INTERCROPPING in semi-arid areas

Report of a symposium held at the Faculty of Agriculture, Forestry and Veterinary Science, University of Dar es Salaam, Morogoro, Tanzania, 10-12 May 1976

Editors:
J. H. Monyo, A. D. R. Ker, and Marilyn Campbell

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Intercropping in Semi-Arid Areas

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The views expressed in this publication are those of the individual author(s) and do not necessarily represent the views of IDRC.
Farmer’s field near Ibadan, Nigeria, showing intercrop of cowpea under maize
## Contents

**Foreword**  *A. D. R. Ker* ................................................. 5

**Addresses to the Participants**

- Welcoming address  *A. M. Hokororo* .............................................. 8
- Opening address  *Hon Mr J. S. Malecela* ........................................... 9

**Summaries of Papers Presented**

- An appraisal of some intercropping methods in terms of grain yield, response to applied phosphorus, and monetary return from maize and cowpeas  *Y. A. Sudi, H. O. Mongi, A. P. Uriyo, and B. R. Singh* ........................................... 12
- Rhizosphere populations in intercropped maize and soybean  *T. H. M. Kibani, C. L. Keswani, and M. S. Chowdhury* ........................................... 13
- Intercropping for increased and more stable agricultural production in the semi-arid tropics  *B. A. Krantz, S. M. Virmani, Sardar Singh, and M. R. Rao* ........................................... 15
- Cropping systems research: the scope and strategy for research in crop combinations based on experience of previous and current studies  *B. N. Okigbo* ........................................... 16
- Mixed cropping research at the Institute for Agricultural Research, Samaru, Nigeria  *E. F. I. Baker and Y. Yusuf* ........................................... 17
- Crop production practices in intercropping systems  *R. C. Finlay* ........................................... 18
- Effects of crop combinations and planting configurations on the growth and yield of soybeans, millet, and sorghum in intercropping  *R. K. Jana and V. M. Sekao* ........................................... 19
- Intercropping with sorghum at Alemaya, Ethiopia  *Brhane Gebrekidan* ........................................... 21
- Studies on mixtures of maize and beans with particular emphasis on the time of planting beans  *D. S. O. Osiru and R. W. Willey* ........................................... 23
- Intercropping of cassava with vegetables  *G. F. Wilson and M. O. Adeniran* ........................................... 24
- Some aspects of the productivity and resource use of mixtures of sunflower and fodder radish  *R. W. Willey and D. A. Lakhani* ........................................... 25
- Preliminary results of intercropping trials in Zaire with maize and certain legumes  *Thomas G. Hart and Mangha Kewe* ........................................... 27

*(con’t.)*
Contents (concluded)

Effects of maize height difference on the growth and yield of intercropped soybeans D. R. Thompson, J. H. Monyo, and R. C. Finlay ................................................................. 29

Intercropping as a means of producing off-season tomatoes during the hot summer months in the Sudan A. T. Abdel Hafeez .................. 30

Development of cowpea ideotypes for farming systems in Western Nigeria Olatunde A. Ojomo ......................................................... 30

Cereal–legume breeding for intercropping R. C. Finlay ................. 31

Cowpea as an intercrop under cereals H. C. Wien and D. Nangju 32

Selection criteria in intercrop breeding R. C. Finlay .................... 33

Experiments with maize–bean and maize–potato mixed crops in an area with two short rainy seasons in the highlands of Kenya N. M. Fisher ....................................................... 37

Pest control in mixed cropping systems H. Y. Kayumbo ................ 39

Measuring plant density effects on insect pests in intercropped maize–cowpeas B. M. Gerard ..................................................... 41

Effects of spraying on yield of cowpeas grown in monoculture and under maize, sorghum, or millet H. Y. Kayumbo, R. C. Finlay, and S. A. Doto ......................................................... 44

Possible relationship between intercropping and plant disease problems in Uganda J. Mukiibi ............................................. 45

Attempted control of virus incidence in cowpeas by the use of barrier crops S. A. Shoyinka ............................................................... 46

Induced resistance to bean rust and its possible epidemiological significance in mixed cropping D. J. Allen ...................... 46

A limited objective approach to the design of agronomic experiments with mixed crops N. M. Fisher .............................................. 47

Systematic spacing designs as an aid to the study of intercropping P. A. Huxley and Z. Maingu ...................................................... 50

Future directions of intercropping and farming systems research in Africa A. D. R. Ker ................................................................. 51

Developing mixed cropping systems relevant to the farmers' environment D. W. Norman ......................................................... 52

Assessment of innovations in intercropping systems
C. D. S. Bartlett, E. A. Manday, and G. I. Mlay ...................... 58

Summary and Conclusions
D. W. Norman ................................................................. 59
H. Doggett ................................................................. 62

References .................................................................... 63

List of Participants .......................................................... 67
Intercropping as a Means of Producing Off-Season Tomatoes during the Hot Summer Months in the Sudan

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The tomato is an important vegetable crop that is used daily by almost every family in big cities in the Sudan as a salad crop or in the local stews. Commercial production is limited to the winter months (October–March) because during the hot summer months (April–July) the tomato fails to set fruit. Research had indicated that the hot dry winds and the low relative humidity are the major factors contributing to this phenomenon of fruit-set failure. Many crop husbandry practices were introduced to overcome this problem. However, in the “Alafoun area” near Khartoum intercropping tomato with pigeon pea modified the environmental conditions and enabled the production of tomatoes during the hot summer months, thus saving hard currency that used to be spent in importing tomatoes during that period.

Development of Cowpea Ideotypes for Farming Systems in Western Nigeria

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Western Nigeria has three main types of vegetation, namely savannah to the north, mangrove swamps to the extreme south, and rain forest and deciduous forest between them. Except in the mangrove swamps, farming is done mainly by peasants with characteristic small holdings, shifting cultivation, and mixed cropping. Larger size farms under sole cropping are managed by literate farmers and government agencies. All farms are rainfed.

The cowpea crop is grown mostly in the second season beginning in September. During this season, rainfall and daylength are diminishing. Traditional varieties are mostly prostrate, indeterminate, and appear to be suited to competition in mixed cropping systems. For the larger farms adopting monoculture, a more erect and uniform-maturing type plant suitable for mechanical harvesting is more useful.

Attempts have been made to develop high-yielding, uniform-maturing cowpea varieties for the farming systems highlighted above. Such plant types have yet to be tested under mixed farming as practiced by farmers. For monoculture, the upright habit with fewer branches has been found suitable. The question of optimum yield level of the crop is unresolved. Progress in this area in terms of physiology, leaf display, partition of dry matter, etc., are still in the rudimentary stage. The best breeding methods to obtain yield have not been found. Only the traditional breeding methods have been adopted as yet, though some good results have been obtained.