ADDENDUM TO
A SIMPLE SSR BASED IDENTIFICATION SYSTEM FOR SWEET POTATO

Document prepared by an expert from the United Kingdom

Disclaimer: this document does not represent UPOV policies or guidance

The annex to this document contains a copy of a presentation on “A simple SSR based identification system for sweet potato”, made at the eighteenth session of the BMT.

[Annex follows]
A simple SSR based identification system for sweetpotato

Sweetpotato or sweet potato?

Over 100m tonnes grown worldwide each year.
6th most important crop after rice, wheat, potatoes, maize and cassava.
Originated in Latin America but China is currently the largest sweetpotato producing country in the world (over half of global production is in China).
Importance of sweetpotato as a food crop is growing rapidly in some parts of the world. In Sub-Saharan Africa, it is outpacing the growth rate of other staples.
Not a member of the potato family.
Also not a yam.
Source of material

United Kingdom supermarkets fresh (18).
United Kingdom supermarkets processed (14).
DUS station in Ireland (28 reference varieties and candidates).
Other breeders (3 varieties).

Origins of supermarket samples (where known)
Egypt, Guatemala, Senegal, South Africa, Spain,
United States of America

One processed product was potato and sweetpotato mash...
Happy to say we did manage to identify both!

The assay

After screening a number of markers and optimising the reaction conditions we have a set of 14 markers used in 4 multiplex reactions which yield a total of 94 alleles.

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<th>Marker</th>
<th>Alleles</th>
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</tr>
<tr>
<td>4</td>
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</tbody>
</table>
## Results

### Reference samples

- OSP-18-001
- OSP-18-007
- OSP-18-025
- OSP-18-034
- OSP-18-037
- OSP-18-038
- OSP-18-039
- OSP-18-041
- OSP-18-044
- OSP-18-046
- OSP-18-047
- OSP-18-048
- OSP-18-049
- OSP-18-050
- OSP-18-058
- OSP-18-063
- OSP-18-016
- OSP-18-004
- OSP-18-030
- OSP-18-043
- OSP-18-053
- OSP-18-054
- OSP-18-051
- OSP-18-042

### Commercial samples

- Admix in supermarket bag

### Somaclonal variants

## Conclusions

Simple variety identification.

14 SSR markers used in 4 multiplex reactions.

Works with processed products (fries, wedges etc.).

Potential mis-labelled products in supermarkets detected.

Could aid in DUS testing in a similar way we use the potato database.
Acknowledgments

DAFM DUS Examination Office, IE

The breeders

The genotyping team at SASA Helen Ventisei and Emily Russell

[End of Annex and of document]