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UPOV

TC/XVIII/ 8

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

GENEVA

## TECHNICAL COMMITTEE

**Eighteenth Session**  
**Geneva, November 18 and 19, 1982**

ELECTROPHORESIS

document prepared by the Office of the Union

The Annex to this document contains a letter from Mr. Kelly (United Kingdom) dated August 19, 1982, and addressed to the Office of UPOV. In agreement with the Chairman of the Technical Committee it is proposed to discuss this letter under item 11 (Minimum Distances Between Varieties) of the draft Agenda of the eighteenth session of the Technical Committee (document TC/XVIII/1).

[Annex follows]

## ANNEX



## NATIONAL INSTITUTE OF AGRICULTURAL BOTANY

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PATRON: HER MAJESTY THE QUEEN

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## YOUR REFERENCE

OUR REFERENCE AFK/JB/062b

DATE 19 August 1982

Dear Dr Mast

## ELECTROPHORESIS

I would be grateful if the Technical Committee on 18/19 November could devote a little time to a further discussion of electrophoresis. There has been much work on this subject in recent years and advances have been rapid. There are now techniques available which are in regular use for identifying varieties in trade, particularly for wheat and barley and I believe we must consider this aspect of the problem in particular.

You will recall that electrophoresis in general was first discussed in the Committee in November 1979 (paragraph 26 of TC/XIV/5) and that in March 1980 it was stated 'while there was agreement that such methods should be further developed and that their application for distinguishing varieties for protection purposes and their consequence for plant variety protection should be studied... Any further development should be discussed within UPOV before additional national decisions are taken'. (paragraph 10 of TC/XV/7).

Although there have been numerous rather generalised discussions since then, no decision has been taken on the future of this technique, nor did the Consultative Committee reach any conclusion on the further definition of 'important characteristic' in May this year.

I believe that the time has come when we should endeavour to make progress in these discussions by considering somewhat more restricted applications of these techniques. I note that the Technical Working Party for Agricultural Crops suggested (paragraph 38 of TWA/XI/14) that 'the question of..... electrophoresis would therefore have to be solved for all species together'. I do not really see the logic in this suggestion and I believe it misconstrues the nature of the technique. Electrophoresis is not a single technique. It is a generic term covering a multitude of different techniques, any one of which may give a specific array of results when applied to a particular array of varieties.

Dr H Mast19 August 1982

If I may give an example. The electrophoretic system derived by Ellis and Beminster (1977), based on the earlier work of Autran and Bourdet (1975) has now been developed here and has also been developed in France to the stage where a standard technique applied to the array of varieties available in the two countries enables us to identify samples of grain of those varieties. Results obtained here and in France are comparable, and both are comparable with results obtained in trade laboratories. This is a particular instance where the standard technique is well documented (see Draper & Craig, 1981) and I suggest that it could quite reasonably be considered separately and without prejudice to developments with other systems for wheat or in other crops. In other words I see no reason why this clearly defined technique cannot be considered as a new characteristic for inclusion in the wheat guidelines (TG/3/8) where it could appear alongside Characteristic 32 (Grain: coloration with phenol) and could be given a description in the section 'Explanations and Methods'. If need be it could be a characteristic without asterisk in the first instance.

This course of action would at least start us in the use of an electrophoretic technique and we could begin to see some return for the investment which has been made over the last few years. If it works satisfactorily we could begin to explore other specific techniques for inclusion in other guidelines as appropriate. To define the technique accurately may require a group of specialists. Such a group could meet occasionally when a particular technique is thought to be sufficiently advanced for inclusion in a guideline.

For your information the references quoted in this letter are:

Autran J C and Bourdet A 1975 Annales de l'Amelioration des Plantes 25,  
277 - 301

Ellis J R S and Beminster C H 1977 Journal of the National Institute of  
Agricultural Botany 14 221 - 231

Draper S R and Craig E A 1981 Journal of the National Institute of Agricultural  
Botany 15 390 - 398

Yours sincerely



Deputy Director

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