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**FORAGE GRASS
DESCRIPTORS**

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INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES

COMMISSION OF EUROPEAN COMMUNITIES: COMMITTEE ON
DISEASE RESISTANCE BREEDING AND USE OF GENE BANKS

DESCRIPTOR LIST FOR FORAGE GRASSES

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In 1974 the Council of Ministers of the European Communities established a Standing Committee on Agricultural Research to advise the Commission on a programme of Agricultural Research.

The first programme started in 1975, while a second programme was launched in 1979 for the five year period 1979-1983.

The Standing Committee on Agricultural Research has advised the Commission on both programmes. Within this framework a programme on resistance breeding and use of genebanks has been set up as one of 10 subjects. This programme (with a limited budget) is managed by a programme committee in which the ten member countries are represented by their nominees, one per country. The programme committee started work in 1978 by selecting priorities for crops and subjects. Several working groups have been set up to prepare descriptor lists as a basis for future work.

CEC-Programme Committee on Disease Resistance Breeding
and Use of Genebanks
Second Programme on Agricultural Research of the CEC

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The International Board for Plant Genetic Resources (IBPGR) is an autonomous international scientific organization under the aegis of the Consultative Group on International Agricultural Research (CGIAR). The IBPGR was established by the CGIAR in 1974 and its Executive Secretariat is provided by the Food and Agriculture Organization of the United Nations. The basic function of the IBPGR is to promote and coordinate an international network of genetic resources centres to further the collection, conservation, documentation, evaluation and use of plant germplasm and thereby contribute to raising the standard of living and welfare of people throughout the world. The Consultative Group mobilizes financial support from its members to meet the budgetary requirements of the Board.

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PREFACE

The Grass Descriptor List was initially developed by a sub-committee from the Commission of the European Communities' (CEC) Programme Committee for Plant Disease Resistance Breeding and the Use of Genebanks. The final list combines experience from National List Descriptors, UPOV (International Union for the Protection of New Varieties of Plants) Descriptor Lists and was produced with advice and according to the International Board for Plant Genetic Resources standard format.

The sub-committee, (Chairman, Prof. J.D. Hayes) carried out its deliberations over the period 1979-83 and also conducted cooperative experiments in member countries in order to test the use of descriptions and descriptor states under practical conditions. A list of the grass experts who took part in the discussion is included as Appendix III.

The IBPGR encourages the collection of data on the first four categories of the list: 1. Accession; 2. Collection; 3. and 4. Characterization and preliminary evaluation. The IBPGR endorses the information in categories 1-4 as the minimum that ideally should be available for any one accession. Other descriptors are given in categories 5 onwards that will enable the simple encoding of further characterization and evaluation data and which can serve as examples for the creation of additional descriptors in the IBPGR form by any user.

The suggested coding should not be regarded as the definitive scheme, although this format has the full backing of the IBPGR and is promoted worldwide. The descriptor list given here provides an international format and thereby produces a universally understood 'language' for all plant genetic resources data. The adoption of this scheme for all data encoding, or at least the production of a transformation method to convert other schemes to the IBPGR format, will produce a rapid, reliable and efficient means for information storage, retrieval and communication. This will greatly assist the utilization of germplasm throughout the international plant genetic resources network. It is recommended, therefore, that information should be produced by closely following this descriptor list with regard to: ordering and numbering descriptors; using the descriptors specified; using the descriptor states recommended.

Errors and omissions are the responsibility of the editors. Any suggestions for modifications will be welcomed by the IBPGR Secretariat, Rome, especially before encoding new descriptors.

DESCRIPTOR LIST FOR FORAGE GRASSES

The IBPGR now uses the following definitions in genetic resources documentation:

- i) passport (accession identifiers and information recorded by collectors);
- ii) characterization (consists of recording those characters which are highly heritable, can be easily seen by the eye and are expressed in all environments. Such characters are rare in the out-crossing grasses, and quantitative characters of lower heritability have to be used which are also subject to genotype and environment interaction);
- iii) preliminary evaluation (consists of recording a limited number of additional traits thought desirable by a consensus of users of the particular crop).

Characterization and preliminary evaluation will normally be the responsibility of the curators, while further characterization and evaluation should normally be carried out by the plant breeder. Data from further evaluation should be fed back to curators.

The internationally accepted standards for the scoring or coding of descriptor states should be followed as indicated below:

- a) measurements are made in metric units;
- b) many descriptors which are continuously variable are recorded on a 1-9 scale. The authors of this list have sometimes described only a selection of the states, e.g. 3, 5 and 7 for such descriptors. Where this has occurred the full range of codes is available for use by extension of the codes given or by interpolation between them - e.g. in 8 (Pest and disease susceptibility) 1 = extremely low susceptibility and 9 = high to extremely high susceptibility;
- c) presence/absence characters are scored as '+' (present) and '0' (absent);
- d) for descriptors which are not generally uniform throughout the accession (e.g. mixed collection, genetic segregation) mean and standard deviation could be reported where the descriptor is continuous, or mean and 'x' where the descriptor is discontinuous (frequencies can be recorded in NOTES descriptor, 11);
- e) when the descriptor is inapplicable, '0' is used as the descriptor value;

- f) blanks are used for information not yet available;
- g) particular attention is drawn to Appendices I & II where methods are suggested to adjust raw data, based on standard controls. Raw data of a quantitative nature cannot be used meaningfully in a direct comparison when obtained from different environments and/or different years.

PASSPORT

(Provides accession identifiers and collection information)

1. ACCESSION DATA

1.1 ACCESSION NUMBER

This number serves as a unique identifier for accessions and is assigned by the curator when an accession is entered into his collection. Once assigned this number should never be reassigned to another accession in the collection. Even if an accession is lost, its assigned number is still not available for re-use. Letters should occur before the number to identify the genebank or national system (e.g. MG indicates an accession comes from the genebank at Bari, Italy; ABY an accession from Welsh Plant Breeding Station, Aberystwyth, UK)

1.2 DONOR NAME

Name of institution or individual responsible for donating the germplasm

1.3 DONOR IDENTIFICATION NUMBER

Number assigned to accession by donor

1.4 OTHER NUMBERS ASSOCIATED WITH THE ACCESSION

Any other identification number known to exist in other collections for this accession, e.g. USDA Plant Inventory number (not collector's number, see 2.1)

1.4.1 Other number 1

1.4.2 Other number 2

1.5 SCIENTIFIC NAME

1.5.1 Genus

1.5.2 Species

1.5.3 Sub-taxa

(e.g. subspecies of Dactylis glomerata, Medicago sativa, and botanical varieties of Festuca pratensis and F. arundinacea etc.)

1.6 PEDIGREE/CULTIVAR NAME

Nomenclature and designations assigned to breeder's material

1.6.1 Pedigree/cultivar name/breeder's line number

1.6.2 Breeding institute

1.6.3 Breeding method

- 1 Primitive cultivar
- 2 Mutation
- 3 Backcross
- 4 F₁ hybrid
- 5 Mass selection
- 6 Synthetic variety
- 7 Population
- 8 Other (specify in the Notes descriptor, 11)

1.6.4 Male parent

1.6.5 Female parent

1.6.6 Country of variety approval

Use three letter abbreviations supported by the Statistical Office of the United Nations. Copies of these abbreviations are available from the IBPGR Secretariat and have been published in the FAO/IBPGR Plant Genetic Resources Newsletter No. 49.

1.6.7 Year of variety approval

1.7 ACQUISITION DATE

The month and year in which the accession entered the collection, expressed numerically, e.g. June = 06, 1981 = 81

1.7.1 Month

1.7.2 Year

1.8 DATE AND LOCATION OF LAST REGENERATION OR MULTIPLICATION

The month and year expressed numerically, e.g. October = 10, 1978 = 78

1.8.1 Month

1.8.2 Year

1.8.3 Location of regeneration (country code see 1.6.6)

1.9. ACCESSION SIZE

1.9.1 Weight of seeds (g)

1.9.2 Number of plants

1.10 NUMBER OF TIMES ACCESSION REGENERATED

Number of regenerations or multiplications since original collection

1.11 TYPE OF MAINTENANCE

- 1 Vegetative
- 2 Seeds
- 3 Tissue culture
- 4 Cryopreservation

2. COLLECTION DATA

(It is essential that items 2.1-2.15 are completed in full as basic collection information, except items * which with 2.16 onwards are also desirable. Data to be recorded on accession collected in the field)

2.1 COLLECTOR'S NUMBER

Original number assigned by collector of the sample, normally composed of the name or initials of the collector(s) followed by a number. This item is essential for identifying duplicates held in different collections and should always accompany sub-samples wherever they are sent

2.2 COLLECTING INSTITUTE (OR SPONSOR)

Institute or person collecting or sponsoring the collection of the original sample

2.3 DATE OF COLLECTION OF ORIGINAL SAMPLE

Expressed numerically, e.g. March = 03, 1980 = 80

2.3.1 Day

2.3.2 Month

2.3.3 Year

2.4 COUNTRY OF COLLECTION

2.4.1 Country

Use the three letter abbreviations (see 1.6.6)

*2.4.2 Geographical sub-region

Distinct geographical areas, e.g. Pyrenees, Hungarian Plain, Alps, etc.

*2.4.3 Geographical region

Large geographical groups, e.g. Scandinavia, Central Europe, Mediterranean Basin, etc., as defined in Flora Europea

2.5 PROVINCE/STATE

Name of administrative sub-division of the country in which the sample was collected

2.6 LOCATION OF COLLECTION SITE

2.6.1 Location

Number of kilometres and direction from nearest town or village or map grid reference (e.g. TIMBUKTU7S means 7 km South of Timbuktu)

2.6.2 Atlas

Name of atlas or map sheet used to specify 2.6.1

2.7 LATITUDE OF COLLECTION SITE

Degrees and minutes followed by N (North) or S (South), e.g. 1030S

2.8 LONGITUDE OF COLLECTION SITE

Degrees and minutes followed by E (East) or W (West), e.g. 7625W

2.9 PHYSICAL PARAMETERS OF COLLECTION SITE

2.9.1 Altitude

Elevation above or below sea level in metres

2.9.2 Aspect

Compass degrees 1-360°

2.9.3 Slope

Clinometer degrees

* See explanation under 2.

2.10 COLLECTION SOURCE

- 1 Wild
- 2 Farm land
- 3 Farm store
- 4 Backyard
- 5 Village market
- 6 Commerical market
- 7 Institute
- 8 Other (specify in the NOTES descriptor, 11)

2.11 STATUS OF SAMPLE

- 1 Wild
- 2 Weedy
- 3 Breeder's line
- 4 Primitive cultivar/landrace
- 5 Advanced cultivar (bred)
- 6 Other (specify in the NOTES descriptor, 11)

2.12 LOCAL/VERNACULAR NAME

Name given by farmer to cultivar/landrace/weed

2.13 SAMPLING DETAILS

2.13.1 Number of plants sampled

Approximate number of plants collected in the field to produce this accession

2.13.2 Size of area sampled

Estimated area of site actually sampled, m²

2.13.3 Size of site

Estimated area of site, ha

2.13.4 Weight of seed sample collected (g)

2.14 PHOTOGRAPH AND HERBARIUM

2.14.1 Photograph

Was a photograph taken of the accession or environment at collection?

- 0 No
+ Yes

2.14.2 Photograph number

2.14.3 Herbarium sample

Was a herbarium specimen collected?

- 0 No
- + Yes

2.15 TYPE OF SAMPLE

- 1 Vegetative
- 2 Seed

(If vegetative samples and seed collected at the same time they should be regarded as two separate collections and given different accession numbers)

2.16 BOTANICAL DETAILS OF SITE

2.16.1 Abundance

- 1 Few individual plants only
- 2 Very scarce: < 1% cover
- 3 Scarce: 1-5% cover
- 4 Present; 5-25% cover
- 5 High; > 25%

2.16.2 Spatial distribution

- 1 Patchy
- 2 Uniform

2.17 FLORISTIC STRUCTURE

2.17.1 Dominant species (specify in the NOTES descriptor, 11)

2.17.2 Dominant grass species (specify in the NOTES descriptor, 11)

2.17.3 Dominant legume species (specify in the NOTES descriptor, 11)

2.17.4 Indicator species (specify in the NOTES descriptor, 11)

2.18 SITE PHYSIOGRAPHY

- 1 Plain
- 2 Valley bottom
- 3 Valley slope
- 4 Terrace
- 5 Summit
- 6 Other (specify in the NOTES descriptor, 11)

2.19 HABITAT

2.19.1 General habitat of site

- 1 Forest deciduous
- 2 Forest evergreen
- 3 Forest mixed
- 4 Scrub
- 5 Parkland
- 6 Orchard
- 7 Grassland
- 8 Moorland
- 9 Heath
- 10 Arable
- 11 Wasteland
- 12 Other (specify in the NOTES descriptor, 11)

2.19.2 Specific habitat

- 1 Hedgerow
- 2 Clearing
- 3 Path
- 4 Alongside water, i.e. river, lake, etc.
- 5 Alongside building
- 6 Alongside path, road, track, etc.
- 7 Other (specify in the NOTES descriptor, 11)

2.19.3 Grassland habitat

- 1 Abandoned
- 2 Grazed only (specify intensity in the NOTES descriptor, 2.27.1)
- 3 Conservation only (specify in the NOTES descriptor, 2.27.1)
- 4 Mainly grazed (specify in the NOTES descriptor, 2.27.1)
- 5 Mainly conservation (specify in the NOTES descriptor, 2.27.1)
- 6 Zero grazed
- 7 Lawn
- 8 Sports turf
- 9 Other (specify in the NOTES descriptor, 11)

2.20 AGE OF GRASSLAND

Give approximate age from local information (years)

2.21 IRRIGATION

- 0 No irrigation
- + Irrigated (specify type and frequency in the NOTES descriptor, 2.27.2)

2.22 FLOODING

- 0 No flooding
- + Flooded (specify intensity and season in the NOTES descriptor, 2.27.3)

2.23 FERTILIZER USE

2.23.1 Organic fertilizer

- 0 No fertilizer applied
- + Fertilizer applied (specify in the NOTES descriptor, 2.27.4)

2.23.2 Inorganic fertilizer

- 0 No fertilizer applied
- + Fertilizer applied (specify in the NOTES descriptor, 2.27.5)

2.24 SOIL TYPE

- 1 Organic
- 2 Clay
- 3 Loam
- 4 Silt
- 5 Sand
- 6 Gravel

2.25 DRAINAGE

- 1 Excessive
- 2 Free
- 3 Impeded

2.26 SOIL ANALYSIS

State methods used (specify in the Notes descriptor, 11)

- 2.26.1 pH
- 2.26.2 P (ppm)
- 2.26.3 K (ppm)
- 2.26.4 Ca (ppm)

2.27 OTHER NOTES FROM COLLECTOR

Collectors will record ecological information, cultivation practices, description of site, past history of use, etc.

- 2.27.1 Notes on 2.19.3
- 2.27.2 Notes on 2.21
- 2.27.3 Notes on 2.22
- 2.27.4 Notes on 2.23.1
- 2.27.5 Notes on 2.23.2

CHARACTERIZATION AND PRELIMINARY EVALUATION

3. SITE DATA

- 3.1 COUNTRY OF CHARACTERIZATION AND PRELIMINARY EVALUATION
- 3.2 SITE (e.g. RESEARCH INSTITUTE)
- 3.3 NAME OF PERSON IN CHARGE OF CHARACTERIZATION AND PRELIMINARY EVALUATION
- 3.4 SOWING DATE
 - 3.4.1 Day
 - 3.4.2 Month
 - 3.4.3 Year
- 3.5 PLANTING DATE
 - 3.5.1 Day
 - 3.5.2 Month
 - 3.5.3 Year
- 3.6 EVALUATION ENVIRONMENT (see Appendix I)
 - 1 Field
 - 2 Glasshouse
 - 3 Controlled environment
 - 4 Other (specify in the NOTES descriptor, 11)
- 3.7 TYPE OF PLANTING (see Appendix I)
 - 1 Spaced single plants
 - 2 Rows
 - 3 Swards
 - 4 Other (specify in the NOTES descriptor, 11)
- 3.8 NUMBER OF REPLICATIONS
- 3.9 TOTAL NUMBER OF PLANTS UNDER OBSERVATION
- 3.10 NAME OR DESIGNATION OF CONTROL VARIETY(IES) (see Appendix I)

4. PLANT DATA

4.1 VEGETATIVE

4.1.1⁺ Tillering capacity of juvenile plant

Count number of tillers while still in boxes, usually easier to accomplish 2-3 days after cutting back

Scale 1-9

- 1 very few tillers
- 9 very numerous tillers

4.1.2 Vegetative growth habit

Expressed as a mean angle of the tillers from the vertical, in autumn of establishment year or before tiller elongation in the following spring

Scale 1-9

- 1 erect
- 9 prostrate

4.1.3* Leaf width (non-reproductive)

To be estimated by eye in the autumn

- 3 narrow
- 5 intermediate
- 7 wide

4.1.4⁺ Estimates of herbage yield

- 1 very low
- 9 very high

4.1.4.1 Early spring growth

4.1.4.2 Yield at ca 50% inflorescence emergence plus 1 to 2 weeks

4.1.4.n Subsequent assessments

4.1.5⁺ Winter damage

- 1 very low
- 9 very high

+ adjust to control

* use example varieties to categorize (see Appendix I)

4.2 INFLORESCENCE

4.2.1⁺ Tendency to form inflorescences in sowing year

To be assessed on plants sown in the spring, not exposed to short day and/or low temperature vernalization

- 1 none or very low
- 3 low
- 5 medium
- 7 high
- 9 very high

4.2.2.1* Time of 50% inflorescence emergence

The time in the year following establishment when 50% of the spaced plants have reached inflorescence emergence. A plant has reached inflorescence emergence when the top floret of three inflorescences has emerged past the insertion of the flag leaf

- 1 very early
- 3 early
- 5 intermediate
- 7 late
- 9 very late

4.2.2.2⁺ Uniformity of time of inflorescence emergence

- 3 variable
- 5 intermediate
- 7 uniform

4.2.3 Habit at ear emergence

Scale 1-9

- 1 erect
- 9 prostrate

4.2.4⁺ Abundance of inflorescences

Eye estimates of number of inflorescences per plant at maturity

- 1 very low
- 3 low
- 5 intermediate
- 7 high
- 9 very high

+ adjust to control

* use example varieties to categorize (see Appendix I)

FURTHER CHARACTERIZATION AND EVALUATION

5. SITE DATA

- 5.1 COUNTRY OF CHARACTERIZATION AND PRELIMINARY EVALUATION
- 5.2 SITE (e.g. RESEARCH INSTITUTE)
- 5.3 NAME OF PERSON IN CHARGE OF CHARACTERIZATION AND PRELIMINARY EVALUATION
- 5.4 SOWING DATE
- 5.4.1 Day
- 5.4.2 Month
- 5.4.3 Year
- 5.5 PLANTING DATE
- 5.5.1 Day
- 5.5.2 Month
- 5.5.3 Year
- 5.6 EVALUATION ENVIRONMENT (see Appendix I)
- 1 Field
- 2 Glasshouse
- 3 Controlled environment cabinet
- 4 Other (specify in the NOTES descriptor, 11)
- 5.7 TYPE OF PLANTING (see Appendix I)
- 1 Spaced single plants
- 2 Rows
- 3 Swards
- 4 Other (specify in the NOTES descriptor, 11)
- 5.8 NUMBER OF REPLICATIONS
- 5.9 TOTAL NUMBER OF PLANTS UNDER OBSERVATION
- 5.10 NAME OR DESIGNATION OF CONTROL VARIETY(IES) (see Appendix I)

6. FURTHER EVALUATION

6.1 VEGETATIVE

Productivity - Herbage dry matter production (see Appendix II)

Seasonal

6.1.1 Establishment year yield

6.1.2 Early spring yield

- 6.1.3 Spring yield
- 6.1.4 Early summer yield
- 6.1.5 Late summer yield
- 6.1.6 Autumn yield
- 6.1.7 Total seasonal yield

Conservation/Aftermath

- 6.1.8 Conservation yield
- 6.1.9 First regrowth yield
- 6.1.10 Second regrowth yield
- 6.1.11 Subsequent regrowth yield
- 6.1.12 Total conservation yield
- 6.1.13 Digestibility

D.O.M.D. assessed on conservation cut 6.1.8. Expressed as units of D.O.M.D. higher (+) or lower (-) than appropriate control

- 6.1.14 Juvenile plant yield

Assessed on seedlings grown in glasshouse prior to transplanting in the field as single plants. Data reported as for productivity (see Appendix II)

- 6.1.15 Persistency

Assessed on swards, usually at the completion of yield estimation. Eye estimate of ground cover of sown species. Data reported by adjustment to control (see Appendix I)

6.2 INFLORESCENCE

- 6.2.1 Mean date of inflorescence emergence

Record number of days after January 1 (= 1) when each plant has reached inflorescence emergence. Expressed as number of days earlier (+) or later (-) than appropriate maturity-group control

- 6.2.2 Uniformity of inflorescence emergence

Coefficient of variation expressed relative to appropriate control

6.2.3 Leaf width (reproductive) (see Appendix II)

Flag leaf width measured at inflorescence emergence

- 1 very narrow
- 9 very wide

6.2.4 Leaf length (reproductive) (see Appendix II)

Flag leaf length measured at inflorescence emergence

- 1 very short
- 9 very long

6.2.5 Length of longest culm (including inflorescence) (see Appendix II)

Length measured when culm is fully elongated

- 1 very short
- 9 very long

6.2.6 Seasonal inflorescence production (see Appendix II)

Estimate of inflorescence production on sward productivity trial at each seasonal and regrowth cut

- 1 very low
- 9 very high

7. STRESS SUSCEPTIBILITY (controlled environment tests) (see Appendix II)

Use 1-9 scale relative to adjusted control

- 1 very low
- 9 very high (see Appendix I)

7.1 Low temperature

7.2 High temperature

7.3 Drought

7.4 High soil moisture

State method used (specify in the NOTES descriptor, 11)

8. PEST AND DISEASE SUSCEPTIBILITY (see Appendix II)

Use 1-9 scale with example variety(ies)

1 very low
9 very high

8.1 Pests

8.1.1 Oscinella spp. (Fruit fly)

8.1.2 etc.

8.2 Fungi

8.2.1 Puccinia coronata (Crown rust)

8.2.2 Drechslera dictyoides (Leaf spot)

8.2.3 Rhynchosporium secalis (Leaf spot)

8.2.4 etc.

8.3 Bacteria

8.4 Viruses

9. ALLOENZYMES (see Appendix II)

10. CHROMOSOME NUMBER

Record somatic chromosome number

11. NOTES

Give additional information where descriptor state is noted as 'Other' as, for example, in 2.10 and 3.6. Also include here any further relevant information

Section 4

1. Adjustment to Control

Adjustment to control values is considered necessary for the majority of descriptors as quantitative data and eye estimates cannot be compared directly when obtained from different environments and/or different years.

For those descriptors marked "+" in the list, a control with high expression of that character will be nominated. Agreement on particular controls is desirable although it is accepted that different controls will be required in widely different environments.

Population means, either eye estimates or metric measurements are expressed as percentages relative to the nominated control (= 100). A 1-9 coding (1 = very low to 9 = very high) is then assigned to the adjusted values, viz:

<u>Code</u>	<u>% relative to control (= 100)</u>
1	0 - 15.5
2	15.6 - 31.0
3	31.1 - 46.5
4	46.6 - 62.0
5	62.1 - 77.5
6	77.6 - 93.0
7	93.1 - 108.5
8	108.6 - 124.0
9	> 124.0

2. Example varieties

For those descriptors marked "*" the use of example or delineating varieties is suggested.

4.2.2.1 Time of 50% inflorescence emergence

Raw data will be obtained as number of days after 1 January (= 1) when 50% of the plants have emerged.

Categorization into a 1-9 scale (maturity groups) can either be done using example varieties (UPOV^{1/}) or delineating varieties (NIAB^{2/}). Characterization in a particular country would follow the system adopted by the registration authority of that country.

^{1/} International Union for the Protection of New Varieties of Plants
^{2/} National Institute of Agricultural Botany, UK

4.1.3 Leaf width (non-reproductive)

The use of example varieties is suggested as an aid to categorization for this character.

3. Evaluation environment and type of planting

These descriptors are intended to be specific for descriptors in 4 CHARACTERIZATION AND PRELIMINARY EVALUATION and 6 FURTHER CHARACTERIZATION AND EVALUATION, the majority of which are likely to be spaced single plants in the field (4) and field swards (6), respectively. However it is possible in (4) and likely in (6) that data for some descriptors will be obtained from a different type of environment/planting. For example 6.1.14 is likely to be obtained in a glasshouse environment and 6.2.1-6.2.5 from spaced single plants. Any such change must be recorded and related to the descriptor.

4. Name or designation of control variety

When a control variety is used to obtain relative data the name of the control will be entered in 3.10 and 5.10. In the event of a change of control for any descriptor this must be recorded and related to the descriptor.

Section 6

1. Adjustment to control

6.1.1-6.1.12, 6.1.14 Productivity

Productivity would normally be evaluated in swards by sequential cutting and weighing, exceptionally by eye estimation.

Data would be reported as percentages relative to the appropriate maturity-group control for the country of evaluation.

Seasonal yields

The duration of each seasonal period will need to be defined for each country. As an example the system in use in the UK is as follows - all dates are approximate.

Early spring: Growth up to 10 April after a clearing cut at t' end of February

Spring: Growth up to 1 May

Early summer: Growth between 1 May and 1 July

Late summer: Growth between 1 July and 1 September

Autumn: Growth between 1 September and 1 November

Conservation/Aftermath yields

Conservation yield: Approximately 1-2 weeks after inflorescence emergence

First regrowth: 6 weeks after conservation cut (4 weeks for Lolium multiflorum and Dactylis glomerata)

Second regrowth: 6 weeks after first regrowth cut (4 weeks for L. multiflorum and D. glomerata)

Subsequent regrowth: The sum of all subsequent cuts taken in September and October

2. Example varieties

6.2.3-6.2.5 Leaf width, leaf length and length of longest culm

Example varieties are suggested as an aid to categorization. UPOV list example varieties for certain characters in Lolium perenne, L. multiflorum. There will be a need for identification of example varieties for other species.

3. 6.2.6 Seasonal inflorescence production

It is suggested that the following categorization is used as a guide to classification on the 1-9 scale

- 1 occasional inflorescences
- 3 10-50 inflorescences/m²
- 5 51-100 inflorescences/m²
- 7 101-200 inflorescences/m²
- 9 > 200 inflorescences/m²

4. Stress, pest and disease susceptibility and alloenzymes

Descriptors in these categories might not be evaluated under the conditions or use the same controls as recorded in 5 SITE DATA for further evaluation. In this event any change must be recorded and related to the descriptor.

Appendix III

Members of the Expert Group on Grass Descriptors
Who Attended Some of the Group's Meetings

- Prof. J.D. Hayes (Chairman)
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