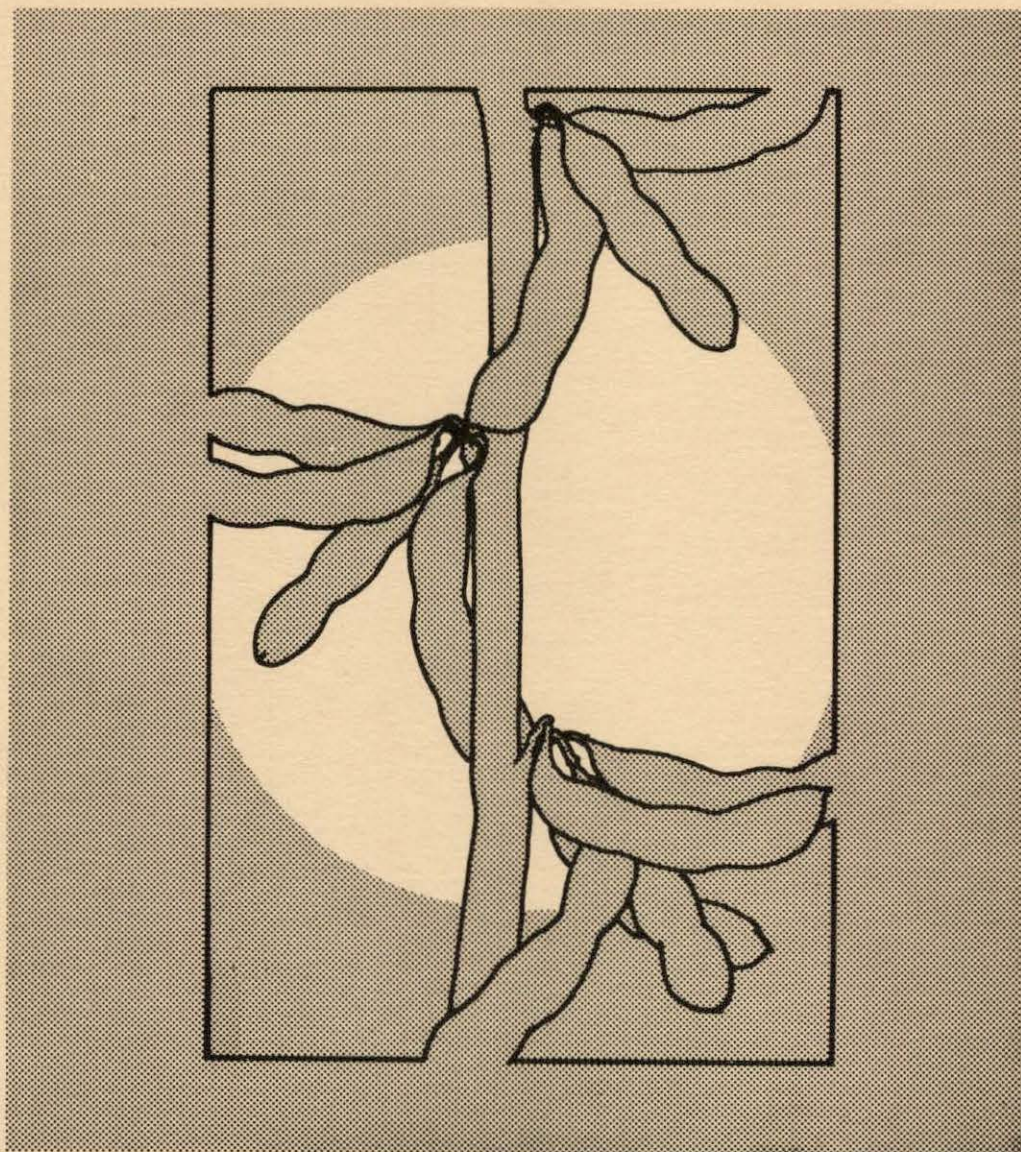


Soybean Genetics Newsletter



Volume 3

April 1976

The data presented here are not to be used in
publications without the consent of the respective authors.

Agricultural Research Service - USDA
and Department of Agronomy
Iowa State University
Ames, Iowa 50011

TABLE OF CONTENTS

	Page
I. FOREWORD	1
II. ANNOUNCEMENTS	3
III. REPORT OF SOYBEAN GENETICS COMMITTEE	4
IV. RESEARCH NOTES FROM CONTRIBUTORS	6
New Pigments in Soybean Seedcoats. B. H. Taylor and C. E. Caviness	6
Soybean Breeding in Austria. R. Gretzmacher and L. Tanasch .	7
Soybean Linkage and Allelism Tests. R. I. Buzzell	11
Determinate- <u>Dt</u> ₂ Effects on Soybean Characteristics. R. I. Buzzell, B. R. Buttery and D. A. Littlejohns	14
Soybean Gene Resources Recently Received from China. R. I. Buzzell, B. R. Buttery, L. J. Anderson, D. A. Little- johns and J. G. R. Loiselles	17
Genetic Studies of Soybean Host Cultivar Interactions with <u>Rhizobium</u> Strains. T. E. Devine	19
Vegetative Propagation of Soybeans. J. S. Plaskowitz and T. E. Devine	21
Evidence of a Second Gene Controlling a Short Internode (Zigzag Stem) Character. H. R. Boerma and B. G. Jones	22
Forage Value of Soybean Plants. J. J. Faix, C. J. Kaiser and F. C. Hinds	23
Determination of Sugar Content of Individual Soybean Seeds. S. J. Openshaw, T. Hymowitz and H. H. Hadley	25
Inheritance of a Second SBTL-A ₂ Variant in Seed Protein of Soybeans. J. H. Orf and T. Hymowitz	26
The Gene Symbols <u>Sp</u> ₁ ^a and <u>Sp</u> ₁ ^b Assigned to Larsen and Caldwell's Seed Protein Bands A and B. J. H. Orf and T. Hymowitz	27
<u>Glycine</u> Germplasm Resources. T. Hymowitz	29
Inheritance in Chlorophyll Deficient Mutants. C. R. Nissly, R. L. Bernard and C. N. Hittle	31
Polyploids Among the Progeny from Male Sterile (<u>ms</u> ₁ <u>ms</u> ₁) Soybeans. R. G. Palmer and H. E. Heer	35
Trisomic Linkage Tests. R. G. Palmer	36
Linkage Studies with a Chromosomal Interchange. R. G. Palmer	38
Environmental Influence on Total Pollen Grains per Flower from Normal and Sterile Plants of the Urbana Male Sterile. M. C. Albertsen and R. G. Palmer	39

	Page
Soybean Dwarf Virus Disease. Y. Tanimura and Y. Mori	41
Evaluation of Commercial Soybean Cultivars for Leaf Feeding Resistance to <u>Heliothis zea</u> . J. M. Joshi and J. G. Wutoh	43
Seed Yield Efficiency in Soybeans. J. M. Joshi and P. E. Smith	46
Heat Injury Tests as a Screening Tool for Heat Tolerance in Soybeans. J. R. Martineau, J. E. Specht and J. H. Williams	49
Stomatal Frequency and Heat and Drought Stress in Soybeans. J. R. Martineau, J. H. Williams and J. E. Specht	51
Multiple Resistance to Insects. S. Anand	53
Cotyledon Culture. J. F. Thompson and J. T. Madison	55
Progress in Obtaining Soybean Haploids $2n=20$. E. T. Bingham, W. D. Beversdorf and G. L. Cutter	55
Histology of the Embryo Sac of Male Sterile <u>ms₁ms₁</u> Soybeans. G. L. Cutter and E. T. Bingham	56
V. INDEX OF CONTRIBUTORS	57
VI. GENETIC STOCKS AVAILABLE	59
VII. RECENT SOYBEAN GENETICS AND BREEDING PUBLICATIONS	72

I. FOREWORD

We are gratified by the enthusiastic response of our contributors to Volume 3 of the Soybean Genetics Newsletter. Our printing order for this volume is 600; the mailing list covers 48 countries and 34 states.

The variety, scope and excellence of the articles in this volume indicate a growing acceptance of the Newsletter as a medium for the exchange of ideas and information among soybean scientists around the world. Suggestions for improvement of the SGN are requested and appreciated.

The details of producing the SGN involve our whole staff--technicians, secretaries and graduate students. Those "volunteered" for duty this year include Hollys E. Heer, Carol Winger, Linda Martin, Marc Albertsen and David Stelly.

ACKNOWLEDGEMENT

We wish to express our appreciation to the Iowa-Missouri area director of the USDA-ARS for the financial support which made this issue of the Soybean Genetics Newsletter possible.

Reid G. Palmer