various options were suggested:

- a. To abandon the idea of a complete statistical analysis across sites, but at least to compile the results obtained from each site.
- b. To make a statistical analysis across some sites only, focusing on those trials where scoring was sufficiently standardized to be comparable and on those traits less affected by the environment.
- c. To commission the analysis to a statistician and obtain the necessary funds through a Marie Curie type of fellowship.
- d. To include the proposal for completion of the analysis in a new project proposal to be submitted under Regulation 870/2004.

The last option was the preferred one, after the discussion about the preparation of a project proposal (see below, "Opportunities to submit projects under EC 870/2004", pp. 10-11).

## **Sharing of responsibilities**

### ***Safety-duplication***

Recent activities to improve safety-duplication of the collections were reported.

Loek van Soest mentioned that about 900 forage accessions were safety-duplicated in Malchow, Germany, following a "black box" arrangement in 2003. Consequently, about 90% of the whole CGN forage collection is now safety-duplicated in different locations around Europe. A standard memorandum of understanding (MoU) is generally used by CGN to formalize these types of arrangements and a copy of the standard MoU is available from CGN upon request.

Petter Marum and Lorenzo Maggioni informed the Group of the initiative from the government of Norway to establish a Svalbard Arctic Seed Depository for the International Community. This facility would provide an ultimate safety net for the international community and thus guard against catastrophic losses that might be caused, for example, as a result of large-scale disasters. Institutions making use of the facility would do so on a voluntary basis.

It was pointed out that the table published on page 11 of the report of the Eighth meeting could be updated by the inclusion of the offers to host samples as black boxes by CGN, The Netherlands (at -20°C), France (host for 1000 samples at -18°C).

An updated table is enclosed as Appendix I.

It was noted that safety-duplication actions are not always accompanied by data recording of the "Location of safety-duplicate" in the central databases.

### ***Recommendation***

*Whenever safety-duplication initiatives are carried out, curators should make sure that relevant data are entered in the central database. Recording this type of data will be a very useful move towards establishing a rational conservation system throughout Europe.*

### ***Use of preferred regeneration standards: conclusions from the table compiled and published on the Forages Network Web site***

The table of regeneration standards used by European institutions, including the latest corrections received in 2005, is now published in the Report of the eighth meeting of the Working Group.<sup>1</sup> After review by the participants it was found that some data were still missing (France, Hungary and UK) or incomplete (Netherlands) and a new update of the table will be necessary. The new version will be included in this report (see Appendix II).

B. Boller commented that the data recorded in the table show that in many cases the declared standards are below the level considered “preferred” or even “acceptable” by the Working Group. This raises the question of whether the standards agreed may have been too ambitious.

Some items of the procedures were discussed in detail (isolation distance, which in only one case is above the threshold fixed as acceptable (50 m); number of individual plants per accession, balanced vs. unbalanced bulking; etc). A recurrent comment is on the importance of economic constraints which often make it impossible to achieve the standards.

I. Thomas and P. Marum observed that the results obtained by the EU-funded project ICONFORS would provide some insight into the genetic consequences of lower standards. It was therefore agreed that before making any changes to the current standards, the Working Group should wait for the conclusions of the ICONFORS project.

#### **Workplan**

*B. Boller suggested that this item be included in the agenda of the next meeting of the Working Group on Forages under the heading “implications of the results of ICONFORS for the setting of regeneration standards” and this was agreed by the Group.*

It was also noted that the Working Group on Grain Legumes is undertaking a similar survey on the regeneration standards currently applied in preparation of their next *ad hoc* meeting in Valladolid, Spain, September 2005.

### **Core collections: Status of the project of building a core collection of *Medicago***

(See below, “Opportunities to submit projects under EC 870/2004”, pp. 10-11).

#### ***In situ and on-farm conservation: ongoing and planned activities***

B. Boller asked all participants to provide information about all ongoing or planned activities in their respective countries.

##### **M. Ševčíková – Czech Republic**

Several projects on landraces are going on in the Czech Republic, mainly on fruit trees; forages always remain marginal since there are no landraces left on-farm. There are plans to establish multiplication plots by sowing old grass varieties named ‘Rožnovský (-á)’ in the Wallachian Open Air Museum at Rožnov to serve as a reminder of the traditional grass seed

<sup>1</sup> Boller, B., E. Willner, L. Maggioni and E. Lipman, compilers. 2005. Report of a Working Group on Forages. Eighth meeting, 10-12 April 2003, Linz, Austria. International Plant Genetic Resources Institute, Rome, Italy. (Appendix I. Description of the regeneration standards used for forage species, pp. 184-187).

production developed in Wallachia at the foothills of Moravian-Silesian Beskydy Mts. in the 1920s, which helped significantly to increase the income of farmers at that time.

A project deals with wild grasses, legumes and herbs multiplied in holding institutions and put back into the region of origin for species-rich meadow restoration.

A project is focusing on 63 grass species and 47 legumes which are endangered in the Czech Republic and are mostly already protected in national parks and reserves. The chosen species have been studied *in situ*, seed has been collected and put in genebanks and in case of need, plants have been maintained vegetatively *ex situ*.

L. Russi - Italy

There are currently no activities on on-farm conservation of forages, but a law is under preparation in the region of Umbria that will include forages. No funding is available so far.

J.-P. Sampoux - France

Within the framework of the programme of INRA-Lusignan, *Lolium perenne* accessions have been collected from fields that had been sown with one variety (cv. 'Herbie') and maintained for a varying number of years in several locations by farmers, under different climates and different management types. This is a five-year project, which includes checking the variability of morphotypes and population dynamics.

L. Horváth - Hungary

For the major forages no direct on-farm conservation is going on, but some activities involve "special forages" such as Jerusalem artichoke, forage watermelon, sweet clover and kidney vetch. There are difficulties in the supply of seed for these species, but the genebank can provide limited seed volumes from its seed stock.

L. van Soest - The Netherlands

The Biodiversity project was presented in the Linz proceedings and a paper has been published in *Molecular Ecology* (2005).

P. Marum - for Nordic countries

On-farm: initiatives in Finland and Norway have already been reported in the Linz meeting report. Regarding *in situ* conservation, the following can be added:

- Norway: a project on the conservation of old landraces is in its initial phase; seed multiplication is starting; production of a booklet (guide) in Norwegian is under way. Another project on restoration of old meadows is ongoing.
- Sweden: a project on "phenotypic variation in meadows and pastures" started this year (Jens Weibull).

G. Żurek - Poland

There are no activities in Poland involving *in situ* or on-farm conservation of forages. But it should be mentioned that since 1998 the collecting methodology has included collecting the species that are characteristic of the site and their seeds, and recording their details in the genebank as well.

B. Boller - Switzerland

A project was initiated last year on meadow fescue and Italian ryegrass ecotypes. Sites where ecotypes are present were identified, seed was produced and multiplied. The ecotypes are being evaluated for morphological characters. The aim is to make recommendations on the most valuable sites to be preserved.

## Documentation and information: status of updates of national and European forage databases in relation to EURISCO

P. Marum introduced the discussion, showing that there are some discrepancies among the *Phleum* data available from the Central Crop Database (CCDB) and from EURISCO. The situation is very different according to the country: in some cases more data are included in the CCDB, in other cases there are more in EURISCO.

L. Maggioni explained that EURISCO is going through a transition phase, during which only a number of national inventories have uploaded their data sets into EURISCO. Moreover, these data sets are not always complete with data from all the country collection holdings. It is an internal national matter to organize the data flow towards the national inventory. However, CCDBs have developed over the course of many years and have gathered data through direct and independent channels. Therefore, it is not surprising that the two data sets still show some discrepancies.

A new staff member was recently hired at IPGRI in order to offer helpdesk service for National Inventory focal points and to encourage data upload from the National Inventory onto EURISCO, as well as the provision of high quality data. Among other improvements, the provision of a “download facility” as a tool of the EURISCO catalogue is planned as a priority and it is expected to be implemented shortly. The ECP/GR Secretariat would also welcome hearing about additional needs and comments from the CCDB managers in order to improve the functioning of EURISCO for their needs.

### **Recommendation**

*It was considered that the main bottleneck to the effective use of EURISCO by the DB managers is the current impossibility of downloading EURISCO data in a flexible way, which therefore prevents the use of the catalogue to add missing data to the CCDBs. It was recommended that the ECP/GR Secretariat should provide an on-line download facility as soon as possible.*

*It is also recommended that the ECP/GR Secretariat should encourage National Inventory focal points to make sure that all available data get uploaded onto EURISCO, thereby reducing discrepancies with CCDB data.*

*It is recommended that all data providers make an effort to improve data quality and data coverage.*

L. van Soest made it clear that Dutch data for *Phleum* were not sent to the ECCDB, but that these data were already available on-line from EURISCO or the Dutch national inventory and the ECCDB manager was expected to obtain the data directly from there.

### **Recommendation**

*It should be clarified whether it is the data provider who should inform the central database manager about data availability, or whether it is the database manager who should seek data from the available on-line sources. It was recommended that database managers regularly check available data from EURISCO and make sure to enter these into their databases. On the other hand, curators who are temporarily unable to channel their data through to EURISCO, pending the establishment of an efficient data flow through the National Inventory, are encouraged to actively and directly provide their passport data to the CCDB managers.*

*Additional data (environmental, characterization, etc.) that the WG has agreed to collect in the CCDBs, beyond the EURISCO sub-set of passport data, should be directly provided to the CCDB managers by the collection curators. Working Group members are encouraged to facilitate and coordinate data flow from and within their country.*

### **Review of progress in most original sample (MOS) definition**

The meeting split in several groups to work on the ECCDBs of the seven priority genera (*Lolium*, *Trifolium*, *Poa*, *Dactylis*, *Medicago*, *Festuca* and *Phleum*) with these aims:

- To update ECCDBs of the 7 priority genera with MOS information,
- To clarify the situation where more than one accession of the same cultivar was claimed to be a MOS (),
- To assign a proposed “primary holder” where no MOS was identified,
- To try to reach agreement on a maximum number of samples possible.

The results of these practical exercises are detailed in Box 1 below for the European Central *Poa* Database.

**Box 1**  
**Technical session - example of the European *Poa* Database**

- **data exchange:** updates were received from all participants (a total of 11 countries) and a new version of *Poa* data was produced in the EURISCO format, with the resulting count of accessions:

before technical session	after session	comparison with EURISCO
4881	5017	1864

The comparison between the *Poa*-EDB and EURISCO shows that some countries are missing in the *Poa*-EDB: Bulgaria (110 accessions), Latvia (6), Azerbaijan (3), Estonia (1) and Austria (1).

- **update of MOS information:** clarification of questions regarding MOS definition to be provided by NCG members or ECCDB managers. Clarifications are still needed for a total of 139 accessions from 3 countries. The information will be requested.
- **tasks of the *Poa*-EDB manager**
  - when more than one accession of the same variety is available, clarify and determine who is the primary holder (country where the variety was bred/genebank which is able to take responsibility for maintenance)
  - where no MOS was identified, e.g. for originality status recorded as 3 or 4, assign a proposed “primary holder”
  - compile all new data into the *Poa*-EDB, clarify unclear data or ask for missing data and send them to all WG members with suggestions for “primary holder” and ask for agreement with proposal and corrected data.

As a result of the experience gained from the technical session, the following recommendations were made:

## **Recommendations / Workplan**

- **Data format and descriptor order**

Whenever data are exchanged within the Group, it is important to use the same format, i.e. the EURISCO descriptors in the EURISCO format, followed by the other agreed descriptors, which should always be listed in the same order.

- **Identification of MOS / primary holder**

It was noted that, in the case of varieties, it is often impossible to identify the MOS on the basis of the algorithm. However, the primary holder should be designated by the CCDB manager as being a genebank or collection in the country in which the variety was bred.

It was acknowledged that there might be exceptions and that it is not always easy to identify the country where a variety was bred (different companies from different countries can be working together, or companies change location and it may become difficult to trace the origin).

- **Request for modification of EURISCO descriptor 20**

A proposal was made to add a state to the EURISCO descriptor no. 20 (Biological status of accession) in order to allow the definition of accessions corresponding to material collected in a field that was originally sown with a variety and was subsequently utilized for several years without re-sowing. The additional state was proposed to be coded "130) Semi-natural/sown", as follows:

- 100) Wild
- 110) Natural
- 120) Semi-natural/wild
- 130) **Semi-natural/sown**

The Forages NCG proposed that the Forages WG immediately adopt this new state. At the same time, the ECP/GR Secretariat will make sure that this proposed addition is referred for consideration to the appropriate body which is considering updates of the FAO/IPGRI multicrop and EURISCO descriptors.

- **Review of forage specific descriptors**

Considering the list of additional forage specific descriptors agreed during the sixth meeting in Beitostølen in 1997 (Appendix I, pages 158-161 of the report)<sup>2</sup>, the following proposals were made regarding maintaining, dropping or adding specific forage descriptors to the CCDBs:

**A. Collector's name (COLLNAME): maintained**

It was noted that this descriptor indicates the name(s) of the collector(s). It should not be used to indicate the code of the collecting mission. This different information would require a separate descriptor.

**B. Breeding institute (BREEDINST): dropped**

This descriptor is covered by the EURISCO descriptor no. 19: Breeding institute code (BREDCODE) or 30 BREDESCR if FAO code not available.

**C. Breeding method (BREEDMET): maintained**

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<sup>2</sup> Maggioni, L., P. Marum, R. Sackville Hamilton, I. Thomas, T. Gass and E. Lipman, compilers. 1998. Report of a Working Group on Forages. Sixth meeting, 6-8 March 1997, Beitostølen, Norway. International Plant Genetic Resources Institute, Rome, Italy.

**D. General habitat (GENHABIT): dropped**

**E. Specific habitat (SPECHABIT): dropped**

*These two descriptors are covered by the EURISCO descriptor no. 22: Collecting/acquisition source (COLLSRC) which now offers sufficient choices to describe the general and specific habitat.*

**F. Grassland habitat (GRAHABIT): maintained**

**G. Aspect (ASPECT): maintained**

**H. Slope (SLOPE): maintained**

**I. Physiography of site (SITEPHYS): maintained**

**J. Seed availability (SEEDAVAIL): maintained**

**K. European forage collection (EFC): maintained**

*It was noted that this descriptor has not been used so far, since it allows the identification of samples belonging to the European forage collection, according to the scenario proposed at the Beitostølen meeting (The European Forage Collection, pages 12-16 of the meeting report). This collection has not been formally established yet. However, it remains a target for the Group to create such a collection in the future and then to be able to identify its accessions. It should allow for a further prioritization of the most important samples, after the holder of primary collection (PRIMCOLL) has been determined.*

**L. Holder of Primary Collection (PRIMCOLL): maintained**

**M. Date of safety-duplication (DUPDATE): dropped**

**N. Originality (ORIGINALITY): added**

*Level of originality of the sample, according to the definitions described in Appendix I, pages 214-217 of the report of the seventh WG meeting<sup>3</sup>*

- 1) MOS
- 2) With MOS
- 3) One away
- 4) More away
- 5) Unknown

**O. Ploidy (PLOIDY): added**

*Ploidy level of the variety, as stated by the breeder*

*Example: 2x*

*Example: 4x*

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<sup>3</sup> Maggioni, L., P. Marum, N.R. Sackville Hamilton, M. Hulden and E. Lipman, compilers. 2000. Report of a Working Group on Forages. Seventh meeting, 18-20 November 1999, Elvas, Portugal. International Plant Genetic Resources Institute, Rome, Italy.

**P. Date of record (RECDATE): added**

*Date of last modification of the record. This date refers to the changes made in the original database by the curator. It is not the date on which the record was entered in the CCDB. In other words, this record is to be filled in by the curator, not by the CCDB manager.*

The revised list of forage specific descriptors agreed by the Working Group can be found in Appendix III, listed in the recommended order which is to be maintained for data exchange within the Working Group.

## **Updating of workplan for the remaining part of Phase VII**

The workplan table resulting from the previous meeting in Linz (April 2003) was revised and the previous tasks and deadlines for the Working Group were re-defined as follows:

### **Sharing of responsibilities**

1. *CCDB managers of Dactylis, Festuca, Lolium, Medicago, Phleum, Poa and Trifolium are in a position to make a proposal for "holders of primary collections", even if their databases are not yet complete (see also point 2 below). They are invited to actively inform the proposed primary collection holders and to obtain confirmation of the acquisition of responsibility for those accessions. The terms of responsibility of the maintainer of an MOS were defined during the seventh meeting of the Working Group in Elvas, Portugal (1999) (see page 21 of the report) and are revised as follows:*
  - *ensure that the accession is maintained under long-term conservation conditions in compliance with international standards and that preferred or acceptable seed increase guideline standards agreed within the Forages Working Group are followed;*
  - *ensure that an appropriate safety-duplicate is deposited in a genebank, preferably within another ECP/GR member country;*
  - *facilitate access to the accessions to bona fide users;*
  - *in case of it becoming impossible to honour the commitment for long-term conservation and regeneration, to inform the database manager.*

*Assumption of responsibility will have no legal basis, but will be considered as a voluntary contribution to the creation of a decentralized European Forage Collection. Only accessions for which responsibility is assumed by the primary holder can eventually be added to the EFC by scoring "yes" the EFC descriptor.*

*This point is expected to be completed **by the time of the next meeting of the Working Group (spring 2007).***

2. *After this report has been distributed to all WG members for endorsement, B. Boller will prepare a request for data, including the appropriate format for data delivery. The members of the Forages WG will be requested to act as focal persons for data gathering within their country and data delivery to the ECP/GR Secretariat. The ECP/GR Secretariat will then send this message to the WG members and coordinate the distribution of appropriate data sub-sets to respective database managers. The request for data will also be sent to the focal points of countries that are non-ECP/GR member countries (Azerbaijan, Moldova, Russian Federation and Ukraine). Inclusion of new data into the central databases may bring changes to the definition of primary holders (see point 1 above). It is acknowledged that the definition of MOS and primary holders is an iterative and ongoing process that needs to be coordinated by the CCDB manager.*

### **Safety-duplication and regeneration standards**

The table of capacities for hosting safety-duplicates and the table of applied regeneration standards should be completed with information from missing countries (in particular France, Hungary, Russian Federation, Slovenia and Ukraine). Working Group members are invited to send missing information to Beat Boller by 1 July 2005. A request will also be sent to Ukraine and Russia by the ECP/GR Secretariat. The tables will be kept updated on the Web by the ECP/GR Secretariat.

### **Collaboration for projects**

#### **Medicago core collection project**

(See below, "Opportunities to submit projects under EC 870/2004").

#### **Joint collecting missions**

E. Willner completed the task of checking the availability in Welsh and Irish genebanks of seed from previous collecting missions. She also identified samples maintained in Germany and verified that material is available for primary evaluation trials. Regeneration of these accessions is not urgently needed if, after the MOS has been defined, the Welsh or Irish genebank is the primary holder. Missing collecting data in the German collection database can be obtained from the European *Lolium* Database at IGER.

No further tasks were added to the workplan.

### **Opportunities to submit projects under EC 870/2004**

The discussion was introduced by a short presentation of L. Maggioni on EC Regulation 870/2004. The first call for proposals is not yet published and signals from the EC indicate that it may be launched only after 1 July 2005, due to the revision of financial procedures at the EC.

V. Meglič reminded the Group that the preparation of a proposal for a project for building up a *Medicago* core collection had been discussed at the Linz meeting (April 2003) (with some uncertainty regarding the eligibility of accession countries which was not resolved at that time).

At the EUCARPIA Fodder Crops Section meeting held in Brno, Czech Republic, September 2003, a short *ad hoc* meeting was organized to obtain some feedback from *Medicago* breeders, who confirmed their interest in a core collection focusing on disease resistance.

The Group supported the preparation of a project on *Medicago* and thanked V. Meglič, who decided to accept the coordination of this project, after both J. Baert and M. Humphreys had declined to accept this responsibility.

The Group realized that the project would present some difficulties due to the perennial nature of *Medicago sativa* and the need to rapidly multiply the seed before starting characterization work. However, it was agreed that it was worthwhile investing the effort to overcome these problems.

The project title was discussed and the following wording was suggested: ***Building a European collection of Medicago - Tailoring Medicago genetic resources for the 21<sup>st</sup> century.***

A draft list of the various workpackages and potential leaders was prepared (see Table 1 below).

The statistical analysis of the *Lolium* core collection trials was suggested as a possible component of one workpackage, with the justification that the results would be a very informative example that could guide the implementation of the *Medicago* project.

**Table 1.** Workpackages and potential coordinators for the *Medicago* project<sup>4</sup>

Years	WP	Title	Coordinator proposed / Person in charge of following up
2005-2006-2007	1	- Documentation: completion of GR information to establish preliminary core - Increase seed of accessions defined as preliminary core	- French partner / JP Sampoux to inform by end of May - if France declines → Spain / M. Murillo
2006-2008	2	Morphological characterization	Vladimir Meglič
2007-2008	3	Disease resistance evaluation Biotic and abiotic stress resistance evaluation	- Jan Nedelnik (Troubsko, CZE) / M. Ševčíková - Elzbieta Czembor (Radzików, POL) / G. Žurek
2008-2009	4	Agronomic evaluation	Valeria Negri / L. Russi to confirm by end of April
2008-2009	5	Statistical analysis of CC trials (multi-site evaluation)	- Paolo Annichiarico (Lodi) / L. Russi to confirm by end April - if PA declines → John Connolly / P. Marum

### Workplan

V. Meglič agreed to prepare a summary table with the project objectives and circulate it to all WG members and other interested institutions, in order to find appropriate partners for the project.

Representatives from the Netherlands and Switzerland said there was no activity on *Medicago* in their country. All other participants agreed to contact the relevant institutions in their country and send a list of those interested to V. Meglič **by end of April 2005**.

## Upcoming meetings within the Forages Network

### Next meeting of the Network Coordinating Group

L. Maggioni reminded the Group that a meeting of the Network Coordinating Group is planned for the end of March 2006, jointly with the NCGs of all the other ECP/GR Networks.

The purpose of this meeting will be on one hand to review progress to date and to re-discuss the workplan for the rest of Phase VII. On the other hand, advance planning for Phase VIII will also be discussed, with a request from the Steering Committee to indicate ideas for the future of the Working Group (priorities, directions to take, etc.).

<sup>4</sup> The following information was received after the meeting:

- WP1: J.-P. Sampoux confirmed that the Unit of Genetics and Improvement of Fodder Plants (Unité Génétique et Amélioration des Plantes Fourragères, UGAPF) of INRA-Lusignan agrees to take up the coordination of WP1. Partners will be Christian Huyghe and probably Bernadette Julier, who both have a broad experience in *Medicago*. Spain (Francisco Gonzalez Lopez) will contribute if annual medics are included.
- WP3: M. Ševčíková confirmed that Jan Nedelnik, of Troubsko, agrees to coordinate WP3.
- WP4: L. Russi confirmed that the University of Perugia could contribute to the project as the leading partner of WP4. In addition, University of Perugia could also be involved in WP5 (statistical analysis) and WP2 (germplasm characterization).
- WP5: coordination of this WP was declined by University of Perugia.

Further information regarding the developments of the project can be obtained directly from the project coordinator, V. Meglič (vladimir.meglic@kis.si).

### **Next meeting of the Working Group on Forages**

L. Maggioni informed the Group that an offer had been received from the Research Institute of Plant Production (RIPP) in Piešťany, Slovakia, to host the next meeting of the Forages WG in 2007. The Group welcomed this offer. However, if a problem should occur, Slovenia offered to be an alternative host. The exact dates of this meeting remain to be confirmed. The preferred period would be April, otherwise September.

Regarding the content of the meeting, it was proposed to limit the number of country status presentations to a small number of selected cases, or alternatively to allow each country to present a few highlights within five minutes. The preparation by the Secretariat of a book of abstracts in advance of the meeting was welcomed. However, the WG would especially appreciate the possibility of getting the final report printed as quickly as possible.

P. Marum suggested the idea of discussing the development of an on-line crop portal for forage crops, including information on the history of the crops, taxonomy, uses, and other information. Ideally, this could be a project on its own, to be funded by external sources.

### **Conclusion**

The Group approved all the decisions taken during the meeting and B. Boller will request endorsement from the entire WG.

L. van Soest announced that, since he had already retired, this would be his last ECP/GR meeting.

The Group thanked Loek for his long-time and experienced presence and constructive contribution to the Forages WG.

The Group proposed to co-opt Chris Kik as a replacement for L. van Soest as a member of the NCG. B. Boller will announce this proposal to the entire Working Group and will seek its endorsement.

The meeting was closed with an expression of the satisfaction and gratitude of the participants for the painstaking and dedicated hospitality of the Swiss hosts. There was a pleasant clear sky and mild temperature, the apple trees were blooming and the Swiss Alps, covered with snow, were visible in the South. And the earliest amongst grasses, sweet vernal grass (*Anthoxanthum odoratum*) smelled sweet when trampled and explored by forage people in the species-rich lawn in the patio of the Strickhof Agricultural College.

## **APPENDICES**

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## Appendix I. Safety-duplication capacities

(updated July 2005)

<b>Country</b>	<b>Institute / storage conditions / comments</b>
Belgium	DvP, -10°C and -20°C
Bulgaria	Space is available to host safety-duplicates but the buildings need technical reconstruction
Croatia	Capacity to host safety-duplicates at -18°C; modalities to be determined
Czech Republic	-18°C, limited capacity
Estonia	-20°C, limited capacity
France	GEVES, -18°C, limited capacity (1000 samples)
Germany	IPK, Gatersleben -15°C/ Malchow -20°C
Greece	No space available at present, but possibly after new storage facilities are built, according to a new national programme awaiting final approval
Israel	Israeli Gene Bank, Volcani Centre will have space at -20°C within a year
Lithuania	-18°C, limited capacity
Netherlands	CGN can host samples under a black box agreement (-20°C)
Poland	IHAR, -18°C
Portugal	BPGV, -20°C (contact Ana Maria Barata at bpgv@draedm.min-agricultura.pt)
Russian Federation	+4°C; -10°C, unlimited capacity
Slovakia	Only -18°C, in limited capacity
Spain	-18°C at Centro de Recursos Fitogenéticos, Madrid (contact Celia de la Cuadra at cuadra@inia.es)
Switzerland	RAC, Changins -20°C, limited capacity (contact Gert Kleijer at geert.kleijer@rac.admin.ch)
Turkey	AARI, -18°C, limited capacity
Ukraine	NCPGRU, Institute of Plant Production, -20°C, limited capacity
United Kingdom	IGER, only -25°C - depends on the volume of seed

## Appendix II. Description of the regeneration standards used for forage species

(updated March 2006)

According to the recommendation of the meeting (see p. 10) the information previously published in the report of the Linz meeting was updated. Additional data were provided by: J.P. Sampoux (France), L. Horváth (Hungary), S. Alexanian (Russian Federation), V. Meglič (Slovenia), M. Murillo (Spain), V. Ryabchoun (Ukraine) and I. Thomas (United Kingdom).

For some items of the regeneration procedure, the preferred/acceptable values had been indicated as follows:

Item of regeneration procedure	Preferred	Acceptable
<b>site</b>		
greenhouse/cabins (yes/no)	yes	
field/cages (yes/no)		
field/isolation with other crops (yes/no)	no	yes
<b>insects as pollinator</b>		
<i>natural</i> population / <i>commercial</i> product		
insect species (specify if known)		
<b>crop used as isolation</b> (specify; n.a. for cages)		
<b>isolation distance</b> between plots (n.a. for cages)		
<i>length</i> (m)		>50 m
<i>width</i> (m)		>50 m
<b>plants per accession</b> ( <i>number</i> )	100	30
<b>distance between single plants</b>	0.20 m	
<b>scoring of traits:</b>		
time of flowering (yes/no)		
others (specify)		
<b>selection</b> in accessions (yes / no) (elimination of other crop plants and weeds)	yes	
<b>harvesting</b>		
<i>once</i> / <i>several</i> (times)		
as <i>balanced</i> / <i>unbalanced</i> bulk	balanced	unbalanced
<b>drying</b>		
in <i>dry room</i> / <i>greenhouse</i> / using <i>drying equipm.</i>	dry room	drying equipm.
<b>threshing and cleaning</b>		
<i>manual</i> / <i>with machines</i>	manual	with machines
<b>final drying</b>		
<i>temperature, relative humidity</i> (specify)		
<i>final moisture content</i>	3-7%	
<b>viability testing before storage</b> (yes/no)	yes	
<b>seed packaging and storage</b>		
base and duplicate collection	per plant	bulk
active collection	balanced bulk	bulk
<b>information management</b>	IT based	

## Regeneration standards used for forage species – Belgium, Bulgaria, Czech Republic, France

Item of regeneration procedure	DvP, Belgium		IPGR, Bulgaria		OSEVA, GRS, Czech Rep	RIFC, Czech Rep	INRA-GEVES, France	
	for grasses	for legumes	for grasses	for legumes	for grasses	for legumes	for grasses	for legumes
site								
greenhouse/cabins (yes/no)	no	no	no	yes	no	no	if field isolation not available	if field isolation not available
field/cages (yes/no)	no	no	no	yes	no	yes		
field/isolation with other crops (yes/no)	yes	yes	yes	no	yes	yes	preferred	preferred
<b>insects as pollinator</b>								
natural population / commercial product		natural		commercial		natural		natural populations in field
insect species (specify if known)		bumble bees		bumble bees		bumble bees		<i>Bombus terrestris</i> in greenhouses
crop used as isolation (specify; n.a. for cages)	rye		rye		rye or triticale	rye or other	possibly triticale ( <i>Triticum X Secale</i> )	
<b>isolation distance</b> between plots (n.a. for cages)								
length (m)	15	1000	15		20	200	100 m (if surrounded by triticale) to 300m (if no triticale)	300 m
width (m)	15	1000	18		20		100 m (if surrounded by triticale) to 300m (if no triticale)	300 m
plants per accession (number)	100	100	49	30-50	49	15-100	natural pop. (100 to 200 plants), landraces (1000 plants)	natural pop. (100 to 200 plants), landraces (1000 plants)
distance between single plants	0.4 m	0.7 m	0.25 m		0.25 m	0.15 m	50 to 70cm (if field)	50 to 70cm (if field)
<b>scoring of traits:</b>								
time of flowering (yes/no)	yes		yes	yes	yes	yes	no	no
others (specify)	morphol. traits	shape, colour			descriptor list	descriptor list	no	no
selection in accessions (yes / no) (elimination of other crop plants and weeds)	yes	yes	yes	yes	yes	yes	yes	yes
<b>harvesting</b>								
once / several (times)	once	once	several	several	several	several	once	several
as balanced / unbalanced bulk	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced / balanced	unbalanced / balanced
<b>drying</b>								
in dry room / greenhouse / using drying equipm.	drying equipm.	drying equipm.			greenhouse	in lab	dry room (ambient air)	dry room (ambient air)
<b>threshing and cleaning</b>								
manual / with machines	with machines	with machines	manual		with machines	with machines	with machines	with machines
<b>final drying</b>								
temperature, relative humidity (specify)			20°C, 20%		23°C, 3%	23°C, 3%	35°C (if needed)	35°C (if needed)
final moisture content					4-6%	4-6%	not measured until now	not measured until now
viability testing before storage (yes/no)	yes	yes	yes		yes	yes	yes	yes
<b>seed packaging and storage</b>								
base and duplicate collection	bulk	bulk	bulk		bulk	bulk	bulk	bulk
active collection	bulk	bulk	bulk		bulk	bulk	bulk	bulk
<b>information management</b>			IT based	IT based	IT based	IT based	database	database

## Regeneration standards used for forage species – Germany, Hungary, Italy, Lithuania

Item of regeneration procedure	IPK-Malchow, Germany		Institute for Agrobotany, Hungary		DBVBA, Italy		LIA, Lithuania	
	for grasses	for legumes	for grasses	for legumes	for grasses	for legumes	for grasses	for legumes
<b>site</b>								
greenhouse/cabins (yes/no)	no	yes	no	no	yes	yes	no	yes
field/cages (yes/no)	no	yes	no	no	yes	yes	no	yes
field/isolation with other crops (yes/no)	yes	no	yes	yes	no	no	yes	no
<b>insects as pollinator</b>								
natural population / commercial product		commercial		natural				
insect species (specify if known)		bumble bees		natural populations	<i>Apis mellifera</i>	<i>Apis mellifera</i>		<i>Apis mellifera</i>
<b>crop used as isolation</b> (specify; n.a. for cages)	rye	n.a.	other grasses	any		n.a.	rye	n.a.
<b>isolation distance</b> between plots (n.a. for cages)								
length (m)	20	n.a.	10 m	150 m		n.a.	15-20	n.a.
width (m)	20	n.a.	10 m	150 m		n.a.	15-20	n.a.
<b>plants per accession</b> (number)	49	15-30	> 100	> 50	50	50	49-64	25-35
<b>distance between single plants</b>	0.25 m	0.3 m	3-6 cm	5-10 cm	0.5-0.6 m	0.5-0.6 m	0.25 m	
<b>scoring of traits:</b>								
time of flowering (yes/no)	yes	yes	yes	no	no	no	sometimes	sometimes
others (specify)	morphol. traits	morphol.	descriptor list					
<b>selection</b> in accessions (yes / no) (elimination of other crop plants and weeds)	yes	yes	yes	yes	yes	yes	yes	yes
<b>harvesting</b>								
once / several (times)	several	several			several		several	several
as <i>balanced</i> / <i>unbalanced</i> bulk	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced
<b>drying</b>								
in <i>dry room</i> / <i>greenhouse</i> / using <i>drying equipm.</i>	dry room	dry room	natural	natural	yes	yes	greenhouse	
<b>threshing and cleaning</b>								
<i>manual</i> / <i>with machines</i>	with machines	with machines	manual and with machines	manual and with machines	yes	yes	with machines	
<b>final drying</b>								
temperature, relative humidity (specify)	21°C, 30%	21°C, 30%	21°C, 30%	21°C, 30%	yes	yes	20°C, 10-15%	
final moisture content	<8%	< 8 %						
<b>viability testing before storage</b> (yes/no)	yes	yes	yes	yes	yes	yes	yes	
<b>seed packaging and storage</b>								
base and duplicate collection	bulk	bulk	bulk	bulk	yes	yes	bulk	
active collection	bulk	bulk	bulk	bulk	yes	yes	bulk	
<b>information management</b>	IT based	IT based	yes	yes	yes	yes	IT based	

## Regeneration standards used for forage species – The Netherlands, Nordic countries, Russian Federation

Item of regeneration procedure	CGN, Netherlands		NGB, Nordic countries		VIR, Russian Federation	
	for grasses	for legumes	for grasses	for legumes	for grasses	for legumes
<b>site</b>						
greenhouse/cabins (yes/no)	no	no	no	no	yes	yes
field/cages (yes/no)	yes	yes	no	yes		
field/isolation with other crops (yes/no)	yes	yes	yes	no	yes	yes
<b>insects as pollinator</b>						
<i>natural</i> population / <i>commercial</i> product				yes	natural	natural
insect species (specify if known)						
<b>crop used as isolation</b> (specify; n.a. for cages)	Triticale, wheat		rye	n.a.	perennial plants	perennial plants
<b>isolation distance</b> between plots (n.a. for cages)						
<i>length</i> (m)	40	40	100	n.a.		
<i>width</i> (m)	50	50		n.a.		
<b>plants per accession</b> ( <i>number</i> )	70 (min.25)	70 (min.25)	49	49	100-150	100-150
<b>distance between single plants</b>	0.25 m	0.5 m	0.3-0.5 m	0.3-0.5 m	0.20-0.90 m	0.20-0.90 m
<b>scoring of traits:</b>						
time of flowering (yes/no)	no		no	no		
others (specify)						
<b>selection</b> in accessions (yes / no) (elimination of other crop plants and weeds)	yes	yes	yes	yes	yes	yes
<b>harvesting</b>						
<i>once</i> / <i>several</i> (times)	by hand	by hand			several	several
as <i>balanced</i> / <i>unbalanced</i> bulk	balanced	balanced	balanced/ unbalanced	unbalanced	balanced	balanced
<b>drying</b>						
<i>in dry room</i> / <i>greenhouse</i> / <i>using drying equipm.</i>	dry room				dry room	dry room
<b>threshing and cleaning</b>						
<i>manual</i> / <i>with machines</i>	yes	yes	manual / with machines	manual/ with machines	manual	manual
<b>final drying</b>						
<i>temperature, relative humidity (specify)</i>	15°C, 15%					
<i>final moisture content</i>	5%		5%	5%	3-7%	3-7%
<b>viability testing before storage</b> (yes/no)	yes	yes	yes	yes	yes	yes
<b>seed packaging and storage</b>						
base and duplicate collection	laminated foil bags		bulk	bulk	bulk	bulk
active collection			bulk	bulk	balanced bulk	balanced bulk
<b>information management</b>	IT based		IT based	IT based	IT based	IT based

## Regeneration standards used for forage species – Slovakia, Slovenia, Spain

Item of regeneration procedure	BSLL, Slovakia	BSHS, Slovakia	RIPP, Slovakia		Agricultural Institute, Slovenia		JDE, Spain	
	for grasses	for legumes	for legumes	for legumes	for grasses	for legumes	for grasses	for legumes
site		<i>Faba</i> , <i>Pisum</i> sp., <i>Vicia</i>	<i>Lupinus</i> sp.	clover, alfalfa, other forage legumes			<i>Lolium multiflorum</i> , <i>L. perenne</i> , <i>Festuca arundinacea</i> , <i>Dactylis glomerata</i> , <i>Agrostis tenuis</i> , <i>Poa</i> sp.	annual <i>Medicago</i> and annual <i>Trifolium</i>
greenhouse/cabins (yes/no)	no	no	no	no	no	no	no	no
field/cages (yes/no)	no	no	no	yes	no	yes	no	no
field/isolation with other crops (yes/no)	yes	yes	farmers field/no	no	yes	yes	yes	no
<b>insects as pollinator</b>								
natural population / commercial product				yes		natural		
insect species (specify if known)				<i>B. terrestris</i>		<i>Apis mellifera</i> , bumble bees		
crop used as isolation (specify; n.a. for cages)	wheat, barley, maize	wheat		<i>B. lapidarius</i>	wheat	wheat	wheat, rye	
<b>isolation distance</b> between plots (n.a. for cages)								
length (m)		6 m		n.a.	50	50	30	2
width (m)		1 m		n.a.	50	50	30	2
plants per accession (number)	30-50	360	50-100	15-50	50-100	30	50	150-200
distance between single plants	0.5 m	0.1 m	0.4 m	0.25 m	0.15-0.3 m	0.25-0.5 m	0.5	0.15 m
<b>scoring of traits:</b>								
time of flowering (yes/no)	yes	yes	yes	no	yes	yes	no	yes
others (specify)	descriptor list	7 traits	descriptor list		descriptor list	descriptor list		morphological traits
selection in accessions (yes / no) (elimination of other crop plants and weeds)	yes	yes	yes	yes	yes	yes	yes	yes
<b>harvesting</b>								
once / several (times)				once/several*	once/several*	once/several*	once	by hand
as balanced / unbalanced bulk	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced	unbalanced
<b>drying</b>								
in dry room / greenhouse / using drying equipm.	greenhouse	greenhouse	greenhouse	greenhouse	attic, using drying equipment	attic, using drying equipment	dry room	dry room
<b>threshing and cleaning</b>								
manual / with machines	with machines	with machines	with machines	manual/ with machines*	manual/with machines*	manual/with machines	with machines	manual/ with machines
<b>final drying</b>								
temperature, relative humidity (specify)	20°C, 15%	20°C, 15%	20°C, 15%	20°C, 15%			20°C	20°C, 15%
final moisture content	4-6%	4-6%	4-6%	4-6%	<8%	<8%	4-6%	5%
viability testing before storage (yes/no)	yes	yes	yes	yes	yes	yes	no	yes
<b>seed packaging and storage</b>								
base and duplicate collection	bulk	bulk	bulk	bulk	bulk/glass jars	bulk/glass jars		
active collection	bulk	bulk	bulk	bulk	bulk	bulk	bulk	bulk
<b>information management</b>	IT based	IT based	IT based	IT based	IT based	IT based	IT based	IT based

\* according to  
species

\* according to  
species

\* according to  
species



## Appendix III. Revised list of specific forage descriptors

(April 2005)

A list of "Forage passport descriptors" based on the FAO/IPGRI *Multi-crop Passport Descriptors* (MCPDs) and the main descriptors in the different Forage Databases was developed at the sixth meeting of the ECP/GR Working Group on Forages (6-8 March 1997, Beitostølen, Norway).<sup>5</sup>

The Joint meeting of the Network Coordinating Group on Forages and Central Forage Database managers (21-22 April 2005, Lindau, Switzerland) felt that it was necessary to review this list in the light of the tools now available for the standardization of crop descriptors (new version of the MCPDs produced Dec. 2001; EURISCO descriptors<sup>6</sup> adopted as the mandatory data exchange format for all Central Crop Databases).

The revision of the list developed in 1997 involved some deletions (some descriptors now being redundant with EURISCO descriptors) and some additions.<sup>7</sup> The new list is presented here, including only the descriptors that are specific to forages, to be used in complement to the EURISCO descriptors.

*N.B. To facilitate data exchange, these descriptors are to be listed after the EURISCO descriptors, always following the same order.*

---

### A. Collector's name

(COLLNAME)

The name of the collector.

### C. Breeding method

(BREEDMET)

If more than one breeding method, enter in the order of breeding development and separate with a semicolon.

- 1 intrapopulation selection
- 2 mass selection (interpopulation selection)
- 3 pair cross
- 4 polycross
- 5 backcross
- 6 polyploidization
- 7 mutation
- 99 Other (specify in descriptor 'Remarks')

### F. Grassland habitat

(GRAHABIT)

- 1 abandoned
- 2 grazed only
- 3 conservation only
- 4 mainly grazed
- 5 mainly conservation
- 6 zero grazed
- 7 lawn
- 8 sports turf
- 99 Other (specify in descriptor 'Remarks')

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<sup>5</sup> Appendix I, pp. 165-168 in Maggioni, L., P. Marum, R. Sackville Hamilton, I. Thomas, T. Gass and E. Lipman, compilers. 1998. Report of a Working Group on Forages. Sixth meeting, 6-8 March 1997, Beitostølen, Norway. International Plant Genetic Resources Institute, Rome, Italy.

<sup>6</sup> [http://www.ecpgr.cgiar.org/epgris/Tech\\_papers/EURISCO\\_Descriptors.doc](http://www.ecpgr.cgiar.org/epgris/Tech_papers/EURISCO_Descriptors.doc)

<sup>7</sup> See pp. 7-9, this volume.

<b>G. Aspect</b> S = south, SW = southwest, SE = southeast, etc.	<b>(ASPECT)</b>
<b>H. Slope</b> (degrees)	<b>(SLOPE)</b>
<b>I. Physiography of site</b> 1 plain 2 valley bottom 3 valley slope 4 terrace 5 summit 99 Other (specify in descriptor 'Remarks')	<b>(SITEPHYS)</b>
<b>J. Seed availability</b> 0 Not available 1 Available	<b>(SEEDAVAIL)</b>
<b>K. European forage collection<sup>8</sup></b> 0 No 1 Yes	<b>(EFC)</b>
<b>L. Holder of Primary Collection</b> FAO Institute Code of the institute holding the primary collection of the accession.	<b>(PRIMCOLL)</b>
<b>N. Originality</b> Level of originality of the sample <sup>9</sup> 1 MOS 2 With MOS 3 One away 4 More away 5 Unknown	<b>(ORIGINALITY)</b>
<b>O. Ploidy</b> Ploidy level of the variety, as stated by the breeder (2x; 4x; etc.)	<b>(PLOIDY)</b>
<b>P. Date of record</b> Date of last modification of the record. This date refers to the changes made in the original database by the curator. It is not the date on which the record was entered in the CCDB. In other words, this record is to be filled in by the curator, not by the CCDB manager.	<b>(RECDATE)</b>

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<sup>8</sup> This descriptor allows the identification of samples belonging to the European Forage collection, according to the scenario proposed at the sixth meeting of the WG on Forages in Beitostølen, Norway (see pp. 12-16 of the meeting report – full reference in footnote 5).

<sup>9</sup> According to the definitions given in Appendix I, pp. 214-217 in Maggioni, L., P. Marum, N.R. Sackville Hamilton, M. Hulden and E. Lipman, compilers. 2000. Report of a Working Group on Forages. Seventh meeting, 18-20 November 1999, Elvas, Portugal. International Plant Genetic Resources Institute, Rome, Italy.

## Appendix IV. Acronyms and abbreviations

AARI	Aegean Agricultural Research Institute, Izmir, Turkey
BPGV	Banco Portugues de Germoplasma Vegetal (Portuguese Plant Germplasm Bank), Braga, Portugal
BSHS	Breeding Station Horná Streda, Slovakia
BSLL	Breeding Station Levočské Lúky, Slovakia
CCDB	Central Crop Database
CGN	Centre for Genetic Resources, Wageningen, The Netherlands
DBVBA	Dipartimento di Biologia Vegetale e Biotecnologie Agro-ambientali (Department of Plant Biology and Agroenvironmental Biotechnology), Università degli Studi, Perugia, Italy
DvP-CLO	Departement voor Plantengenetica en –veredeling – Centrum voor Landbouwkundig Onderzoek (Department of Plant Genetics and Breeding, Agricultural Research Centre), Melle, Belgium
EC	European Community
ECCDB	European Central Crop Database
ECP/GR	European Cooperative Programme for Crop Genetic Resources Networks
EFC	European Forage Collection
EUCARPIA	European Association for Research on Plant Breeding
EURISCO	European Internet Search Catalogue
FAL	Eidgenössische Forschungsanstalt für Agrarökologie und Landbau (Swiss Federal Research Station for Agroecology and Agriculture), Switzerland
FAO	Food and Agriculture Organization of the United Nations, Rome, Italy
GEVES	Groupe d’Etude et de contrôle des Variétés et des Semences (Varieties and Seeds Study and Control Group), France
GRS	Grassland Research Station, Zubří, Czech Republic
HRI	Horticulture Research International, Warwick, United Kingdom
IGER	Institute of Grassland and Environmental Research, Aberystwyth, United Kingdom
IHAR	Instytut Hodowli i Aklimatyzacji Roślin (Plant Breeding and Acclimatization Institute), Radzików, Poland
INRA	Institut National de la Recherche Agronomique (National Agronomic Research Institute), France
IPGR	Institute for Plant Genetic Resources “K. Malkov”, Sadovo, Bulgaria
IPK	Institut für Pflanzengenetik und Kulturpflanzenforschung (Institute for Genetics and Plant Breeding), Germany
JDE	Junta de Extremadura, Badajoz, Spain
LIA	Lithuanian Institute of Agriculture, Kedainiai, Lithuania
MCPD	Multicrop passport descriptor
MOS	Most original sample
MoU	Memorandum of understanding
NCG	Network Coordinating Group (ECP/GR)
NCPGRU	National Centre for Plant Genetic Resources of Ukraine, Kharkiv, Ukraine
NGB	Nordic Gene Bank, Alnarp, Sweden
RAC	Station Fédérale de Recherches Agronomiques de Changins (Federal Research Station for Plant Production of Changins), Nyon, Switzerland
RIFC	Research Institute for Fodder Crops Ltd., Troubsko, Czech Republic
RIPP	Research Institute of Plant Production, Piešťany, Slovakia
SIDT	Servicio de Investigación y Desarrollo Tecnológico (Technological Research and Development Service), Badajoz, Spain
VIR	N.I. Vavilov Research Institute of Plant Industry, Russian Federation

## Appendix V. Agenda

### **Ad hoc Meeting of the ECP/GR Network Coordinating Group on Forages 21-22 April 2005, Lindau, Switzerland**

#### **Wednesday 20 April 2005**

Arrival of participants

#### **Thursday 21 April 2005**

Morning (8.30 to 12.00); *coffee break 10.00-10.30*

**Introduction** (*Beat Boller*)

#### **Review of progress in workplan for Phase VII**

- **Characterization and evaluation (including use of modern technologies)**
  - Final evaluation of *Lolium* core collection trial 1995-1997 (*Ian Thomas*)
- **Sharing of responsibilities** (*except MOS definition; see afternoon*):
  - Safety-duplication: which agreements (MoU, Memorandum of understanding) have been made
  - Use of preferred regeneration standards: conclusions from table compiled and published on the Forages Network web site
- **Core collections:** Status of project of building a core collection of *Medicago* (*Vladimir Meglič*)
- **In situ and on-farm conservation: ongoing and planned activities**
- **Documentation and Information:** status of updates of national and European forages databases in view of EURISCO

*Lunch*

Afternoon (13.30 to 18.00). *Break 15.30-16.00*

#### **Review of progress in MOS definition**

Work in small groups: update ECCDB of 7 priority genera with **MOS** information, clarify situations of duplicated MOS claims, make proposal for a **primary holder** where no MOS is identified, try to reach agreement on maximum number of samples possible. *Each participant (both NCG members and ECCDB managers) should bring along the maximum relevant data available for his/her country on CD-ROM.*

*Preferred: One up-to-date table of accessions held by national genebanks for each of the following genera with as complete EURISCO descriptors as possible: Lolium, Trifolium, Poa, Dactylis, Medicago, Festuca, Phleum.*

*ECCDB managers: bring along their respective European central crop database so that it can be updated and cross-checked directly.*

#### **Summarize new achievements in MOS and primary holder definition**

*18.00 Evening meal (Strickhof)*

*Meet for bowling/have a drink at a local Restaurant*

**Friday 22 April 2005**

Morning (8.30 to 12.00)

- Refine workplan for remaining part of Phase VII
- Discuss and work on projects for third party funding
  - New core collection trial to be submitted for EC 870/2004
  - Other projects
- Suggestions for full Working Group meeting 2007

*Lunch (Strickhof)*

Afternoon (13.30 to 14.30)

- Approval of decisions
- Conclusion

Departure of participants

## Appendix VI. List of participants

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