



TG/2/6 Corr.
ORIGINAL: English
DATE: 1999-12-06

E

**INTERNATIONAL UNION
FOR THE PROTECTION
OF NEW VARIETIES OF
PLANTS**

**UNION INTERNATIONALE
POUR LA PROTECTION
DES OBTENTIONS
VÉGÉTALES**

**INTERNATIONALER
VERBAND ZUM SCHUTZ
VON PFLANZEN-
ZÜCHTUNGEN**

**UNIÓN INTERNACIONAL
PARA LA PROTECCIÓN
DE LAS OBTENCIONES
VEGETALES**

CORRIGENDUM

TO

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

MAIZE

(Zea mays L.)

CORRIGENDUM PREPARED BY THE OFFICE OF THE UNION

Correction

The Technical Working Party for Agricultural Crops noted during its session in 1999 that there was an omission in the English version of the Test Guidelines for Maize (TG/2/6). The corrected version of TG/2/6 should contain the missing paragraph 6 of Chapter IV as follows:

“In three-way cross hybrids and double-cross hybrids characteristics may segregate with the effect that several states occur side by side in a variety. Certain characteristics which from experience are known to lead to such segregation in three-way cross hybrids and double-cross hybrids are indicated with the letter “S”.”

[End of document, replacement sheets follow]

[English]

I. Subject of these Guidelines

These Test Guidelines apply to the following types of varieties of Zea mays L.: inbred lines, hybrids and open-pollinated varieties, excluding ornamental varieties.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the plant material required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. The minimum quantity of seed to be supplied by the applicant in one or more samples should be:

1,500 grains for inbred lines
1 kg for hybrid and open-pollinated varieties

In the case of hybrid varieties, an additional 1,500 grains of each component (e.g. inbred line, single-cross hybrid) should be submitted. The seed should at least meet the minimum requirements for germination capacity, moisture content and purity for marketing certified seed in the country in which the application is made. The germination capacity should be as high as possible.

2. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. The minimum duration of tests should normally be two similar growing periods.

2. The tests should be conducted in at least one place. Depending on the range of earliness in a given country, two places may be preferable.

3. The field tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measurement and counting without prejudice to the observations which must be made up to the end of the growing period. As a minimum, each test at each testing place should include per growing period:

40 plants for inbred lines and single-cross hybrids
80 plants for other hybrids and open-pollinated varieties

In each testing place, the test should be divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established, e.g. ear-row tests in the event of the competent authority accepting the results carried out by the applicant before the date of application.

5. In the event of the formula of hybrids being checked with the help of electrophoresis of enzymes, a test should be carried out on four coleoptiles from each inbred line. In case of doubt, 16 additional coleoptiles should be analysed. For single-cross hybrids two coleoptiles should be analysed and for three-way hybrids six coleoptiles. In case of doubt, additional coleoptiles should be analysed.

6. If enzyme electrophoresis is used for testing distinctness, at least 20 coleoptiles should be analysed.

IV. Methods and Observations

1. The characteristics described in Chapter VII should be used for the testing of distinctness of inbred lines, hybrids and open-pollinated varieties.

2. However, to assess distinctness of hybrids, a prescreening system on the basis of the parental lines and the formula may be established according to the following recommendations:

- (i) description of parental lines according to the Test Guidelines;
- (ii) check of the originality of those parental lines in comparison with the reference collection, based on the characteristics in Chapter VII in order to screen the closest inbred lines;
- (iii) check of the originality of the hybrid formula in comparison with those of the hybrids in common knowledge, taking into account the closest inbred lines;
- (iv) assessment of the distinctness at the hybrid level of varieties with a similar formula.

3. All observations for the assessment of distinctness and uniformity should be made on at least 40 plants or parts of plants (excluding outcrossed plants in inbred lines and excluding plants obviously resulting from the selfing of a parent line in single-cross hybrids).

4. All observations on the ear should be made on the upper well-developed ear.

5. For the assessment of uniformity of inbred lines and single-cross hybrids a population standard of 3 per cent with an acceptance probability of 95 per cent should be applied. In the case of a sample of 40 plants, the maximum number of off-types allowed would be 3. In addition, the same population standard and acceptance probability should apply to clear cases of out-crossed plants in inbred lines as well as plants obviously resulting from the selfing of a parent line in single-cross hybrids (clear difference in plant height, size of ear or earliness as well as proof through electrophoresis of enzymes). For those countries which foresee difficulties with too large a change to adjust their system to the newly adopted rules, a possible interim period of two years from the adoption of the Test Guidelines would be acceptable before they change to the new rules. For three-way cross hybrids, double cross hybrids and open-pollinated varieties, the variability within the variety should not exceed the variability of comparable varieties already known.

6. In three-way cross hybrids and double-cross hybrids, characteristics may segregate with the effect that several states of expression occur side by side in a variety. Certain characteristics which from experience are known to give rise to such segregations in three-way cross hybrids and double-cross hybrids are identified with an "S."

7. If enzyme electrophoresis is used for testing distinctness, the same population standard and the same acceptance probability as for other characteristics should be applied. However, a sequential analysis approach could be applied to reduce the workload. All inbred lines should be considered out-crosses where two or more loci are heterozygous with one allele of the locus of the inbred line (e.g. AX). All cases where one locus is heterozygous or where two foreign alleles are present should be considered off-types.