



TWA/27/4

ORIGINAL: English

DATE: March 16, 1998

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY
FOR
AGRICULTURAL CROPS**

**Twenty-Seventh Session
Angers, France, June 23 to 26, 1998**

DRAFT REPORT ON THE SUBGROUP MEETING ON SUNFLOWER HELD IN
MADRID, SPAIN, FROM MARCH 10 TO 12, 1998

prepared by the Office of the Union

Opening of the Meeting

1. The meeting was held in the *Subdirección General de Semillas y Plantas de Vivero* in Madrid, where the participants were welcomed by Mr. Martín Fernández Gorastiza Ysbert. The meeting was opened by Mr. Aubrey Bould, United Kingdom, Chairman of the Technical Working Party for Agricultural Crops. The list of participants appears in Annex I to this report.

Adoption of the Draft Agenda

2. The Subgroup adopted the draft agenda as reproduced in Annex II to this report.

Revision of the Test Guidelines for Sunflower

3. Discussions were based on documents TWA/26/2 and TWA/27/2, prepared by experts from France. The Subgroup eventually made the following main changes in document TWA/27/2:

(i) Subject of these Guidelines: The Subgroup reconfirmed that the Test Guidelines applied to *Helianthus annuus* L. only, but added that they did not exclude ornamental varieties of that species.

(ii) Material Required: Paragraph 1 to receive the additional sentence: “In case of a male sterile line an additional 5000 grains of the maintainer line should be submitted.”

(iii) Conduct of Tests: Paragraph 3 to have the normal standardized wording, with 40 plants to be observed for all varieties.

(iv) Methods and Observations: The second sentence of paragraph 3 to read as follows: “In addition, the same population standard and acceptance probability should apply to clear cases of out-crossed plants and isogenic fertile plants in total within a male sterile line.” Before the table in the same paragraph the following title to be added: “Number of Off-types Allowed for Different Cases and Sample Sizes (for more details see UPOV document TC/34/5).” The Subgroup discussed at length whether for male sterile inbred lines out-crossed plants should fall under “other types of off-type,” as for some experts it seemed that single hybrids were treated more strictly (e.g. 7 off-types in 80 plants) than male sterile inbred lines (e.g. 4 + 4 off-types in 80 plants). Having noted that in maize a population standard of 3% was applied for single hybrids, the Subgroup agreed that for sunflower 5% was justified because of possible sterile and fertile females and sterile isogenic hybrids. The Subgroup also agreed to consider, during its discussions on the Table of Characteristics, whether for certain characteristics the allowing of clear segregations in three-way hybrids should be recognized. It did not, however, take a final decision for any characteristic.

(v) Characteristics and Symbols: To have the following words included at the beginning of paragraph 3: “With the exception of characteristic 26,”

(vi) Table of Characteristics

4 To have the first states amended to read “lanceolate (1), lanceolate to narrow triangular (2), narrow triangular (3), narrow triangular to broad triangular (4), broad triangular (5), broad triangular to cordate (6) ...”

7 To receive a new drawing for state 9, to be prepared by France

8 To have the same states as the first five states of characteristic 30, to have the Notes from 1 to 5 and to have the bracketed content deleted

9 To have the drawings improved

11 To read “Leaf: attitude of blade” and to receive drawings, to be prepared by Spain

- 12 To receive the bracketed addition “(last 5 cm)” to be observed at F1, and to have the drawings deleted
- 15 To receive drawings and to have the states “fusiform, narrow elliptic, broad elliptic, rounded”
- 16 To have the states “flat (1), longitudinal recurved (2), twisted (3), twisted undulated (4), undulated (5), undulated and slightly recurved to back of head (6), strongly recurved to back of head (7)”
- 18 To have state 4 reading “orange yellow”
- 21 To have the word “anthocyanin” added
- 22 To have the asterisk deleted. The Subgroup had a long discussion on the usefulness of that characteristic for distinctness, as a variety without pollen could not exist without the maintainer variety with pollen. For those reasons, in Spain, only one single form of combined protection was given to both lines (with pollen and without pollen), and therefore the Spanish experts preferred not to use that characteristic for distinctness. Other experts insisted that the presence of pollen was a good distinctness characteristic, and that the two lines would be considered separate lines which could be protected separately. Authorities would also ask for the testing of the sterile line for seed of the fertile line to check the stability of the sterile line.
- 23 To receive drawings, to be prepared by France
- 26 To be split into two characteristics, one for lines and one for hybrids in the same way as for maize.
- 28 To have states 7 and 8 amended to read “turned down with slightly curved stem (7)” and “turned down with strongly curved stem (8)”
- 31, 32 To have the bracketed addition “excluding environmental branching”
- 32 To have state 3 reading “overall branching”
- 35 To have improved drawings, prepared by France
- 37 To have the state “medium brown (5)” added, the order of the last two states reversed and the following explanation given: “The main color of the seed is the color with the largest area. In case of doubt as to which area is the largest, the darkest color is the main color.”
- 39 To have the word “basic” deleted
- 38, 40 To be replaced by the following two characteristics, which would require further checking:
 - 38(a): “Seed: stripes on margin” with the states “none (1), weakly expressed (2), strongly expressed (3)” and
 - 38(b): “Seed: stripes between margins” with the same states as 38(a).

40(a) To have a new characteristic included, reading “Seed: spots on pericarp” with the states “absent, present”

40(b) To have a new characteristic added reading “Seed: oleic acid content” with the states “low (3), medium (5), high (7),” with a detailed method to be supplied by Spain

40(c),(d), (e) To have three further characteristics of resistance to three races of downy mildew added, with the exact wording and the method to be supplied by France

(vii) The Subgroup discussed at length the proposal to include a characteristic on the oil content of the seed. This characteristic was actually used in Spain for DUS testing, but the other experts did not want to include the characteristic in the Test Guidelines. While they admitted that it might be a good characteristic, although they needed more information on the checking of uniformity, they mainly objected to its inclusion because the document contained a sufficient number of other useful characteristics which made it unnecessary. It asked the TWA for advice. The experts feared that even if the characteristic were included without an asterisk, pressure would be put on them to use it as a routine characteristic, which would increase the workload considerably and unnecessarily, as far as distinguishing of varieties was concerned. Therefore not just any characteristic should be included in the Test Guidelines, only those that were really needed.

(viii) Example Varieties: The Subgroup noted a new proposal for example varieties from Spain, and eventually made the following changes in the first column of the example varieties of document TWA/27/2, after having deleted the second column:

Characteristic	Note	Example Variety
4	4	HA 850
4	6	RHA 297
6	7	to be checked by France and Spain
7	1	HA 393
7	7	HA 379 + RHA 299 to be checked
9	1	HA 89
9	3	RHA 274
10	1	HA 295 + HA 336 to be checked
11	3	HA 400
11	5	RHA 274
11	7	RHA 275
13	3	HA 234 + RHA 273 to be checked
13	1	to be deleted
13	9	to be deleted
15	2 to 4	to be checked by France and Spain

Characteristic	Note	Example Variety
16	1	HA 89
16	2	HA 850
16	3	HA 290
16	4	HA 234
16	6	HA 394
16	7	CM 592
18	3	RHA 274 + HA 89
18	5	CM 587 + RHA 295
20	9	HA 55.9.2.1.1 + HA 348
21	1	to be deleted
21	3	HA 394 + HA 290
21	5	HA 60 + HA 291
24, 26		all example varieties to be checked by France and Spain
27	1	HA 52.9.1.1
27	2	HA 300
27	3	RHA 273
28		additional example varieties to be checked by France and Spain
30	5	CM 400 + HA 303 to be checked by France
31	1	HA 89 + RHA 270
34	9	HA 316 to be checked by Spain
35	1	HA 60 to be checked by Spain
35	4	CM 447
39	4	Narval 30

(ix) Literature: No specific literature to be included.

(x) Technical Questionnaire: To have the two new characteristics on the stripes included in paragraph 5, the question on “GMO” varieties added to paragraph 4 and a new subparagraph on open-pollinated varieties inserted before subparagraph (iii). Paragraph 4.2 should be made clearer, as had been done for rye, where the presentation should be so devised as to make the formula of the hybrid immediately apparent.

Electrophoresis of Isoenzymes in Sunflower Plants

4. The Subgroup noted a report on research done in Spain on the development of a method, adapted from the GEVES method for sunflower seeds, to be used on sunflower leaves, bracts or ray-flowers as an easier means of obtaining better knowledge of off-types observed in the field, including especially their genetics and whether they belonged to the variety. The research was to continue and results would be passed to the experts of the EU Catalogue, as the method was particularly useful for post-control of varieties, either for pedigree checking or when doubts arose with plants grown in the field.

Ring Test on Electrophoresis

5. The Subgroup did not discuss the Annex to document TWA/26/2 with the electrophoresis characteristics, as results from the ring test on electrophoresis were not yet available. It agreed to continue discussions on electrophoresis in Angers during the afternoon of June 22, 1998, the day before the planned session of the TWA. The draft Test Guidelines for Sunflower will therefore not yet be sent to the professional organizations for comments as previously foreseen by the TWA.

[Two annexes follow]

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[Annex II follows]

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ANNEX II

**TECHNICAL WORKING PARTY
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Subgroup Meeting on Sunflower

Madrid, Spain, March 10 to 12, 1998

DRAFT AGENDA

1. Opening of the session
2. Adoption of the Agenda (this document)
3. Discussion on Working Papers on Test Guidelines for Sunflower
4. Isoenzyme Electrophoresis in Sunflower Leaves (document prepared by the Spanish experts)
5. Future program, date and place of next session
6. Closing of the session

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