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1. Towards international standardization in crop research data recording.

Studies are now well advanced for tests of a system for computer storage, processing and retrieval of plant germ plasm records. The aim of these studies is to develop a model system for international, national and station records and for studies toward a central international record of world cultivars and useful breeding and genetic stocks. Such a system could serve a central function in an internationally coordinated programme for plant germ plasm exploration, conservation, evaluation and use.

The format for the records is divided into four sections to facilitate such use. This format is based on the use of punched cards, but should be adaptable to other equipment.

The first section of the record is designed for use as a master for other applications. The master record will identify accessions of each crop, by accession number, and by name. A uniform method of numbering accessions is recommended. This method uses letter codes to designate a hierarchal system of international, national and station accession series, as well as numbers to identify the specific accession. In its basic features the method is similar in many respects to methods already in practice.

The second section of the format is for recording information on the station which maintains stocks of the accession and details of its origin, all known synonyms, as well as the complete pedigree of the accession, presented according to a standard method similar to that described by Wiebe (1960 Barley Newsletter).

The third section is for recording information describing the various attributes of the accession. As presently devised, the third section will accommodate sufficient information to describe the more important features of an accession and the purpose for which it is being maintained. This section is to be developed further for recording more complete descriptions of the more useful cultivars, induced mutants, breeding and genetic stocks.

A fourth section will be added later to record in greater detail the performance of individual accessions as demonstrated in different environments by agronomic trials, quality evaluations, and tests of their response to diseases and pests, etc.

As a first step, a form for the records and instructions for entering the input information on each accession has been drafted. These will be used in making test runs early in 1967 using computer programmes designed for the SELECT and ISR systems for storage and retrieval of the information. For these tests, priority has been given to studies

using wheat data. These studies will be followed by tests on barley, oats, and rice. The results will be considered by the FAO-IAEA Working Group which, in December 1965, set up the project under the auspices of the Joint FAO/IAEA Division in cooperation with the FAO Division of Plant Production and Protection. Tests on the use of the master record in field experiment applications have also been initiated. Based on computer programmes and procedures now being applied in the States of Washington and Montana, U.S.A., field record books for recording data have been prepared for use by cooperators in several international field experiments. These trials include FAO/IAEA Coordinated Experiments on Rice Nutrition being conducted in 12 countries of Southeast Asia, FAO/IAEA/IRRI Cooperative Rice Mutant Yield Trials conducted in 8 countries, as well as in the FAO/IAEA Uniform Durum Wheat Mutant Trials conducted in 12 countries, under the FAO Near East Wheat and Barley Improvement and Production Project.

Acceptance of this standardized system by field workers, and the uniformity of results obtained from the studies conducted to date, have been encouraging. The second series of trials is now in progress.

Further information on the progress of these activities and sample copies of the test forms may be obtained by writing to the authors.

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2. International programmes on the use of radiation and isotopes in plant breeding and genetics research.

In the fall of 1964 the Food and Agriculture Organization of the United Nations and the International Atomic Energy Agency joined forces for promoting international cooperation to foster the use of nuclear techniques in food and agriculture, by establishing a Joint FAO/IAEA Division located in Vienna.

Engaged in every field of food and agricultural sciences, the Division has a Section dealing with Plant Breeding and Genetics. This Section has three primary fields of interest: (1) to promote and coordinate research leading to the development of more effective methods of inducing and utilizing mutations, (2) to foster cooperation between and