

AN OUTLINE OF THE ACTIVITIES OF THE EUCARPIA FODDER CROPS SECTION FROM ITS ESTABLISHMENT IN 1956 TO THE 20TH JUBILEE MEETING - 1996

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EUCARPIA - The European Association for Research on Plant Breeding, was established in 1956 at a meeting presided over by Ir.A.W.ÿvanÿde Plassche, General Director for Agricultural Affairs in Holland, which preceded the first EUCARPIA CONGRESS in Wageningen, July 2-4, 1956 organized by Professor Dr. C. Dorst the first President of EUCARPIA. The idea that the Association activities would be based on the work of sections, assembling people of similar professional interests was introduced at this first Congress. Seven sections were established (at present the number of sections has increased up to 12) and among them the SECTION of FODDER CROPS was one of the original.

The activities for the Section have been managed by a board, elected by the members. Since its inception the following have been Chairman of the Board. The full constitution of the Board over the past forty years, is presented in appendix 1.

1956 - 1965. Prof. G. Hausmann (Lodi, Italy)
1965 - 1971. Dr. K. J. Frandsen (Taastrup, Denmark)
1971 - 1979. Dr. G. Julén (Svalöf, Sweden)
1979 - 1985. Dr. S. Badoux (Nyon, Switzerland)
1985 - 1994. Prof. Dr. M. D. Hayward (Aberystwyth, U.K.)
1994 - until present Prof. Dr. F. Veronesi (Perugia, Italy)

Within the Fodder Crops Section, working groups dealing with more special problems were established during the first organizational meeting on March 24-26, 1956 in Milano. They were directed by the following specialists:

Prof. Dr. Y. Demarly (Lusignan, France) the Working Group "Medicago sativa",
Prof. Dr. J. Hackbarth (Schanhorst, Germany) the Working Group "Annual Legumes",
Dr. S. Bingeforst (Uppsala) and Dr. S.G.J. Ellerström and Dr. G. Julén (Svalöf) from Sweden, the Working Group "Red Clover",

Dr. F. Wit (Wageningen, The Netherlands) the Working Group "Grass Diseases".

In 1971, at the informal meeting of the Fodder Crops Section during the EUCARPIA CONGRESS in Cambridge (U.K.) the Working Group "Competition between fodder crop genotypes" coordinated by Dr. P. Jacquard (Montpellier, France) was formed, and at the Section Meeting in 1979 in Perugia, the next Working Group "Influence of Climatic Stress on Fodder Plant Breeding" supervised by Dr. H. Scheller (Freising - Weihenstephan, Germany) was set up.

In 1995 at the XIVth EUCARPIA CONGRESS in Jyväskylä, Finland (July 31 - August 3, 1995), a new Working Group on "Evaluating NIR techniques for uniformity of Quality determinations", was established.

Meetings of the working groups have taken place in different countries and are listed in Appendix II. Information on publications concerning working groups are available in the EUCARPIA Bulletins in the section **Recent EUCARPIA PUBLICATIONS**.

Section Meetings

Until 1967 the EUCARPIA Fodder Crops Section Meetings were held irregularly, usually at the time of the successive EUCARPIA CONGRESSES in 1956, 1959, 1962 and 1965. Reports on the Section activities were included in the Proceedings of these Congresses.

The first Meeting of the Section was held at the Max-Planck Institute for Plant Breeding Research Köln-Vogelsang, Germany on September 20-21, 1967 and organized by Dr. W. Hertzsch and colleagues.

Before this first independent meeting the Section Board distributed questionnaires among its members to collect information on the field of interests and propositions concerning the activities of the Section. Following the suggestions of the majority of respondents two sessions were organized at this meeting, namely:

- Breeding for disease resistance in grasses and
- Day-length reaction in relation to herbage plant breeding.

An introductory lecture of the first session "Common grass diseases in Europe and their importance" was given by Dr. G.E. van Dijk (Wageningen, The Netherlands).

At the second session, the main lecture "Day-length reaction of red clover and its relation to plant breeding" was presented by Dr. G. Julén (Svalöf, Sweden). Besides introductory lectures, five contributions were given by J. Gondran (Lusignan, France), P. Hugues (Montpellier, France), E. Siebs (Köln-Fogelsang, Germany), A.J.H. Carr (Aberystwyth, U.K.), and by A. Ylimäki (Tikkurila, Finland) at the first session and two contributions by D. Bommer (Eichhof, Germany) and by J.W. Lackamp (Ottersum, The Netherlands) at the second session.

A total number of 37 members from 11 countries attended the meeting.

The full text of the lectures and contributions, a list of participants, together with a Preface by Dr. K.J. Frandsen (Otöftegard, Denmark) the Section Chairman, were printed in a special TRYKT 1968 ROTAPRINT publication (1) and the Report of the Meeting was published in EUCARPIA Bulletin No. 2(2).

The 2nd Meeting: 1969, April 15-17, was held at the Welsh Plant Breeding Station, Aberystwyth, U.K. and organized by Prof. P.T. Thomas and his coworkers from this Station. The main subjects were:

- Physiological aspects of fodder crops breeding,
- Breeding for improved quality in fodder crops and
- The OECD - List of international control cultivars.

The introductory lecture on the first subject was given by J.P. Cooper (Aberystwyth, U.K.) and lectures and contributions on the second subject were made by S. Badoux and J. Caputa (Nyon, Switzerland), U. Simon (Freising-Weihenstephan, Germany), P. Guy, G. Genier and A. Procheron (Lusignan, France), D.J. Jones and R.J.K. Walters (Aberystwyth, U.K.), E. Farries (Mariensee, Germany), J. Jadas-Hecart, M. Gillet and C. Mousset (Lusignan, France) and by C. Meyer (Max-Planck Institute, Köln-Vogelsang, Germany).

The lecture on "International Control Cultivars" was delivered by A. Kelly (N.I.A.B. Cambridge, U.K.) and a report on the replies to a questionnaire concerning the International Control Cultivars was presented by G. Julén (Swedish Seed Association, Svalöf, Sweden).

47 people from 10 countries attended this Meeting.

All lectures and contributions in extenso, with a Preface by Dr. K.J. Frandsen, and a list of participants were published by TRYKT 1969 Rotaprint (3). A Report on the Meeting by Dr. K.J. Fransen was published in EUCARPIA Bulletin No. 4(4).

The 3rd Meeting: September 14-16, 1970, was held at the Plant Breeding Station of INRA, at Lusignan, France. The Organizing Committee consisted of the staff of the INRA Fodder Plant Breeding Station at Lusignan, under the chairmanship of Dr. P. Mansat, Director of the Station.

The main topic: BREEDING FOR YIELD IN CROSS FERTILIZED FORAGE PLANTS was discussed in the following three sessions:

- Various breeding methods,
- Theoretical and experimental results with and without inbreeding, different kind and cultivars, choice of constituents, yield evaluation in advanced generations of synthetics.
- Value of the results according to the stand density, components of dry-matter yield, and interaction between genotypes.

18 papers on fodder plants in general and more specifically on grasses, lucerne, clovers, brassicas, vicias and fodder beets were presented by: Y. Demarly (Versailles, France), E.L. Breese and M.D. Hayward (Aberystwyth, U.K.), U. Simon (Weihenstephan, Germany), W.E. Davies (Aberystwyth, U.K.), H. Toxopeus (Wageningen, The Netherlands), G. du Crehu (Rennes, France), F. Lorenzetti (Perugia, Italy), A. Gallais and P. Guy (Lusignan, France), D.A. Bond (Cambridge, U.K.), N.O. Bosemark (Landskrona, Sweden), V. Connolly (Carlow, Ireland), I. Sikora and D. Bošnjak (Osijek, Yugoslavia), G. Julén (Svalöf, Sweden), P. Rotili (Lodi, Italy), T.I. Emezc (Corsham, U.K.), M. Gillet (Lusignan, France), P. Rottili and Luiza Zannone (Lodi, Italy), P. Jacquard (Lusignan, France).

The meeting was attended by 80 participants from 18 countries.

Full text of the papers delivered at this Meeting with Preface by Dr. K.J. Frandsen (Chairman of the Section) and a list of participants were published in a special INRA edition(5) and Report of this meeting (in French) by A. Gallais in EUCARPIA Bulletin No. 4(4).

During the EUCARPIA CONGRESS in Cambridge U.K., (29 June - 2 July 1971), a Business Meeting of the Fodder Crops Section was held. In the absence of Dr. K.J. Frandsen, (Chairman of the Section) the report of the Section activity was presented by its Secretary Dr. G. Julen, and new Board of the Section was elected. The short report of this Meeting was published in EUCARPIA Bulletin No. 5 (6) and in Proceedings of the sixth Congress of EUCARPIA (7).

The 4th Meeting on 4-7 September, 1972 was held in Dublin, Ireland, organized by Dr. M.A. do Valle Ribeiro and colleagues from the Plant Breeding Department of the Agricultural Institute in Carlow, Ireland.

The topic of the meeting: EVALUATION OF BREEDING MATERIAL IN HERBAGE CROPS was discussed in three sessions:

- Evaluation of grassland productivity,
- Practical approach to biometrical evaluation of varieties and breeding material,
- Breeding in relation to competition.

15 Papers on forage crops in general and on grasses, lucerne and clovers were presented by C.E. Wright (Belfast) and M.A.M. Do Valle Ribeiro (Carlow, Ireland), T.I. Emecz and M. J. Stokes (Corsham, U.K.), G. Genier and J. Jadas-Hecart (Lusignan, France), I. Davies (Aberystwyth, U.K.), M.B. Alcock (Bangor, U.K.), G.W. van Bogaert (Ghent, Belgium), M.D. Hayward (Aberystwyth, U.K.), P. Rotili and L. Zannone (Lodi, Italy), P. Rottili (Lodi, Italy), J. Norrington-Davies (Aberystwyth, U.K.), A. Gallais (Lusignan, France), I. Rhodes (Aberystwyth, U.K.), W.E. Davies (Aberystwyth, U.K.) and B.S. Ahloowalia (Carlow, Ireland), C.J. O'Rourke (Carlow, Ireland).

The meeting was attended by 81 participants from 15 countries.

All papers delivered and full texts of discussions edited by M.A. do Valle Ribeiro and Patricia O'Donnell were published in a special publication of the Plant Breeding Department of Agricultural Institute, Carlow, Ireland (8). A report of this Meeting (in French) by S. Badoux (Secretary of the Section) was published in EUCARPIA Bulletin No. 6(9).

The 5th Meeting in May 1973 was held at Wageningen, The Netherlands.

The Organizing Committee consisted of: Dr. H. Lamberts, the Director of the Institute de Haaff (Foundation for Agricultural Plant Breeding, S.V.P.) (Chairman) and his coworkers from this Institute namely: G.E. van Dijk, J. Dijkstra, J.W. Lackamp, G.I. Speckmann, H. Toxopeus, and F. Wit.

The topic of the meeting was: NEW WAYS IN FODDER CROPS BREEDING.

15 papers were presented in five sessions devoted to:-

- Intergeneric and interspecific hybridization in fodder crops (lolium, festuca, poa and brassica species),
- Registration of hybrid varieties,
- Fertility problems in connection with new breeding methods like interspecific hybridization,
- Breeding with the use of male sterility, and
- Breeding of polyploid varieties.

The authors of these papers were: F. Wit (Wageningen, The Netherlands), J. Dijkstra (Wageningen, The Netherlands), E.J. Lewis (Aberystwyth, U.K.), S. Badoux (Nyon, Switzerland), H. Thomas (Aberystwyth, U.K.), G.E. van Dijk (Wageningen, The Netherlands), S. Ahloowalia (Carlow, Ireland), G.J.S. Ellerström and J. Sjödin (Svalöf, Sweden), G.R. Mackay (Pentlandsfield, Roslin, U.K.), R. Duyvendak (Wageningen, The Netherlands), J. Jadas-Hécart and M. Gillet (Lusignan, France), P. Rotili, L. Zannone and P. Jacquard (Lodi, Italy), and Z. Böjtös (Kompolt, Hungary).

There were 75 participants from 15 countries.

The Proceedings edited by J. Dijkstra comprising all the texts delivered together with a full text of discussions and list of participants was published by the Institute de Haaff, Wageningen, The Netherlands (10) and a report of the meeting by S. Badoux is given in EUCARPIA Bulletin No. 7(11).

The 6th Meeting on April 23-25, 1975 was held at the Swiss Federal Research Station for Agronomy in Zurich-Reckenholz, Switzerland. The Organizing Committee consisted of the following scientific workers of the Station: S. Badoux, R. Drop, H. Huber, J. Lehmann and Dr. B. Nüesch who acted as the Chairman.

The papers on the topic of the meeting, PLOIDY IN FODDER PLANTS, were presented in three following sessions:

- Theoretical aspects of polyploidy,
- Practical aspects of breeding auto tetraploid fodder plants,
- Other problems related to the ploidy level in fodder plants.

In the first session two main papers "Morphological and physiological aspects of ploidy" - by J. Noesberger and A. Nyffeer (Zürich, Switzerland) and "Genetical aspects of different ploidy levels, especially of autotetraploidy, with cross-pollinating plants" by R. Lichter (Rosenhof, Germany) - were delivered.

Five short papers dealing with grasses, clovers and lucerne were presented by T.J. Emecz, T. S. Bailey and L.K. Malinowszky (Corsham, G.B), S. Easton (Lusignan, France), B. Dennis (Taastrup, Denmark), E.L. Breese, D.E. Stephens and A.C. Thomas (Aberystwyth, U.K) and by A. Gallais and P. Guy (Lusignan, France).

In the second session two main papers on the themes "A comparison between colchicine induced tetraploid and diploid cultivars of *Lolium* species" by C. van Bogaert (Merelbeke, Belgium) and "The current situation in the tetraploid clover" by G. Julén (Svalöf, Sweden) were presented. Eight short papers dealing with methods for chromosome doubling and evaluation of polyploids of clovers, grasses, vicias and fodder beets were delivered by G.J. Speckmann (Wageningen, The Netherlands), J. Picard (Dijon-Cedex, France), V. Sv tlik, A. Fojtik and J. Rod (Hladké ivovice, Czech Republic), J.P. Maitre (Quetigny, France), I. Bócsa, R. Kiskeri and S. Hejja (Kompolt, Hungary), W. M yniec (Pozna , Poland), U. Simon (Giessen, Germany), and by L. Dalke (Bydgoszcz, Poland).

In the third session the main paper "Anther and pollen culture for production of haploids: their utilization in plant breeding" - was presented by Y. Demarly (Orsay, France).

Four short papers on typical practical problems met with in in vitro anther culture and regeneration of grass polyploids and chromosome doubling breeding implications were read by C. Doré, (Versailles, France), B.S. Ahloowalia (Carlow, Ireland), J. Dijkstra (Wagenigen, The Netherlands), and by P. P. Jauhar (Aberystwyth, U.K.).

76 participants from 14 countries took part in the meeting.

All main and short papers delivered at the meeting and two supplementary papers, not read at the meeting on lucerne and red clover by M. Mariani, S. Ceccarelli and F. Lorenzetti (Perugia, Italy) and S. Smidt (Nyon, France) as well as a Preface by G. Julén, (Chairman of the Section), Opening address by R. Salzmänn, Director of the Swiss Federal Research Station for Agronomy Zürich-Reckenholz and list of participants were included in Proceedings edited by B. Nüesch and published by the Swiss Federal Research Station for

Agronomy, Zürich, Switzerland (12). A report of this meeting by S. Badoux was published in Eucarpia Bulletin No. 10 (13).

The 7th Meeting on September 7-9, 1976 took place in Roskilde, Denmark, at the Lyngby School of Agriculture of the Royal Veterinary and Agricultural University. The Organizing Committee consisted of Dr. K. J. Frandsen (Store Heddinge, Denmark) - Chairman, Dr. B.A. Dennis (Taastrup Denmark) - Secretary together with: G. Julen (Svalöf, Sweden), H. M. Iler Nielsen (Taastrup, Denmark), Chr. Skov Larsen (Store Heddinge, Denmark) as members.

The main topic of the Meeting: BREEDING METHODS AND VARIETY TESTING IN FORAGE PLANTS was considered in three sessions.

During the first session - Selection criteria and methods - the opening paper following "Physiological and morphological selection criteria in grasses" was presented by D. Wilson (Aberystwyth, U.K.). Eight other papers on the theme of the session were read by F. England (Pentlandfield, Scotland, U.K.), G. Kobabe, (Göttingen, Germany), Girta Ziegenbein (Bad Hersfeld, Germany), I. Bócsa, J. Bouglos and S. Manninger (Kompolt, Hungary), P. Rotili and Luiza Zannone (Lodi, Italy), F. Morgner (Bad Hersfeld, Germany), and S. Gowers (Pentlandfield, Scotland, U.K.).

In the second session: - Adaptability and competitive ability - nine papers were presented: The inaugural paper on "Breeding for adaptability in grasses" was given by E.L. Breese (Aberystwyth, U.K.), and was followed by papers by J. Hill (Aberystwyth, U.K.), C B. Nüesch (Zürich-Reckenholz, Switzerland), O. R. de Cordawa D. (Lima, Peru), A. Panella, F. Lorenzetti and S. Ceccarelli (Perugia, Italy), J. Norrington-Davies (Aberystwyth, U.K.), H. L. Petersen (Copenhagen, Denmark), P. Rotili, L. Zannone and G. Gnocchi (Lodi, Italy), and " by G.E. van Dijk (Wageningen, The Netherlands).

In the third Session: - Adaptability and uniformity - a panel discussion under the Chairmanship of Dr. G. Julén together with six invited speakers: H.A. Jönsson (Landskrona, Sweden), J.Y. Blanchet (Bretigny-sur-Orge, France), H. Bogh (Borkop, Denmark), K.H. Beuster (Hannover, Germany), D.T.A. Aldrich (Cambridge, U.K), and R. Duyvendak (Wageningen, The Netherlands), was held.

80 persons from 13 countries participated in this meeting.

Proceedings of the meeting containing full texts of the papers and discussion together with a Preface by G. Julén (Chairman of the Section) and list of participants, edited by B.A. Dennis (Secretary of the organizing committee) was published by the Department of Crop Husbandry and Plant Breeding, Royal Veterinary and Agricultural University, Hojbakkegaard, Taastrup, Denmark (14). A report of the Meeting by S. Badoux was given in the EUCARPIA Bulletin No. 10 (13).

The 8th Meeting was held on September 4-9, 1978 in Radzików, Poland at the Institute of Plant Breeding and Acclimatization.

The Organizing Committee was as follows: Prof. Dr. J. Bojanowski (Radzików), Chairman, and Members: S. Góral and Z. Staszewski (Radzików), J. Lipski (Kraków), W. M. Yniec and S. Sulowski (Poznań), Z. Przedpeška (Warszawa), Z. Tomaszewski (Olsztyn) and J. Wioncek (Lublin).

The main topic of the Meeting was: NUTRITIVE VALUE OF FODDER PLANTS. The lectures were grouped in three sessions. In each one or two introductory papers were presented, followed by a number of short papers and the general discussion on the subject.

In the first session - Digestibility problems- two main lectures were presented: "Feeding quality in forage plant breeding" by W. Lampeter (Halle, Germany) and "Internal variation of digestibility in plants of different fodder crops" by G. Julén (Svalöf, Sweden). 14 short contributions on grasses and on lucerne were presented by: G. van Bogaert (Merelbeke, Belgium), U. Simon (Giessen, Germany), I. Indruch (Troubsko, Czech Republic), S. Kozowski and I. Kuku ka (Pozna ,Poland), R. Kostuch and J. Lipi ski (Kraków, Poland), S. Proczuk and A. Ostrowska (Bart ek, Poland), B.A. Dennis (Taastrup, Denmark), S. Badoux and J. Scehovic (Nyon, Switzerland), M. Betin and P. Mansat (Lusignan, France), P. Guy, A. Sauvion and R. Traineau (Lusignan, France), W.E. Davies (Aberystwyth, U.K.), J. Buglos and I. Bo sa (Kompolt, Hungary), A. Arcioni, S. Cecarrel, M. Falcinelli, A. Mariani and F. Veronesi (Perugia, Italy), V. Mika, J. Nedoma, V. Stagr (Troubsko, Czech Republic).

The second session - The protein complex - was opened by the introductory lecture "Possibilities to increase and improve protein content in grass" by G. Bugge (Göttingen, Germany). This lecture was followed by four contributed papers on grasses and lucerne by A. Jelinowska (Pu awy, Poland), T. Cegielska and J. Stuczy ska (Gorzów Wlkp., Poland) A. Rafalski (Radzików, Poland) and R. Carlsson (Svalöf, Sweden).

The third session - Antinutritional substances - was opened with the introductory lecture "Breeding to reduce antinutritional constituents in forage grasses" by A.W. Hovin (Minnesota, USA). Eight contributed papers dealing with grasses, lucerne, red clover and brassicas were presented by U. Simon (Giessen, Germany), P. Mendelewski, S. Sulinowski and Z. Zwierzykowski (Pozna , Poland), P. Matensson (Svalöf, Sweden), E. Nowacki, H. Blaim and T. Kazimierski (Pu awy and Pozna , Poland), M. Jurzysta (Pu awy, Poland), W.E. Davies, R. Jones (Aberystwyth, U.K.), R. Giovanni (Rennes, France), M. Rakowska, J. Twarkowska, B. Byczy ska, M. Naumann and J. Krzyska (Radzików, Pozna , Poland).

There were also miscellaneous papers on grasses, clovers and vicias presented by S. Sulinowski (Pozna , Poland), P. Mansat and M. Bertin (Lusignan, France), T. Kazimierski (Pozna , Poland) and H. Thiellement (Orsay, France).

The Meeting was attended by 81 participants from 15 countries.

The full text of introductory lectures and contributed papers delivered at the meeting and Welcome Address by Prof. dr. S. Starzycki, (Director of Plant Breeding and Acclimatization Institute) with the Preface by G. Julén (Chairman of the Section) and the list of participants, edited by J. Bojanowski and Waleria M yniec were published as a separate publication under the title: QUALITY ASPECTS IN FODDER CROP BREEDING (15). A report of this meeting by G. Julén (Chairman of the Section) was published in EUCARPIA Bulletin No. 12(16).

The 9th Meeting was held on 4-6 September 1979 at the Faculty of Agronomy of the University of Perugia, Italy. The Meeting was organized by Dr. S. Ceccarelli and his coworkers from the Istituto di Allevamento Vegetale in Perugia.

The main subject of the Meeting was BREEDING FODDER CROPS FOR STRESS CONDITIONS. The papers were presented in three following sessions.

Adaptation, collection and breeding for climatic stresses. The plenary paper "Genetic research on adaptation to environmental stresses" was read by E. Porceddu (Bari, Italy) and

three short papers, by P. Jacquard (Montpellier, France), by S. Badoux (Nyon, Switzerland) and by C.A. Cenci (Perugia, Italy), were also presented.

Physiological and morphological aspects of adaptation to climatic stress. The invited paper "Physiological and morphological characteristics of herbage crops in relation to tolerance to climatic stresses" was presented by D. Wilson (Aberystwyth, U.K.). Two short papers by G. Julén (Svalöf, Sweden) and by S. Arcioni, D. Mariotti, M. Falcinelli and S. Ceccarelli (Perugia, Italy), were also presented.

Breeding for management stresses. Invited paper: "Some aspects about breeding for management stresses" was read by P. Guy (Lusignan, France). It was followed by six short papers on lucerne and grasses by I. Bócsa, J. Buglos, I. Sziraki and C. Manninger (Kompolt, Hungary), by P. Rotili, Luiza Zannone and G. Gnocchi (Lodi, Italy), by F. Veronesi, A. Mariani, M. Falcinelli and S. Arcioni (Perugia, Italy), by G. van Dijk (Wageningen, The Netherlands), by M.D. Hayward (Aberystwyth, U.K.), and B.A. Dennis (Taastrup, Denmark).

In the General Assembly of the Section Members, held on 6th September, a new Board of the Section was elected. The members expressed their gratitude to Dr. G. Julén (Svalöf, Sweden) for his valuable work as a Chairman of the Section, and elected Dr. S. Badoux (Nyon, Switzerland) to his post.

The meeting was attended by 68 participants from 15 countries.

Proceedings of the Meeting edited by S. Ceccarelli were published by the Istituto di Allevamento Vegetale in Perugia (17) and the Report of the Meeting by B.A. Dennis (Secretary of the Section) - appears in EUCARPIA Bulletin No. 14(18).

The 10th Meeting was held on 8-10 September 1981 and took place at the Centre for Agricultural Research in Merelbeke, Gent, Belgium. The Organizing Committee consisted of Dr. G.W. van Bogaert (Chairman) and Members: A. van Slycken, R. de Groote, M. Rousseau - from the Plant Breeding Station in Merelbeke.

Papers on the topic of the meeting, BREEDING HIGH YIELDING FORAGE VARIETIES COMBINED WITH HIGH SEED YIELD were presented in the following three sessions:

Physiological aspects of seed production. The session was opened by the main paper "Physiological aspects of seed production in perennial ryegrasses" by P.D. Hebblethwaite and J.G. Hampton (Loughborough, U.K.) followed by short papers on red clover, ryegrass and lucerne by B.A. Dennis (Taastrup, Denmark), G. Bugge (Göttingen, Germany) and G. Genier and P. Guy (Lusignan, France).

Relationship between dry matter and seed yield. The session was introduced by two main papers "Relationship between dry matter and seed yield in grasses" by S. Andersen (Copenhagen, Denmark) and "Relationship between dry matter and seed yield in leguminous forage plants" by F. Lorenzetti (Perugia, Italy). Six short papers on *Setaria sphacelata*, Rhodes grass, on annual legumes, fodder grasses and lucerne were presented by A. J. P. van Wijk (Rilland, The Netherlands), J.G. Boonman (Ottersum, The Netherlands), S. Ceccarelli and B.H. Somaroo (Aleppo, Syria), G. van Bogaert, (Merelbeke, Belgium), Z. Böjtös, (Kompolt, Hungary), and M.S. Mekni and W. Anderson (Aleppo, Syria).

Selection for high seed production. The session was introduced by two main papers "Herbage grasses and seed yield a literature review" by A. Vyncke (Merelbeke, Belgium and "Selection for high seed production in leguminous forage plants review" by W. Ellis Davies (Aberystwyth, U.K.). Four short papers on grasses, red clover, lucerne and *Hedysarum coronaria* were presented by M. Falcinelli, F. Veronesi and F. Lorenzetti (Perugia, Italy), by J. Sjödin (Svalöf, Sweden), by I. Bócsa and J. Buglos, Kompolt, Hungary), by M. El Gazzan, S. Landolsi and N. Chalbi (Tunis).

The meeting was attended by 61 participants from 14 countries.

Proceedings of this meeting, edited by G.W. van Bogaert, with a Preface by S. Badoux (Section Chairman) and Welcome Addresses by A. van Slycken (Director of the Government Agricultural Research Centre, Gent) and by M. Rousseau (Director of the Governmental Plant Breeding Station, Merelbeke) and a list of participants was published by Rijksstation voor Plantenvereding, Merelbeke, Belgium. A report of the meeting by B.A. Dennis (Secretary) was published in EUCARPIA Bulletin No. 14(18).

The 11th Meeting was held on September 13-16, 1982 at the University College of Wales in Aberystwyth, U.K. The organizing committee consisted of: J.P. Cooper, E.L. Breese, B.F. Tyler and M.D. Hayward (Chairman) - all from the Welsh Plant Breeding Station, Plas Gogerddan, Aberystwyth, U.K.

The papers of the main topic UTILIZATION OF GENETIC RESOURCES IN FODDER CROP BREEDING were presented in the following three sessions:

The creation and exploitation of novel genetic resources and the scope for genetic exchange. The opening paper "New combinations of characters in grasses: the need, the resources and scope for genetic exchange" by E.L. Breese (Aberystwyth, U.K.) was followed by six contributed papers on grasses, forage rye, lucerne and legumes by P. Rotili, M. Romani, G. Gnocchi and L. Zannone (Lodi, Italy), U.K. Posselt (Hohenheim, Germany), P. Jacquard (Montpellier, France), S. Sulinowski, Halina Wi niewska, Kazimiera S kowska (Pozna , Poland), H. Thomas and W. G. Morgan (Aberystwyth, U.K.), G.M. Evans, C.D.G. Chapman and D.S. Fallding (Aberystwyth, U.K.), D. Wilson (Aberystwyth, U.K.), I. Rhodes (Aberystwyth, U.K.), P. Rotili, G. Gnocchi and L. Zannone (Lodi, Italy) and P.J. Dale, V.A. Cheyne, S.J. Dalton, M.F. Fay, M.L. Jones and L.S. Pike (Aberystwyth, U.K.).

The evaluation of genetic resources. Opening papers "The evaluation of genetic resources and the point of view of the forage plant breeder" by Ch. Poisson (Lusignan, France) and "Evaluation of genetic resources in relation to breeding objectives and varietal assessment" - by B.F. Tyler and E.L. Jones (Aberystwyth, U.K.), were followed by seven contributed papers on grasses and lucerne by Chr. Paul (Braunschweig, Germany), I. Schjelderup (Tromso, Norway), C.F. Eagles and M.P. Fuller (Aberystwyth, U.K.), W.E. Davies, (Washington, U.S.A.), B.H. Somaroo and J.R. Witcombe (Aleppo, Syria), S. Ceccarelli (Aleppo, Syria) and H. Thomas and I.B. Norris (Aberystwyth, U.K.).

The utilization of genetic resources in breeding programmes. The opening paper "Utilization of genetic resources in breeding programmes" by U. Simon (Freising Weihenstephan, Germany) was followed by six contributed papers on fodder crops in general, and on grasses and brassica species presented by S. Halling (Umea, Sweden), P.W. Wilkins and J. A. Lovatt (Aberystwyth, U.K.), C. J. Williamson (Pentlandfield, U.K.), W. M yniec,

E. Röhm-Rodowald and H. Zieli ska (Pozna , Poland), S. Elci (Ankara, Turkey) and by P. Jacquard (Montpellier, France).

The meeting was attended by 85 participants from 15 countries.

Proceedings of the meeting with Preface by S. Badoux (Chairman of the Section) and Welcome Address by E.L. Breese, Deputy Director of Welsh Plant Breeding Station, Aberystwyth, containing papers presented at the meeting and the list of participants, compiled by M.D. Hayward, was published by Publication Office, Welsh Plant Breeding Station, Plas Gogerdan, Aberystwyth, Wales, U.K. (20). A report of the Meeting by B.A. Dennis was given in EUCARPIA Bulletin No. 14 (18).

The 12th Meeting was organized from September 17-20, 1984 at Freising-Weihenstephan, Germany. The Organizing Committee consisted of Prof. U. Simon (Chairman) and members Th. Grundler and H. Scheller from the Bavarian State Plant Breeding Station and Technical University, Munich, Dpt. of Greenland and Fodder Plants respectively. This Section meeting included a joint session with the Section Biometrics in Plant Breeding on September 19.

The topic of the meeting DEVELOPMENT, CONSTRUCTION AND MULTIPLICATION OF FODDER CROP VARIETIES was realized in three sessions:

The development of fodder crop varieties. The plenary papers "Development of fodder crop varieties; basic principles" by G.E. van Dijk (Wageningen, The Netherlands) and "Practical considerations in the development of new varieties of fodder crops" by M.D. Hayward (Aberystwyth, U.K.) were followed by ten short papers dealing with forage grasses, lucerne and fodder catch crops. They were presented by B. Nüesch (Zürich, Switzerland), P. Marum (Volbu, Norway), W. M yniec (Pozna , Poland), M.O. Humphreys (Aberystwyth, U.K.), Z. Zwierzykowski, J.J. Rybczy ski, A. lusarkiewicz-Jarzina (Pozna , Poland), M. Lucchin, A.M. Olivieri and P. Parrini (Padua, Italy), P. Rotili, L. Zannone, C. Scotti and G. Gnocchi (Lodi, Italy), by F. Veronesi, M. Falcinelli, S. Grando and F. Lorenzetti (Perugia, Italy) and by J. Bócsa (Kompolt, Hungary).

The construction of fodder crop varieties. The session was opened by two main papers "Basic principles for the construction of different types of fodder crop varieties" by A. Gallais (Gif sur Yvette, France) and "Construction of fodder crop varieties, practical implications" by C. van Bogaert (Merelbeke, Belgium). Seven short papers on constraints on grass breeding, some peculiarities connected with polycross and diallel crossing in grasses and lucerne were presented by A.J.P. van Wijk (Rilland, The Netherlands), J. Rod (Troubsko, Czechoslovakia), U.K. Posselt (Hohenheim, Germany), A.M. Olivieri, U. Zilioto (Padova, Italy), O. Simonsen (Bodo, Norway), M.A. Faris (Ottawa, Canada) and by K.H. Beuster (Hannover, Germany).

The multiplication of fodder crop varieties. The session was opened by two main papers: "Multiplication of fodder crop varieties; basic principles" by B. Dennis (Taastrup, Denmark) and "Seed multiplication of fodder crop varieties; practical implications" by E. Lütke Entrup (Lippstadt, Germany). Three short papers on synthetic varieties of forage grasses were presented by H. Scheller (Freising, Germany), Th. Grundler (Freising, Germany) and M. Falcinelli, F. Veronesi and V. Negri (Perugia, Italy).

The meeting was attended by 89 persons from 18 countries.

A publication with full texts of main and short papers together with a Preface by S. Badoux (Chairman of the Section) and the Welcome Address of H.L. Schmidt (Dean of Faculty of Agriculture and Horticulture of the Technical University of Munich) and a list of participants edited by U. Simon was published by Lehrstuhl für Grünland und Futterbau der Technischen Universität München, Freising-Weihenstephan, Germany (21). A report prepared by B.A. Dennis is given in EUCARPIA Bulletin No. 14(18).

The 13th Meeting was held from September 16-19, 1985 at Rostanga near Svalöf in Sweden. The Meeting was organized by Dr. J. Sjödin (Svalöf A.B., Sweden) and his coworkers from the Forage Crops Dpt.: B. Anderson and R. Lyhagen.

The topic of the Meeting NEW METHODS, TECHNIQUES AND APPLICATIONS IN FODDER CROP BREEDING was divided into three sessions.

New methods, techniques and applications in improvement of yield. The session was opened by the paper "Physiological aspects of yield determination in fodder crops" by V. Stoy (Svalöf, Sweden). Five papers dealing with grasses were presented by P.W. Wilkins (Aberystwyth, U.K.), H. L. Petersen (Copenhagen, Denmark), S. Badoux (Nyon, Switzerland), P. Rotili, G. Gnocchi and C. Scotti (Lodi, Italy) and by G. Julén (Svalöf, Sweden).

New methods, techniques and applications in improvement of quality. The session was opened by the lecture "Reflections of the possibilities to use selection techniques to improve forage quality" by Ch. Poisson (Lusignan, France) and three other papers on grasses were presented by D. Wilson (Aberystwyth, U.K.), M.D. Casler (Madison, U.S.A.) and by U.K. Posselt (Hohenheim, Germany).

Miscellaneous new methods, techniques and applications. The session was opened by four main papers: "Utilizing variation in grasses and legume via intra- and interspecific hybridization" by N. Taylor (Kentucky, U.S.A.), "Breeding for pest resistance in legumes and grasses" by D. Smith (Madison, U.S.A.), "Reproductive system and breeding methods in forage grasses" by M.D. Hayward (Aberystwyth, U.K.) and "New ways in selecting the components for synthetics" by J. Rod (Troubsko) and J. Vondra ek (Praha, Czechoslovakia). Ten other papers were presented as oral or poster contributions dealing with grasses, clovers, lucerne and brassicas by F. Veronesi, A. Mariani (Perugia, Italy) and E.T. Bingham (Madison, U.S.A.), G. Kobabe and U. Bellin (Göttingen, Germany), A. Merker (Svalöf, Sweden), S. Arcioni, F. Damiani, A. Mariani, D. Mariotti, M. Paused and F. Veronesi (Perugia), C. Gnocchi, P. Rotili, C. Scotti and Luiza Zanonne (Lodi), M. Bazzicalupo (Firenze), P. Cappellini and Proietti (Roma, Italy), L. Diels, L. Hooyberghs, L. Ledoux (Mol), G. van Bgaert and E. van Bockasteale (Merelbeke, Belgium) and by W. M yniec (Pozna) and S. Heimann (S upia Wielka, Poland).

A business meeting was held during the course of this conference. Dr S.Badoux (Nijon, Switzerland) retired from Chairmanship of the Section after six years service. Dr M.D. Hayward was elected as the new Chairman.

65 persons from 19 countries participated in this Meeting.

The proceedings together with "A few words of welcome" by S. Badoux (Chairman of the Section) and a list of participants edited by J. Sjödin was published by Svalöf A.B. Forage Crop Dpt. Sweden (22) and a report by M.D. Hayward (newly elected Chairman of the Section) appears in EUCARPIA Bulletin No.15 (23).

The 14th Meeting was held from September 22-24, 1987 at Lusignan, France. The meeting was organized by the INRA Station of Fodder Plant Breeding, under the chairmanship of Dr. Ch. Poisson together with a committee of colleagues of the Station.

The topic of the meeting, NATURAL VARIATION AND BREEDING FOR ADAPTATION was considered in two sessions with plenary lectures and a presentation of short papers and posters. A poster session was organized for the first time during this meeting of the Fodder Crops Section

In the session: - Description of natural variability and management of genetic resources - plenary lectures "Description and distribution of natural variation in forage grasses" by B.F. Tyler (Aberystwyth, U.K.) and "Evaluation of an Italian germplasm collection of *Lolium perenne* L. through a multivariate approach" by M. Falcinelli (Perugia), F. Veronesi (Sassari, Italy) and S. Lorenzetti (Aleppo, Syria) - were given. Six short papers on grasses, clover and lucerne by G. Charmet, A. Bion (Clermont-Ferrand) and F. Balfourier (Exmes, France), E. Piano (Cagliari, Italy), P. Jacquard (Montpellier Cedex, France), A. Abdelkefi (Tunis, Tunisie), O.A. Rognli (As-NLH, Norway) and by P. Rotili, Luiza Zanonne, C. Scotti, G. Gnocchi and Proietti (Lodi, Italy) - were also presented.

The second session: - Breeding for adaptation to natural environment and to management - was opened with the plenary lecture "Ecophysiological approach to plant growth. Consequences for breeding strategies for forage species in contrasting conditions and different managements" was presented by G. Lemaire, C. Varlet-Grancher, F. Gastal and J.L. Durand (Lusignan, France). Ten short papers containing general considerations, on lucerne on white clover and grasses were presented by I. Rhodes, R.P. Collins, M.J. Glendining and D.R. Evans (Aberystwyth, U.K.), I. Olivieri, J.M. Prosperi and P. Mansat (Montpellier, France), F. Veronesi (Sassari) and A. Mariani and S. Arcioni (Perugia, Italy), I. Bocsa and I. Sarosi, (Kompolt, Hungary), P. Wilkins (Aberystwyth, U.K.), by M.O. Humphreys (Aberystwyth, U.K.), B.A. Dennis (Taastrup, Denmark) and Helgadóttir (Keldnaholt, Iceland), Z. Staszewski and Z. Bodzon (Radzików, Poland), M. Casler (Medison, USA) and by A.H.C.M. Schapendonk and A.L.F. de Vos (Wageningen, The Netherlands). In the poster session 17 posters were presented. The themes of which were related to the main topic of the meeting and concerned grasses, lucerne, white clover as well as other legumes and pasture barley.

For the first time WORKSHOP SESSIONS were introduced to the Section Meeting programme to provide a greater opportunity for discussion on a range of topics connected with the main theme of the meeting. The idea of workshops was put forward by section members who wished to encourage lively discussions among participants of the meeting in small groups. In fact, the informal exchange of experiences and critical observations expressed in workshops was considered to be fruitful for practical plant breeders as well as for those who are engaged in theoretical research. For practical reasons, four workshops had to be organized simultaneously (in different rooms). The groups were formed more or less according to the field of interest of the participants. The themes discussed in the four workshops were as follows

:

Genetic resources for Mediterranean area. Leaders of this workshop were F. Lorenzetti (Perugia, Italy) and U. Simon (Freising-Weihenstephan, Germany)

Introduction of new variability, especially for vigor, into a high level genetic material with leaders: P. Rotili (Lodi, Italy) and J. Pacard (Issoudun, France)

Natural variability in stress tolerance with leaders: M.O. Humphreys (Aberystwyth, U.K.) and O.A. Rognli (As-NLH, Norway) and

Management of genetic variability with leaders: A.J.P. van Wijk, (Rilland, The Netherlands) and B. A. Dennis, (Taastrup, Denmark).

The leaders prepared short summaries of discussions in the workshops, which were followed by more general conclusions at the plenary workshop session. This idea of introducing workshops into the Section meetings was accepted with great approval by all participants.

120 persons from 23 countries attended this Meeting.

The proceedings of the meeting containing full texts of the plenary and short papers also poster abstracts and a summary of the discussions on the Workshops together with conclusions and poster abstracts, a list of participants and with a Preface by M.D. Hayward (Chairman of the Section) were published by I.N.R.A. Station d'Amélioration des Plantes Fourragères, Lusignan, France (24) and Report of the Meeting in EUCARPIA Bulletin No. 17 (25).

The 15th Meeting was held on September 5-9, 1988 in Szarvas, Hungary. The organizer of the Meeting was Dr. G. Marjai, Director of the Research Institute for Irrigation (Chairman) with a group of scientific workers from this Institute.

The main subject of the Meeting was: BREEDING FOR VIGOUR IN FORAGE CROPS. The programme consisted of two papers and one poster sessions. Paper sessions were opened by three invited lectures: "Breeding for vigor" by G. Kobabe (Göttingen, Germany), "The concept of vigor and its application in a breeding program of lucerne" by P. Rotili (Lodi, Italy) and "The Effect of selection for disease resistance on vigor of Italian reynard and red clover" by B. Nüesch (Zürich-Reckenholz, Switzerland). They were followed by seven contributed papers on vigor in grasses, lucerne, clovers and in brassica fodder plants presented by B.R. Bakheit (Assiut, Egypt), M. Ghesquiere, C. Mousset and L. Hureau (Lusignan, France), W. M yniec (Pozna , Poland), B. Nüesch (Zürich-Reckenholz, Switzerland), S. Ravanti (Jokijojnen, Finland), E. Toth (Szarvas, Hungary), F. Veronesi (Sassari), and M. Falcinelli and F. Lorenzetti (Perugia, Italy). Thirteen posters were presented, their themes being connected with the general vigor problem, in grasses, birdsfoot trefoil and lucerne.

Following the scheme of organization of section meetings initiated in the previous year at Lusignan, three workshops were included in the program on the common topic 'The environment and selection for vigor', with J. Sjödin (Svalöf, Sweden), H. Scheller (Weihenstephan-Freising, Germany) and F. Veronesi (Sassari, Italy) - as leaders. They presented a synopsis of the discussions during the business meeting of the Section.

The Meeting was attended by 53 participants from 18 countries.

Papers and summaries of posters and workshop discussion with a preface by M.D. Hayward and a list of participants (with a picture of the main building of the Research Institute for Irrigation in Szarvas on the cover) edited by G. Marjai in technical cooperation with Anna Medvegy and Terez Szantosi, was published by the Research Institute for Irrigation Szarvas, Hungary (26). Report of the Meeting by M.D. Hayward was published in EUCARPIA Bulletin No. 18 (27).

The 16th Meeting was held from the 19-22nd November, 1990, in Wageningen, The Netherlands, at the International Agricultural Centre. The organizing committee consisted of

Dr. A.P.M. den Nijs (Centre for Plant Breeding Research, C.P.O, Wageningen) acting as a Chairman, Dr. A.J.P. van Wijk (van der Have Research, Vlijmen) - Secretary and members: L.J. Beerepoot (Barenbrug Holland B.V. Oosterhout), A.M. van de Bunte (International Agricultural Centre (IAC) Wageningen), A. Elgersma (CPO, Wageningen) and A.J.L. Hotke-Staal (IAC Wageningen).

Contrary to former meetings, only invited speakers presented papers, while more time was devoted to presentation and plenary discussion of the 48 submitted posters and debates in four workshops.

The topic of the Meeting was: FODDER CROPS BREEDING: ACHIEVEMENTS, NOVEL STRATEGIES AND BIOTECHNOLOGY was the subject of discussions in paper and poster sessions focused on two main themes.

The first theme: What has been achieved in fodder crops breeding? was presented in four main papers: "Achievements in fodder crops breeding in Nordic Europe" by J. Sjödin (Svalöf, Sweden), "Achievements in fodder crops breeding in maritime Europe" by A.J.P. van Wijk (Vlijmen, The Netherlands) and D. Reheul (Merelbeke, Belgium), "What has been achieved in fodder crops breeding in continental Europe?" by I. Bócsa (Kompolt, Hungary) and "Achievements in fodder crop breeding in Mediterranean Europe" by F. Veronesi (Sassari, Italy). The main papers were followed by 20 posters on general problems, on grasses, clovers, lucerne and brassicas.

The second theme Novel strategies and biotechnology was considered in the following 14 main papers: "The role of selfing in the synthetic and hybrid varieties constitution in forage crops", by P. Rotili (Lodi, Italy), "Manipulation and exploitation of the reproductive system in forage breeding", by M.D. Hayward, D. Thorogood and J.G. Jones (Aberystwyth, U.K.), "The diplogamete method and ploidy manipulation in fodder crop breeding", by R. Lumaret (Montpellier Cedex, France), M.S. Camlin and A.C. McMichael (Crossnacreevy, N. Ireland), "Opportunities for biotechnology in clover breeding", by K. Judith Webb and I. Rhodes (Aberystwyth, U.K.), "In vitro selection in forage crops", by U.K. Posselt (Hohenheim, Germany), "Regeneration from protoplasts of perennial ryegrass; progress and applications", by J. Creemers-Molenaar and J.P.M. Loeffen (Oosterhout, The Netherlands), "Haploids in grasses based on knowledge from cereals", by S.B. Andersen, A. Olesen, N. Halberg and S. Madsen (Copenhagen, Denmark), "Towards artificial fertilization and transformation in perennial rye grass", by A.P.M. den Nijs, H.M. van der Mass and L.A.M. Hensgens (Wageningen and Leiden, The Netherlands), "Genome analysis and its manipulation in Lolium", by G.M. Evans, M.D. Hayward, J.W. Forster, N.J. McAdam, M.J. Scanlon, M. Stammers and J.A.K. Will (Aberystwyth, U.K.), "Biotechnology in forage grass breeding", by B.V. Conger, (Knoxville, U.S.A.), "Breeding perspectives in perennial fodder crops", by C. Poisson (Lusignan, France), "Nutritional quality of herbage in relation to animal production", by A.M. van Vuuren (Lelystad, The Netherlands), "The role of legumes in grasslands and forage production", by L. 't Mannetje (Wageningen, The Netherlands). Out of 21 posters of this theme, 17 were connected with the application of biotechnology to grasses.

Workshops connected with the 1st theme of the Meeting (What has been achieved in fodder crop breeding?) provided an opportunity for free discussion in small groups of persons with similar fields of interest. They were organized around the following sub-topics:-
Yield progress in grasses and clovers - with A. Kleinhout (Store-Heddinge, Denmark), as the leader,
Achievements in fodder crops breeding - with C.W. van den Bogaert (Gennep,

The_Netherlands), as chairman and Legume fodder species with M. Falcinelli (Perugia, Italy) and C._Mousset Declas (Dijon, France) as the leaders.

A summary of workshops' discussions given by M.O. Humphreys (Aberystwyth, U.K.) adopted an optimistic view that further significant progress could be made in fodder crop breeding, which, at present, is still relatively little advanced.

During the business meeting, some changes in the Board took place. The Secretary B.A. Dennis (Taastrup, Denmark) stepped down and his post was accessed by A.J.P. van Wijk (Van der Have, Vlijmen, The Netherland) and S. Ceccarelli (Perugia, Italy) stepped down as a member of the Board. Two new members: P. Rotili (Lodi, Italy) and Z. Staszewski (Radzikow, Poland) were elected. The chairman, M.D._Hayward (Aberystwyth, U.K.) was reelected.

The Meeting was attended by 117 participants from 21 countries.

Proceedings of this Meeting containing a Foreword by A.P.M. den Nijs and Anjo Elgersma (Editors), with a Preface by M.D. Hayward (Chairman of the Section) and Introduction on "Plant breeding and seed production of forage crops in The_Netherlands" by M. Kamps (President of Dutch Agricultural Breeders and Seed Trade Association) together with a list of participants with their field of competence, Subject index, a picture of participants in the conference room and the text of the Breeders Song: "ALL YOU NEED IS BREED" (by van Wijk and van Wijk), was published by the Centre for Agricultural Publishing and Documentation (PUDOC), Wageningen, The Netherlands (28). A report of this meeting by A.J.P._van Wijk (Secretary of the Section) was published in EUCARPIA Bulletin No. 19 (29).

The 17th Meeting was held from the 14 to 18th of October 1991 at Alghero, Sardinia, Italy. It was jointly organized by the Institute of Agronomy of the University of Sassari and the National Research Council Centre for Pasture Studies. The following persons constituted the organizing committee: P. Bullita, M._Deidda, G.A. Attene, G. Marras, R. Motzo (from the Istituto di Agnomia, University of Sassari), P. Rotili (Istituto Sperimentale per le Culture Foraggere, Lodi), S. Carreda, Simonetta Bullitta, C._Porqueddu and P.P. Roggero (Centro Pascoli, CNR, Sassari and F._Veronesi (University of Ancona).

The main theme of the Meeting: PLOIDY AND CHROMOSOME MANIPULATION IN FORAGE BREEDING was considered in 16 lectures of the invited speakers and in 15 poster as well as in the_Workshop on Problems of Producing and breeding polyploid forages.

The following lectures were presented by the invited speakers: "Reproduction dynamics of polyploid forage legumes and grasses", by E.T. Bingham, R.R. Smith and M.D. Casler (Madison, U.S.A), "Breeding schemes in autotetraploid forages: recent achievements and new approaches", by P. Rotili (Lodi, Italy) and P. Guy (Lusignan, France), "On the designed development of tetraploid annual ryegrass varieties", by U._Feuerstein and Chr. Paul (Braunschweig-Voelkenrode, Germany), "Introduction of artificial polyploids or artificial diploids in forages?: Results and perspectives", by R.N. Jones (Aberystwyth, U.K.), "The value of polyploidy in breeding hybrid grasses", by M.O. Humphreys (Aberystwyth, U.K.), "Apomixis: a mixed blessing to the breeder of polyploid *Poa pretensis*", by A.P.M. den Nijs and G.D. Winkelhorst (Wageningen, The_Netherlands), "Strategies for gene transfer in the *Lolium/Festuca* complex", by H. Thomas, W.G. Morgan and M.W. Humphreys (Aberystwyth, U.K.), "Cytology of 2n gamete formation in the *Medicago sativa* complex", by A. Mariani, S. Tavoletti (Perugia) and F. Veronesi (Udine, Italy), "Morpho-physiological

and biochemical characterization of inbred progenies in tetraploid cocksfoot (*Dactylis glomerata* L.)", by Miriam Odoardi and E. Piano (Lodi, Italy), "Tetraploid ryegrass with a higher DM content issued from efficiently created tetraploid populations", by D. Reheul and J. Baert (Merelbeke, Belgium), "Disease resistance in polyploid fodder crops", by U.K. Posselt (Hohenheim, Germany), "Tissue culture and somatic hybridization for the improvement of polyploid fodder species", by S. Arcioni, M. Piccirilli and F. Lorenzetti (Perugia, Italy), "The use of molecular markers in genome analysis of forages", by Simonetta Bullita (Sassari, Italy) and T.C. Osborn (Madison, U.S.A.), "Control of chromosome pairing and the exploitation of polyploidy", by G.M. Evans, T. Aung and M.J. Scanlon (Abersytwyth, U.K.), "Performance of induced polyploids in North American forages", by R.R. Smith, E.T. Bingham and M.D. Casler (Madison, U.K.), and "Seed yield and seed yield selection in polyploid forage crops" and by A. Elgersma, (Wageningen, The Netherlands). Fifteen posters on general problems of polyploidy in grasses, lucerne, clovers and on lotus were presented.

Practical problems of producing and breeding of polyploid forages were discussed in the Workshop session and summarized by I. Bócsa (Kompolt, Hungary) in the Workshop Report.

The meeting was attended by 60 persons from 13 countries.

Proceedings of the meeting with a Presidential Address by M.D. Hayward consisting of full texts of papers and posters and summary of workshops discussion, and a list of participants with their field of competence and Subject Index, edited by F. Veronesi, Simonetta Bullitta and S. Caredda (Sassari, Italy) was published by the Institute of Agronomy, University of Sassari. On the cover of this Proceedings a coloured reproduction of a painting by Professor Paolo Bullita a Member of the Organizing Committee, was placed, which was highly appreciated by the participants of the Meeting and all readers of this publications (30). A report, by M.D. Hayward, (Chairman of the Section) was published in EUCARPIA Bulletin No. 20(31).

The 18th Meeting was held at the beautifully situated North Fiord-Loen, Norway on 25-28, August, 1993. The organizing committee consisted of Dr. O.A. Rognli (Dpt. of Biotechnological Sciences, Agricultural University of Norway) - as Chairman and Eli T. Solberg (Loken Research Station) and I. Schjelderup (Holt Research Station, Tromso) as Members cooperating with the group of scientific workers from the Agricultural University of Norway and Agricultural Research Services.

The main topic BREEDING OF FODDER CROPS FOR MARGINAL CONDITIONS was considered in the following five sessions:-

- General aspects of adaptation to marginal conditions. Two papers were given by invited speakers "Adaptation, variation and selection in marginal areas" by P.M.A. Tigerstedt (Helsinki, Finland) and "Some consequences of adaptation to extreme environments" by T. McNeilly (Liverpool, U.K.).

- Collection and evaluation of plant populations for forage production under marginal conditions. The following five invited papers were presented; "Collecting and evaluating genetic resources of fodder plants from subalpine and alpine permanent grassland" by U. Simon (Freising-Weihestephan, Germany), "Potential for improving adaptation of *Lolium perenne* L. to continental climates in Norway" by Eli T. Solberg (Loken), O.A. Rognli (As)

and L. Ostrem (Fure, Norway), "Winter hardiness in marginal populations of timothy" by I. Schjelderup (Troms), A.H. Aastveit and K. Aastveit (Ås, Norway), "Investigation of the adaptability of legumes in the Hungarian climate" by Eszter Nemeskeri (Debrecen, Hungary) and "Variation within improved cultivars and landraces of lucerne in central Italy" by M. Falcinelli, L. Russi, Valeria Negri (Perugia) and F. Veronesi (Ancona, Italy). Within this session six posters were presented - on grasses, clovers, Thuringian mallow and - on genetic resources of oil and fodder plants in the Genebank Station Malchow/Poel.

Adaptation and breeding of forage crops for marginal conditions. Six invited papers were presented in this session: "Specific adaptation and breeding for marginal conditions" by S. Caccarelli (Aleppo, Syria), "Cooperative breeding for the northern marginal areas" by slauf Helgadóttir and H. Björnsson (Reykjavik, Iceland), "Breeding of amenity grasses adapted to marginal conditions" by E. Lütke Entrup (Salzkotten - Thüle, Germany), "Breeding winter hardy grasses" by A. Larsen (Vagones, Norway), "Breeding white clover for tolerance to low temperature and grazing stress" by I. Rhodes, R.P. Collins and D.R. Evans (Abersywyth, U.K.), and "Selection for improved adaptation of white clover to low phosphorus and acid soils" by J.R. Caradus (Palmerston North, New Zealand). Within this session nine posters were presented on lucerne, fodder cereals, white clover and on grasses.

Morphological and physiological aspects of breeding for marginal conditions. The four following lectures by invited speakers were read: "Improvement of snow mould resistance by conventional and in vitro techniques" by U.K. Posselt and F. Alpeter (Hohenheim, Germany), "Development of procedures to identify red clover resistance to *Sclerotinia trifoliorum* by P. Marum, R.R. Smith and C.R. Grau (Lken, Norway and Wisconsin, U.S.A.), "Cold hardening a physiological mechanism for resisting biotic as well as abiotic stress factors" by A. M. Tronsmo (Ås, Norway), "Morphological and biochemical variation in Sardinian populations on *Medicago polymorpha* L. suitable for rainfed Mediterranean conditions" by Simonetta Bullitta, R. Floris, M.D. Hayward, A. Loli, C. Porqueddu and F. Veronesi (Sassari and Ancona, Italy and Aberystwyth, U.K.). In addition seven posters were considered: on grasses, fodder cereals and on potato.

Genetic and genomic aspects of adaptation to marginal conditions. The following three lectures by invited speakers were delivered: "Genetic markers and the selection of quantitative traits in forage grasses" by M.D. Hayward, N.J. McAdam, J.G. Jones, C. Evans, G.M. Evans, J.W. Forster, A. Ustin, K.G. Hossain, B. Quader, M. Stammers and J.K. Will (Aberystwyth, U.K.), "Genetic control of frost tolerance in wheat (*Triticum aestivum* L.)" by J. Sutka, Martonvásár, Hungary), and "Assessing success of gene transfer between *Lolium multiflorum* and *Festuca arundinacea* by M.W. Humphreys (Aberystwyth, U.K.) and M. Ghesquiere (Lusignan, France). Nine posters on grasses were presented at this session.

- Miscellaneous topics were presented in four posters and dealt with cocksfoot virus (CFMV), resistance to cocksfoot mottle virus in *Dactylis glomerata*, with in vitro embryo transcripts in the Poaceae isolated from barley, and with in vitro minibeet induction system in *Beta vulgaris*.

In addition to paper and poster sessions three parallel workshops examined the problems: Why should we breed for marginal conditions? with M.O. Humphreys (Aberystwyth, U.K.), Chairman of the workshop and slauf Helgadóttir (Reykjavik, Iceland) its Secretary; Specific versus general adaptation what should be the breeding strategies for marginal conditions? S. Caccarelli (Aleppo, Syria) as Chairman and B.I. Honne (Stj rdal, Norway) its Secretary and

Can high quality and adaptation to stress environments be combined? with P. Marum (Lken, Norway), Chairman and D. Reheul (Merelbeke, Belgium) as Secretary of this Workshop. Chairmen and Secretaries supervised the workshop discussions and during the closing session of the meeting presented conclusions.

During the Section business meeting two long-standing members retired from the Board; Prof. P. Rotili (Lodi, Italy) and Prof. U. Simon (Freising-Weihenstephan, Germany) and their positions were taken up by Prof. F. Veronesi (Ancona, Italy) and Dr. U. Posselt (Hohenheim, Germany). The remaining members of the Board were re-elected. The business meeting endorsed suggestions made at earlier meetings that the section should now more actively include amenity grasses as a subject of its deliberations. If necessary the Section may in future change its name to reflect this interest.

The Meeting was attended by 80 participants from 19 countries.

The proceedings edited by O.A. Rognli, Eli T. Solberg and I. Schjelderup, containing full texts of invited speakers lectures and two page papers on the contents of posters as well as reports of workshops, a preface by M.D. Hayward (Chairman of the Section) and an Introduction on "Norwegian plant production and its challenges" by M. Stubjen (Royal Ministry of Agriculture, Oslo), was published as Volume 2 of the Series: Developments in Plant Breeding by Kluwer Academic Publisher (32). A report of the Meeting, by M.D. Hayward was published in Bulletin of EUCARPIA No. 21(33).

The 19th Meeting was held at Brugge, Belgium, on 5-8 October, 1994. the organizing committee consisted of the scientific workers of the Belgian Government Research Station for Plant Breeding, Merelbeke, with Dr. D. Reheul as a Chairman.

The topic of the Meeting was BREEDING FOR QUALITY. It was considered in seven sessions:-

The importance of quality parameters. The following three papers were presented by invited speakers: "The practical importance of quality test made in herbage variety evaluation" by I. Ingram (Cambridge, U.K.), "The importance of the digestibility of preserved grass for the dairy cow" by J. de Boever and D. de Brabander, (Melle-Controde, Belgium) and "Breeding, forage quality, feeding value and animal performance" by L. Carlier (Merelbeke, Belgium.)

The measurement of quality parameters. The following three papers were presented: "Forage analysis by NIRS (Near Infrared Spectroscopy)" by P. Dardenne (Libramont, Belgium), "Genetic variation in perennial ryegrass for gas production during in vitro rumen fermentation" by E.N. van Loo, D. Reheul, J.W. Cone and C.H.A. Snijders (Wageningen, The Netherlands and Merelbeke, Belgium) and "The evaluation of physical structure of fresh and preserved grass by measuring chewing activity and related parameters" by A. M. de Smet, J.L. de Boever and D.L. de Brabander (Melle-Gontrode, Belgium). Two posters connected with the theme of this session were also reviewed.

Amenity grasses. Two papers on: "Quality in turfgrass breeding- influence of red thread (*Laetisaria fuciformis*)" by U. Feuerstein (Lippstadt, Germany) and N. Roulund (Store Heddinge, Denmark) and "Red thread disease (*Laetisaria fuciformis*) in *Lolium perenne* and *Festuca rubra* by artificial inoculation" by Ch. Snijders and G.D. Winkelhorst (Wageningen, The Netherlands) were read. Two posters were presented at this session.

Germplasm screening and genetic variation for quality characteristics. Six posters were presented at this session; four dealing with lucerne and two with grasses.

Breeding research. The four following invited papers were read: "Dry matter content of induced tetraploid forages" by J. Baert (Merelbeke, Belgium) "Selection parameters of quality traits in perennial ryegrass" by U.K. Posselt (Hohenheim, Germany), "Improved digestibility and protein content as breeding problems in Norwegian timothy and cocksfoot" by P. Marum (Loken), O.A. Rognli and A.H. Aastveit (Ås, Norway). "Variation and inheritance of quality of *Dactylis glomerata* varieties which were obtained by different breeding methods" by A. Grusea and G. Oprea (Brasov, Romania). Three posters dealing with grasses were presented.

Laboratory techniques. Two papers were read: "Genetic manipulation of carbohydrate and protein content in grasses" by M.O. Humphreys (Aberystwyth, U.K.) and "Purification, characterization and partial amino acid sequence of a proteinase inhibitor from snail medic (*Medicago scutellata*)" by M. Odoardi, C. Cunico, A. Tava (Lodi), R. Iori and S. Ronchi (Bologna) and F. Ceciliani (Milano, Italy). One poster on *Festuca pratensis* was presented.

Variety development and assessment. The following eight papers were read: "Breeding red clover for a reduced content of formononetin" by B. Boller (Zürich-Reckenholz, Switzerland), "Quality and quantity performance of lucerne materials in relationship to their possible use for dehydration" by F. Veronesi (Ancona), A. Mariani (Perugia), M. Falcinelli, L. Russi (Perugia), A. Falaschini (Ancona, Italy), "Alkaloids in Norwegian reed canarygrass" by A. Larsen (Vagones), Liv strem (Fureneset) and P. Marum (Loken, Norway), "Breeding for improved dry matter digestibility in tall fescue *Festuca arundinacea*" by D.T. Johnston and D.M.P. Ananey (Northern Ireland, U.K.), "Breeding for improved digestibility in perennial ryegrass" by D. Reheul and A. Ghesquire (Merelbeke, Belgium), "Breeding for improved digestibility in perennial ryegrass" L.J. Beerepoot, W. Bouter and J.A. Dijkstra (Oosterhout, The Netherlands) "Progress in combining high dry matter yield with reduced flowering intensity and improved digestibility in perennial ryegrass" by P.W. Wilkins and R.W. Davies (Aberystwyth, U.K.), "Digestibility as criterium in variety testing trials" by A. de Vliegheer and J. Carlier (Merelbeke, Belgium). Two posters on lucerne and one on grasses were viewed.

In parallel workshops the following two problems were discussed

Who wants quality and why? with I. Ingram (Cambridge, U.K.) and L. Beerepoot (Oosterhout, The Netherlands) as leaders and

- What characteristics should be improved to improve forage? with B. Boller (Zürich-Reckenholz, Switzerland), R. Turner (Rothwell, U.K.) and E.N. van Loo (Wageningen, The Netherlands) as leaders.

During the Section business meeting three long-term members retired from the Board: Dr. I. Bócsa (Kompolt, Hungary), Dr. B.A. Dennis (Taastrup, Denmark) and Dr. Ch. Poisson, (Lusignan, France). Their positions were occupied by Dr. B. Nagy (Kompolt, Hungary), Dr. O.A. Rognli (Ås, Norway) and Dr. M. Ghesquiere (Lusignan, France). Professor M.D. Hayward (Aberystwyth, U.K.) stepped down as a longstanding chairman of the Section and became the member of the Board and Professor F. Veronesi (Ancona, Italy) was elected as the new Chairman. The Section Members endorsed an earlier recommendation that since amenity grass breeding has now become a major component of many grass breeding programmes this should be recognised in the Section activities; it was unanimously agreed that the name of the Section will be the **FODDER CROPS AND AMENITY GRASSES SECTION**.

The Meeting gathered together 92 participants from 19 countries.

Proceedings containing full texts of papers and posters as well as a summary of workshop discussions, preceded by a Preface by M.D. Hayward and edited by D. Reheul and A. Ghesquiere, were published by Rijkstation voor Plantenverdeling, Merelbeke (34), while the Report on this Meeting by M.D. Hayward was published in EUCARPIA Bulletin No. 22 (35).

The 20th, Jubilee Meeting on the topic ECOLOGICAL ASPECTS OF BREEDING FODDER CROPS AND AMENITY GRASSES was held from October 7-10, 1997 at the Plant Breeding and Acclimatization Institute in Radzików, Poland. This was the first meeting under the new section form - EUCARPIA FODDER CROPS AND AMENITY GRASSES Section and was welcomed back to Poland after eighteen years. The Scientific and Organizing Committee was as follows: Prof. H. Czembor - honorary Chairman, Prof. Z. Staszewski, Chairman (both from Radzików) and Members, Profs. and Drs.: Z. Broda, Waleria Mlyniec and Z. Zwierzykowski (Poznan), P. Domanski (Slupia Wielka), S. Güral and S. Profnczuk (Radzików), S. Grzyb (Belchatów), Regina Lutynska (Kraków), M. Mikulski (Szelejewo) and Anna Patrzalek (Zabrze).

The main topic of the Meeting was considered in three sessions, together with complementary workshops.

The opening lecture of the Meeting "To make two blades of grass grow where one grew before" was delivered by the long-standing Chairman of the Section and at present Vice-president of EUCARPIA - Prof. Dr. M.D. Hayward (Aberystwyth, U.K.).

- At the first Session Ecology and fodder crops breeding the following three main lectures were presented: "Fodder, ecological and landscape aspects of grass breeding for grassland" presented by S. Kozłowski and K. Malynarczyk (Poznan, Poland), "Resistance breeding, an environmental friendly alternative of disease control in fodder crops" by V.H. Paul and P. Dappich (Paderborn, Germany) and "Breeding legumes for an improved symbiotic nitrogen fixation: the genetic aspects" by N.A. Provorov, I.A. Tikonovich and G.V. Stepanova (Snakat Petersburg, Russia).

Three short papers were also delivered at this Session: by B.C. Boller (Zurich-Reckenholz, Switzerland), G. Barcaccia, M. Falcinelli, A. Pellicoro, S. Tavoletti and F. Veronesi (Perugia, Italy) and by Waleria Mlyniec (Poznan, Poland).

In total 42 posters were presented at this Session, 15 dealing with grasses, nine with lucerne and the remainder with other legumes or mixtures.

- At the Session Amenity grass breeding today and in the future, the main paper "Breeding amenity grasses: achievements and future prospects" was delivered by A.J.P. van Wijk (Vlijmen, The Netherlands). Two short papers were presented by S. Pronczuk, M. Pronczuk and D. Zylka (Radzików, Poland) and by P. Domanski (Slupia Wielka, Poland). Seven posters on grasses were presented.

- The main paper of the session Biotechnology for fodder crop and amenity grass improvement - "Applying biotechnology to grasses and forage legume breeding new solutions, new horizons and new challenges" was delivered by M.O. Humphreys, M.D. Hayward, P. Morris and K.J. Webb (Aberystwyth, U.K.).

Five short papers were presented at this Session by F. Stadelmann, B. Boller, G. Spangenberg, R. Lolliker, M. Messerli and J. Nozberger (Zurich, Switzerland and Trobe, Australia), M.W. Humphreys, A. Ghamari-Zare, I. Pasakinskiene and M.C. Kerland (Aberystwyth and Liverpool, U.K., Dotnuva, Lithuania and Lusignan, France), Godollo and Szarvas (Hungary and West-Lafayette, U.S.A.), G. Baraccia, A. Mazzucato, M. Pezzotti, S. Lecretti and M. Falcinelli (Perugia, Italy) and by M. Krzakowa and W. Mikulski (Poznan and Szelejewo, Poland).

- Out of 13 posters at this Session - seven dealt with grasses, two with lucerne, one with clovers, one on mixture of grasses with papilionaceous species, one on *Biserula pelecinus* and one on *Lotus corniculatus*.

Three workshop sessions devoted to the problem, Resistance and high yield - how to connect them? was summarized by B. Cagas (Zubi, Czech Republic), to the question: Do we need a common european network for variety testing forage crops?- Search the ways for better cooperation" was summarized by A.J.P. van Wijk (Vlijmen, The Netherlands) on the Regional problems of forage crop and amenity grass seed production and prospects for cooperation in Europe was summarized by two workshop leaders: F. Lorenzetti (Perugia, Italy) and M.D. Hayward (Aberystwyth, U.K.).

During the BUSINESS MEETING a long-standing member of the Board of the Section Prof. Dr. M.D. Hayward stepped down from his post, which was filled up by Dr. M. O. Humphreys (Aberystwyth, U.K.). All other Members of the Board and the Chairman of the Section were unanimously confirmed in their positions. The Section Members decided to create a position of Historian of the Section, who will be in charge of the collection and conservation of all documents and information connected with the activities of the Section, and this post was offered to and graciously accepted by Dr. Waleria Mlyniec, the authoress of this review.

The Meeting was attended by 129 participants from 21 countries (Check photos Phot. 8) (Posters from Romania and Yugoslavia were presented at the Poster Sessions, but their authors were not present at the Meeting).

The proceedings, including a short overview of the first nineteen EUCARPIA FODDER CROPS SECTION MEETINGS and all material connected with this 20th Meeting (opening paper, main and short papers and posters) in the form of original papers or extended abstracts as well as reports of the three workshops, with a Preface by the Chairman of the Section Prof. F. Veronesi and List of Participants and Subject Index, edited by Z. Staszewski (Chairman of the Meeting), Waleria Mlyniec and R. Osinski was published by the Institute of Plant Breeding and Acclimatization, Radzików, Poland (39). A report of the Meeting by F. Veronesi was published in EUCARPIA BULLETIN No. 24 (40).

REVIEW OF THE ACTIVITIES OF WORKING GROUPS WITHIN THE EUCARPIA FODDER CROPS AND AMENITY GRASSES SECTION

In this chapter the activities of the working groups within the Section are summarised.

The Working Group "*Medicago sativa*" acted under the supervision of the elected board which consisted of Chairman - Prof. P. Guy (INRA Lusignan) for 20 years and Members, including: Prof. Anna Jelinowska (Pulawy, Poland), Prof. Z. Staszewski (Radzików, Poland), Prof. I. Bùcsa (Kompolt, Hungary), Prof. P. Rotili (Lodi, Italy). Its meetings were held in

different countries and were organized by local committees. A list of meetings, with dates, places and names of organizers, and when information was available - the main topic of the meeting and the number of participants is presented below:-

1. 1967, September, 20-21, Kiln-Vogelsang, Germany.
2. 1971, September, 14-15, Lodi, Italy, Dr. Luiza Zannone, "Breeding Methodology and Competition".
3. 1972, September, 11-12, Aberystwyth, U.K.
4. 1973, July 24-26, Kompolt, Hungary, Dr. I. Bùcsa, "Breeding Methodology and Quality".
5. 1974, September, 10-14, Pulawy, Poland, Prof. Dr. Anna Jelinowska.
6. 1976, May 17-21, Piestany, Czechoslovakia, Professors: J. Turcany, P. Guy and A. Dobias "Quality, Pathology and Fertility".
7. 1978, June, 20-24, Osijek, Yugoslavia, Prof. Dr. D. Bosnjak, "Quality and Seed Production".
8. 1980, July 1-3, Kompolt, Hungary, Dr. I. Bùcsa, "Genetic, Biotechnology and Breeding Methodology".
9. 1984, August 27-30, Brno, Czechoslovakia, Dr. J. Rod and Dr. J. Pelikan, "Biology, Physiology and Genetic", (64 participants).
10. 1986, May 12-16, Pleven Bulgaria, "Quality and Productivity".
11. 1988, September, 12-17, Radzikow Poland, Prof. Z. Staszewski, "Unconventional Methods in Lucerne Breeding", (55 participants).
12. 1990, September, 11-13, Kompolt, Hungary, Dr. I. Bùcsa, "Physiology of Growth Improvement of Quality, Non-Conventional Methods of Lucerne Breeding and Seed Production", (50 participants).
13. 1992, June, 15-19, Lodi, Italy, Prof. Dr. P. Rotili, "The Future of Lucerne Biotechnology, Breeding and Variety Constitution", (133 participants).
14. 1994, September, 4-8, Lusignan, France, Prof. Dr. P. Guy, "Management and Breeding of Perennial Lucerne for Diversified Purposes", (70 participants).
15. 1996, July, 2-5, Brno, Czech Republic, Prof. Dr. O. Chloupek, "Seed Production of Lucerne".

Reports of these meetings are to be found in the EUCARPIA BULLETINS: NO. 7 (11), No. 10 (13), No. 14(18), No. 19(29), No. 21(35), No. 24(40) and detailed data with the texts of presented papers and summaries of discussions are in separately published PROCEEDINGS.

Working Group on "Grass Diseases" conducted trials at nine different European institutes in 1969 and in 1970. The results, tabulated and analyzed by Dr. G. van Dijk (Wageningen, The Netherlands) give information on the degree of different leaf diseases which attacked control varieties of Lolium, Dactylis and Festuca in different locations (EUCARPIA BULLETING No. 7(11)).

Working Group on "Pest and Diseases". During the 19th Section Meeting in Brugge, Belgium (1994) it was decided to put the "International Conference on Harmful and Beneficial Microorganism in Grassland, Pasture and Turf" under the umbrella of EUCARPIA as a Working Group. The second Conference was organized in Padderborn, Germany (November 22-24, 1995) under the Chairmanship of Professors K. Krohn and V.H. Paul. The Conference was attended by 73 participants from 14 countries. The main subjects of the Conference were: Harmful and Beneficial Microorganisms, Secondary Metabolites, Product Quality, Genetic Engineering and Biotechnology, Resistance Breeding, Plant and Environment Protection. The Proceedings have been published in IOBC-WPRS Bulletin 19-7-1996 (11).

The members of the Working Group "Competition between Fodder Crops Genotypes" with P. Jacquard (Montpellier, France) as editor prepared: "Glossary of terms and definition related to the top interaction among plants" in English and French. It was available free of charge from Pierre Jacquard, Centre de'Etudes Phytosociologique et Ecologique, Montpellier Cedex, France. The members of this Group also broadened the "Methods of competition investigations with special emphasize on measures of stability by F. Wit". Information on this publication is given in EUCARPIA BULLETIN No's. 6(9) and No.7(11).

The Working Group "Influence of Climatic Stress on Fodder Plant Breeding" was set up in Perugia in 1979 to determine the response of red clover, Trifolium pratense and timothy Phleum pratense to differences in latitude and other aspects of climatic stress. Seven institutes participated in this undertaking, covering a wide range of climatic zones from Italy in the south through Switzerland, Belgium, Germany and Denmark to Sweden and Finland. At each site a replicated varietal evaluation plot experiment was established, involving eight cultivars representative of each region. This trial provided data on yield performance, and such characteristics as spring growth, disease occurrence, plant height, winter survival and flowering date. It has been established that some varieties have a high production capacity over a wide range of environments (EUCARPIA BULLETINS No. 14(18) and No.19(29)).

The Working Group on "Evaluating NIR techniques for uniformity of quality determination" was set up, as stated earlier, at the EUCARPIA Congress in Finalnd (1995), under the Chairmanship of Dr. L. Carlier, RVP, Belgium. The Group consisting of about 20 researchers, representing laboratories from 15 different European countries, met in December 1995 in Merelbeke (Belgium) and in March 1996 in Braunschweig (Germany). Each laboratory analysed the same 30 samples of perennial ryegrass and timothy. The data have been sent back to the Working Group Chairman and then will be compared and analysed. The next meeting for discussion of the results has not been fixed as yet (40).

SUMMARY OF THE INFORMATION PRESENTED IN AN OUTLINE OF THE SECTION ACTIVITIES WITH THE HELP OF SIX TABLES AND SOME CONCLUDING REMARKS

Following the synopsis of the Section activities, the structure of meetings may be assessed in the following six Tables.

Résumé

Apart from paper and poster sessions, and workshops discussions which were presented in this outline of the programmes, each Section Meeting also included visits to laboratories, local farms and experimental fields combined with sightseeing. These visits gave the participants an opportunity to see how the results of their scientific work are applied in practice, for instance on the local farms or in the experiments with animal feeding on pastures, or in the barns. That was very exciting and gave satisfaction to the visitors. Moreover, these visits were also an opportunity to meet local people, to get acquainted with their life, traditions and folk art. The organizers of each meeting used conference dinners as an occasion not only for tasting delicious local food but also for admiring country music and local dancing, which made these Meetings most entertaining and produced unforgettable impressions.

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Appendix 1. Constitution of the Board of the Fodder Crops and Amenity Grasses Section of Eucarpia.

1956 - 1965. Chairman: Prof. G. Hausmann (Lodi, Italy)

Secretary: Prof. I. Rebischung (Versaille, France)

Members: Dr. G. van Bogaert (Merelbeke, Belgium)

Dr. W. Hertzsch (Köln - Vogelsang, Germany)

Prof. H. Wexelsen (Vollebakk, Norway)

Dr. F. Wit (Wageningen, The Netherlands)

1965 - 1971. Chairman: Dr. K. J. Frandsen (Taastrup, Denmark)

Secretary: Dr. G. Julén (Svalöf, Sweden)

Members: Dr. G. van Bogaert (Merelbeke, Belgium)

Dr. W. Hertzsch (Köln - Vogelsang, Germany)

Dr. F. Wit (Wageningen, The Netherlands)

1971 - 1979. Chairman: Dr. G. Julén (Svalöf, Sweden)

Secretary: Dr. S. Badoux (Nyon, Switzerland)

Members: Dr. E. L. Breese (Aberystwyth, U.K.)

Dr. I. Bócsa (Kompolt, Hungary)

Dr. P. Mansat (Lusignan, France)

Dr. A. Panella (Perugia, Italy)

1979 - 1985. Chairman: Dr. S. Badoux (Nyon, Switzerland)

Secretary: Dr. B. A. Dennis (Taastrup, Denmark)

Members: Dr. I. Bócsa (Kompolt, Hungary)

Dr. S. Ceccarelli (Perugia, Italy)

Dr. G. E. van Dijk (Wageningen, The Netherlands)

Dr. M. D. Hayward (Aberystwyth, U.K.)

Prof. Dr. U. Simon (Freising-Weihenstephan, Germany)

1985 - 1994. Chairman: Prof. Dr. M. D. Hayward (Aberystwyth, U.K.)

Secretary: Dr. B. A. Dennis (Taastrup, Denmark) until 1990

Dr. A.J.P. van Wijk (Rilland, The Netherlands) from 1990

Members : Dr. I. Bócsa (Kompolt, Hungary)

Dr. S. Ceccarelli (Perugia, Italy) until 1990

Dr. B. A. Dennis (Taastrup, Denmark) from 1990

Dr. Ch. Poisson (Lusignan, France) from 1990

Prof. Dr. P. Rotili (Lodi, Italy) from 1990

Prof. Dr. U. Simon (Freising-Weihenstephan, Germany)

Prof. Dr. Z. Staszewski (Radzików, Poland) from 1990

Dr. A. J. P. van Wijk (Rilland, The Netherlands) until 1990

1994 - , Chairman: Prof.Dr. F. Veronesi (Perugia, Italy)
Secretary: Dr. A. J. P. van Wijk (Rilland, The Netherlands)
Members: Dr. M. Ghesquiere (Lusignan, France)
Dr. N. Nagy (Kompolt, Hungary)
Dr. U. K. Posselt (Hohenheim, Germany)
Dr. O. A. Rognli (AAS, Norway)
Prof. Dr. Z. Staszewski (Radzików, Poland)

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