

'IWSS'



March 1983

WSSA/IWSS Symposium

"Communications of Weed Science Technologies in Developing Countries."

Fifteen speakers from universities, governments, industry, and research centers discussed various aspects of this important and complex topic on the last day of the regular WSSA conference in St. Louis.

Weed workers from developing countries described their needs while economists discussed complexities of technology transfer. Professors and industry representatives traded philosophies and methods of getting their message to respective audiences. John Fryer, Director of the Weed Research Organization in England presented a clear summary and some challenging comments as the final speaker.

Full papers have been prepared by all speakers. The proceedings will be available after June from the International Plant Protection Center or the Secretariat.

Now Available

Proceedings of the WAWSS/IWSS symposium on No-tillage Crop Production in the Tropics is now available from the International Plant Protection Center or IWSS Secretariat. Copies will also be sent to the International Institute of Tropical Agriculture in Nigeria for distribution in West Africa. The cost is \$25 U.S. including surface postage.

Proceedings of the symposium on Weed Control in Rice cosponsored by IRRI and IWSS will be available in May. Requests should be sent to Office of Information, IRRI, P.O. Box 933, Manila, Philippines. The price for people in developing countries is \$6.00 U.S. and developed countries \$15 U.S. 422 pages in English.

Lifetime Membership Fee to Raise

The Executive Committee at the recent meeting in St. Louis agreed that beginning January 1, 1984 the fee for Lifetime Membership in IWSS will be \$100 U.S. We now have 65 Lifetime Members. The last half of 1983 is your last chance to join this group at a bargain price of \$50 U.S.

NEWS OF OTHER SOCIETIES

European Weed Research Society has a new "Tropical Weeds Liaison Group" which aims to promote communication and liaison between individuals and institutions in Europe concerned with weed science in tropical and other developing countries. Group Leader is Dr. Jacques Deuse, GERDAT, P.O. Box 5035, Montpellier, France F34032.

Swiss Society for Phytiastry was formed in Berne in March 1982. President is Dr. Genevieve Defargo. Herbology is represented by Dr. H.U. Ammon who can be contacted at: Eidg Forschungsanstalt, f Landw Pflanzbau, C-8046 Zuerich.

The South African Weed Science Society (SAVO) held their 5th successful meeting in January. The new President is Dr. Jack Fooste who can be contacted through the Secretary at P.O. Box 27552, Sunnyside, Pretoria 0132, South Africa. Proceedings of the latest conference are available from the Secretary as well.

NEW PUBLICATIONS

Biochemistry and physiology of herbicide action by C. Fedtke, 1982. Sprenger-Verlag, 280 pp. Price \$69.30 U.S. This book describes the effects of herbicides on the metabolism of higher plants from the view point of the plant physiologist. It addresses the agriculturist interested in herbicide modes of action as well as the researcher who uses herbicides to study plant metabolism.

International Weed Science Society

Secretariat • Oregon State University • Corvallis, Oregon 97331/USA

Theory and practice of weed control by R.J. Stephens. Science in horticulture series, Macmillan London 1982, 215 pp. Price £8.95. Primarily a student text on weed science for horticulturists covering both temperate and tropical situations.

Some common crop weeds of West Africa and their control by P.J. Terry (of the Weed Research Organization - England) published by USAID BP39, Dakar, Senegal, 1983. (No price indicated). A pocket guide to identification of about 45 major weeds of West Africa with excellent colour photos plus line drawings of leaf shape and seedlings. "Control" is covered very briefly in short sections on major crop and weed species and in two summary tables. Bilingual (French and English) throughout.

Proceedings of the 8th Asian-Pacific Weed Science Society conference held at Bangalore during November, 1981 containing total 493 pages in Vol. I and 238 pages in Vol. II with a total of 119 articles, is available. Both Vol I and II would cost \$40 U.S. (Indian Rupees 300/-).

Order from Dr. K. Krishnamurthy, Conference Secretary and Director of Research, University of Agricultural Sciences, G.K.V.K. Campus, Bangalore 0560065, India.

Arab Journal of Plant Protection The first issue of this new journal was due in March 1983. It will be published by the Arab Plant Protection Society in Arabic with English summaries. Editor-in-chief is Professor A.R. Saghir, Faculty of Agric./Food Science, American University of Beirut, Lebanon.

Weeds of Karnataka 1980 by K.S. Krishna Sastry, G. Boriah, H.C. Govinda and T.F. Khaleel, UAS Text book series No. 2 published by Univ. Agric. Sciences, Hebbal, Bangalore 560-024, India. 360 pp. A range of 378 species are described, about half illustrated with mediocre line drawings.

Korsmos Ugrais Plansjer by E. Korsmo, T. Vidme and H. Fyske, Norsk Landbruk/Landbruksforlaget Oslo 1981, 295 pp. At last, the superb wall-plates of European weed species by the late Emil Kormo have been faithfully reproduced in book form with descriptive text throughout in Norwegian and English. Important floral, seed, seedling and most notable, root system characteristics of 137 species are illustrated with remarkable detail.

Korsmos Ugrasplansjer may be ordered directly from the publishers, A/S Landbruksforlaget, Postboks 3647, Gamlebyen, Oslo 1, Norway, at a cost including postage of Nkr 150.00 A German edition is under discussion.

Monocot Weeds 3 by E. Hafliger, *et al.*, Ciba Geigy 1982. Another beautifully produced volume covering 132 species including Cyperaceae, Commelinaceae, Pontaderiaceae, etc. Only 12 in full colour but all described in careful detail.

Index Phytosanitaire 1983 (19th editions) Association de Coordination Technique Agricole 149 rue de Bercy 75595 Paris Cedex 12. 576 pp. This latest edition is available in two versions, with and without the section specifically listing pesticides available for African territories (Mediterranean and tropical). In French only.

Principale adventices du cotonnier en Afrique de l'ouest - description et techniques de lutte by M. Deat, Institut de Recherches du Coton et des Textiles Exotiques 1981, 95 pp. A pocket manual with colour photos and descriptions of 89 species and a short introductory section on herbicides and application equipment for cotton in West Africa.

South African Parasitic Flowering Plants by J. Visser, 1981, has just been released by Juta and Co., Capetown. 177 pp. Order from Juta and Co., Regis House, P.O. Box 30, Capetown 8000, South Africa. The price is Rand 47,00.

This is a book unlike, and unequalled by, anything ever published on parasitic plants. The book is almost entirely a fascinating collection of informative and instructive colored plants covering many of the types of parasitic plants of the world. Visser did not intend to survey all of the genera for his own country, much less the world, but many of those with which the reader is familiar will be found here. For those in weed science, there are separate chapters on the families in which we find the Cuscuta, Orobanche, and the Striga. Full plants, reproductive structures, haustoria, and seeds are shown.

Reference to Research Papers on Wild Oats 1970-1981 238 references. Available from Industry Wild Oat Group. Ayres House, Station Road, Wallingford, Oxon, OX10 OHZ, England. £4.50.

Striga Training

A three-week training shortcourse on the control of Striga in cereal crops will be held at North Carolina State University, August 8-26, 1983. Emphasis will be on African problems. No registration fee but travel and per diem costs must be borne by participants or the individual's sponsoring agency. **Lodging \$34.20 single or \$43.20 U.S. double per day**, food estimated at \$20 U.S. per day. Emphasis will be on practical control and management systems, but importance of Striga, biology, taxonomy, physiology, regulatory programs, and field and laboratory exercises will also be included. Several world authorities on witchweed will be on the program. Should be of value to researchers in areas where Striga is a problem. **Enrollment limited.** For further information contact A.D. Worsham, Crop Science Department, N.C. State Univ., Raleigh, NC 27650, USA.



MEETINGS 1983

- May 3 35th International Symposium on Crop Protection, Ghent, Belgium. Contact: Dr. ir W. Dejonckheere, Faculty of Agricultural Science, State University, Coupure Links 653, Ghent, Belgium.
- May 24-27 Weed Science Society of Eastern Africa, Nairobi. Contact: A.C. Collins, P.O. Box 43340, Nairobi, Kenya.
- July 4-9 International Conference on Integrated Plant Protection, University of Hort, Budapest, Hungary.
- August 9-11 36th Conference of the New Zealand Weed and Pest Control Society. Hastings, New Zealand. Contact: Dr. M.J. Hartley, Ministry of Agriculture and Fisheries, Private Bag, Hastings.
- September 7-9 Argentinean Plant Protection Conference, Rosario, Argentina.
- October 4-5 Weed Science in the Tropics - A Symposium. Contact: The Secretary, Organising Committee of Weed Science Symposium, Jabatan Agronomi Dan Kulturakebunan, Universiti Pertanian Malaysia, Serdang, Selangor, Malaysia.
- October 17-22 2nd International Conference of the West African Weed Science Society, Abidjan, Ivory Coast. Contact: P. Marnotte, IDESSA-DCV, B P 635, Bouake, Ivory Coast.
- November 20-25 10th International Congress of Plant Protection, Brighton, UK. Contact: F.W. Bishop (conf. planners) 144-150 London Road, Croydon, CRO 2TD, UK.
- November 22-25 Indonesian Weed Science Conference, Bali. Contact Soepadiyo Mangoensoekarjo, Balai Penelitian Perkebunan Medan, (RISPA) P.O. Box 104 Medan, Soematera, Indonesia.
- November 28-
December 2 9th Asian Pacific Weed Science Society Conference, Manila, Philippines. Contact: Dr. Beatriz L. Mercado, Agronomy Department, UPLB, College, Laguna, Philippines.

MEETINGS 1984

- February 6-10 Weed Science Society of America. Miami, Florida. Contact President C.G. McWhorter, Southern Weed Science Laboratory, P.O. Box 225, Stoneville, Mississippi 38776, USA.
- April 3-5 3rd EWRS Symposium on Weed Problems in the Mediterranean Area, Portugal. Contact: Professor I. Moreira, Instituto Superior de Agronomia 1399, Lisboa Codex, Portugal.
- May 7-11 3rd International Symposium on Parasitic Weeds at ICARDA, Aleppo, Syria. Contact: C. Parker, Weed Research Organization, Yarnton, Oxford U.K.



Following are 4 Random samples of the 260 papers presented at the 1983 conference of the Weed Science Society of America held in St. Louis on February 8-10.

(1) An Aerial Method of Estimating Crop Losses from Weeds. A.E. Wiese, F.C. Peter, and E.W. Chenault, Texas Agricultural Experiment Station, Amarillo.

In a 4-hour flight at 150 m above the ground 852 sorghum fields were observed. Percent infestation of certain weed species was estimated. These figures were used to arrive at weed loss data for sorghum in the area.

- (2) The Biology of Downy Brome (Bromus tectorum L.). D.C. Thill and R.H. Callihan, University of Idaho.

This annual grass was the topic of a special symposium including five papers. Distribution, biology, growth requirements and management systems were discussed.

- (3) Controlled Droplet Application (CDA) of Fluazifop and Sethoxydim for Annual and Perennial Weed Control. J.R. Cranmer and W.B. Duke, Cornell University.

Visual ratings and quackgrass (Agropyron repens) stand counts revealed that both herbicides were more effective applied with the CDA than with conventional nozzles. Similar work with sethoxydim for annual grass control showed that the herbicide was more effective for Setaria viridis or S. lutescens and Echinochloa crusgalli control when applied with the CDA method.

- (4) Solarization for Weed Control in Vegetable Crops. C.L. Elmore, University of California, Davis.

Clear polyethylene tarps were applied to soil. Weed control and the subsequent effect on fall planted vegetables were evaluated. Seeds of all weeds present were controlled at 4 cm depth. Control declined at greater soil depths. Crop vigor was increased in solarized soil and broccoli showed yield increase over the untarped but weed-free soil.



Following is a partial quote from a letter by Dr. A.P. Appleby, weed scientist in the Crop Science Department, Oregon State University, Corvallis, Oregon. All of the readers who struggle with problems of extracting meaningful data from field research should find it interesting.

....The best single assessment of the effectiveness of a weed control practice in maximizing crop yield is, of course, a measurement of crop yield itself. If weed assessments are being made in an attempt to predict crop yields, I doubt that this is a wise use of time. Simply measuring crop yield is simpler and more accurate. However, weeds cost us in ways besides reducing crop yields. The dissemination of a new crop of weed seeds, the possible effect on quality of the product, the effect on the storage life of a crop infested with immature weed parts, etc., are all reasons why we do need to attempt to arrive at an estimate of weed control besides determining the influence on crop yield itself....

....My personal choice of evaluation methods for the purposes described above is a visual estimation rather than detailed weed counts, weed weights, weed heights, etc. There are two primary reasons for this. The first is that I believe it is wiser to establish more experiments and more plots when pursuing the solution to a problem than to spend large amounts of time on a limited amount of plots. This is true only because of the second factor which is my belief that many of the discrete data on weed growth are not meaningful estimates of competitive ability of the weeds, and are no better than a good visual estimate of their potential effect on the other factors mentioned above. What I am saying is that I believe I can tell you as much from a visual evaluation in 30 seconds about the potential effect of weed growth in a plot on crop quality, storage longevity, etc., as you can after 30-60 minutes of harvesting, collecting, drying, and weighing the weeds from a single plot....

....I must admit that I am somewhat of a pessimist in regard to predicting crop losses due to weeds on a wide scale and have not been a good supporter of programs to attempt to do this. I believe we need some data and some experience in the range of losses that can occur and a general idea of when this competition takes place in the crop year, the conditions under which competition can be most severe, etc. These pieces of information are necessary in the development of a good control program for the particular weeds. But if we are to predict the effect of weeds on crop yields more specifically than that, then our models must be very much more complex and sophisticated than we envision today. The same weed species in the same crop at the same density can cause drastically different competitive effects from one year to the next or even from one field to the next. There are so many interacting factors, such as soil fertility, time of emergence of the crop and of the weed, soil moisture levels at various times during the season, crop variety, seedbed condition, etc., etc....

....I guess my suggestion to weed workers everywhere is simply to recognize the extremely complex competition system between weeds and crops, to understand it as completely as possible, but not to become too enthusiastic about using density and other measurements as a prediction for effect on crop yields.