UPOV

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EXPERIENCE WITH BULK SAMPLING

Document prepared by an expert from the United Kingdom

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The annex to this document contains a copy of a presentation on the "Experience with Bulk Sampling" by an expert from the United Kingdom, to be made at the fifty-first session of the Technical Working Party for Ornamental Plants and Forest Trees (TWO).

[Annex follows]

Experience with Bulk Sampling

DUS examination of *Salvia sclarea (Clary sage)* on behalf of CPVO

Salvia sclarea

- Native of Mediterranean region
- Cross pollination
- Seed propagated
- Biennial/short lived perennial crop

Use as both

- Ornamental
  - *S. sclarea* var. Turkestanica
- Industrial crop
  - extraction of essential oils
  - perfume and food industry
  - Medical applications
  - Production in Europe, the United States of America and China

Examination

- Candidate variety compared with 5 known varieties and species material
- Field grown with 3 replicates in randomised design
- Two years of trial (2 sowings from same seed lot)
- Relative standard of uniformity applied
- Characteristics observed from the United Kingdom national protocol + time to flowering
- Observations on 75 plants (25 plant per rep)

Outcome after two years of trial

- Variety sufficiently Uniform
- Variety not clearly Distinct

- Further investigation followed into claimed differences in the extractable compounds

Is content of essential oil in *S. sclarea* an appropriate characteristic for DUS examination?

Information indicated that:

- Quantities varied between varieties
- Varieties had been selected for higher production
- Expression had genetic control
- Method existed to identify and measure extracted compounds

Therefore appeared to fulfil requirements for a reliable characteristic

However…..

Information also indicated that plant to plant variation could exist

- Not appropriate for bulk sample approach?
- Single plant observations to establish uniformity?

Problems-

- The number of assays required to determine uniformity by relative standards and to find range of expression to establish D
  - 6 varieties, 3 replicates, 25 plants per plot
- The quantity of material needed to perform assay
  - Single plants did not provide enough material for the assay
  - No possibility of checking plant to plant variation

Outcome so far

- No solution was found to the issue with the assay
- CPVO concluded that a bulk sample approach would not fulfil the requirement of their additional characteristic procedure
- Applicant would not agree to the additional cost of the trial

- Currently not using this as a characteristic
- Repeat of trial at another location looking again at morphological characteristics

[End of Annex and of document]