

| | |
|--------------------|--|
| Official Use Only | |
| Ref. AFP | 45 / <input type="text"/> |
| GM | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Other Restrictions | Yes <input type="checkbox"/> No <input type="checkbox"/> |

Technical Questionnaire (SUGAR BEET)

Plant Varieties Act 1997 and
 The Seeds (National Lists of Varieties) Regulations 2001 (as amended)

Please note:

- The completed TQ and the application will form part of the public record for this variety
- The seed submitted for DUS in the first year will be regarded as the definitive stock
- All relative sections of this form **must** be completed. An incomplete form may result in a delay in processing the application
- Completed forms should be e-mailed to NLPBR-Applications@apha.gsi.gov.uk
- Alternatively forms may be sent to:

The Animal and Plant Health Agency, Eastbrook, Shaftesbury Road, Cambridge, CB2 8DR
Telephone 0208 026 5993.

Section 1 - Application Details

(a) National Listing (NL) Plant Breeders' Rights (PBR) Parental Line (PL)

(b) Species: Latin name **Beta vulgaris L.**

(c) Common name (incl. season)

(d) Please give details of applications already made or to be made in any other countries

| Country | Date | Application No. | NL | PBR | Variety name or Breeders' reference |
|---------|------|-----------------|----|-----|-------------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

(e) Has an application for European Community Plant Breeders' Rights (ECPBR) been made? Yes No

If 'Yes', Please state date of application

Section 2 - Applicant details

(a) Name and address of applicant for

• National Listing:

• Plant Breeders' Rights (if different)

Name and address of breeder:

Name and address for correspondence:

Is the address for:

• service or

• agent

An agent is authorised to act for the applicant on all aspects of an application, including instructions to withdraw applications, delete from a National List or surrender Plant Breeders' Rights

Section 3 - Variety denomination

(a) Where appropriate proposal for a variety denomination

(b) Provisional designation (breeder's name/reference)

Section 4 - Information on origin, maintenance and reproduction of the variety

4.1 Do you wish the details and data relating to components of hybrid varieties including data related to their cultivation to be treated as confidential? Yes No

If 'yes', please give this information on the separate form for confidential information.

If 'no', please give information on data relating to the components of hybrid varieties including data related to their cultivation.

Breeding scheme (indicate female component first)

The ploidy of both seed-bearing and pollen-shedding components of seed producing crops of sugar beet

| | | | |
|---|--------------|---|--------------------------|
| Diploid without male sterility | 2N | 1 | <input type="checkbox"/> |
| Male sterile diploid with a male diploid | 2N X 2N | 2 | <input type="checkbox"/> |
| Male sterile tetraploid with a male diploid | 4N X 2N | 3 | <input type="checkbox"/> |
| Male sterile diploid with a male tetraploid | 2N X 4N | 4 | <input type="checkbox"/> |
| Male sterile diploid with a male anisoploid | 2N X (2N+4N) | 5 | <input type="checkbox"/> |
| Tetraploid without male sterility | 4N | 6 | <input type="checkbox"/> |
| Diploid and tetraploid without male sterility | 2N + 4N | 7 | <input type="checkbox"/> |

4.2 Type of material

- (a) Inbred line
- (b) Single cross
- (c) Synthetic
- (d) Other (please indicate formula)

4.3 Origin

- (a) Seedling (indicate parent varieties)

- (b) Mutation (indicate parent variety)

- (c) Discovery (indicate where, when and how the variety has been developed)

- (d) Other (please specify)

4.4 Method of propagation

- (a) Cuttings
- (b) *In vitro* propagation
- (c) Seed
- (d) Other (please specify)

4.5 Other information

In the case of seed propagated varieties: method of production:

- (a) Self-pollinated
- (b) Cross-pollinated (please give details)

- (c) Hybrid (please give details)

4.6 Geographical origin of the variety: the region and the country in which the variety was bred or discovered and developed
Section 5 – Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in the CPVO Protocol; please mark the state of expression which best corresponds).

| Characteristic | Example varieties | Note |
|--|-------------------|----------------------------|
| 5.1 Germity: percentage of monogerm seeds | | |
| (1) | | |
| Monogerm ($\geq 95\%$) | MS147 | 1 <input type="checkbox"/> |
| Partially monogerm/ partly multigerm (<95% and >15%) | | 2 <input type="checkbox"/> |
| Multigerm | KW919 | 3 <input type="checkbox"/> |
| 5.2 Ploidy | | |
| (2) | | |
| Diploid | MS147 | 2 <input type="checkbox"/> |
| Tetraploid | M99202 | 4 <input type="checkbox"/> |
| 5.3 Seedling: percentage of seedlings with anthocyanin colouration of hypocotyl | | |
| (3) | | |
| 0 – 19% | MS147 | 1 <input type="checkbox"/> |
| 30 – 39% | | 2 <input type="checkbox"/> |
| 40 – 59% | Ms146 | 3 <input type="checkbox"/> |
| 60 – 79% | | 4 <input type="checkbox"/> |
| 80 – 100% | Ms99202 | 5 <input type="checkbox"/> |
| 5.4 Plant: height | | |
| (9) | | |
| Very short | | 1 <input type="checkbox"/> |
| Short | MS 152, MS143 | 3 <input type="checkbox"/> |
| Medium | | 5 <input type="checkbox"/> |
| Tall | POLL132 | 7 <input type="checkbox"/> |
| Very Tall | | 9 <input type="checkbox"/> |

Section 6 – Similar varieties and differences from these varieties:

| Denomination of similar variety | Characteristic in which the similar variety is different ¹ | State of expression of similar variety | State of expression of candidate variety |
|---------------------------------|---|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

¹ In the case of identical states of expression of both varieties, please indicate the size of the difference.

Section 7 – Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

Yes, please specify

No

If it is agreed to carry out a special DUS test an appropriate charge will be levied

7.3 Special DUS Tests

If after two years distinctness has not been established please indicate whether special hypocotyl and/or cotyledon tests should be undertaken if a third year of DUS Testing has been agreed. A fee will be charged for these tests.

| | | |
|----------------|------------------------------|-----------------------------|
| Hypocotyl Test | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Cotyledon Test | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

7.4 Other information

Yes, please specify

No

Section 8 - GMO and other Novel types

Does this application relate to a Genetically Modified Organism as defined in Section 106 of the Environmental Protection Act 1990?

Yes No

If "Yes" you must complete form PVS9/B Genetically Modified and other Novel Candidates.

Section 9 - Information on plant material to be examined

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides).

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

| | | |
|---|------------------------------|-----------------------------|
| (a) Micro-organisms (eg virus, bacteria, phytoplasma) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (b) Chemical treatment (eg growth retardant or pesticide) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (c) Tissue culture | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| (d) Other factors | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Please provide details of where you have indicated "Yes"

Section 10 - Value for Cultivation and use (VCU) information (for NL purposes only)**10.1 Standard VCU characters and agreed optional characters**

The obligatory VCU characters measured for all candidates are shown in bold in the VCU procedures at <http://www.fera.defra.gov.uk/plants/plantVarieties/nationalListing/protocolsProcedures/vcuProcedures.cfm>, or are available from the Animal and Plant Health Agency (APHA). Agreed procedures exist for some optional characters (shown in italics in the VCU procedures). If you wish any of these to be assessed, you must request that they be measured. Additional fees will be charged by the trial organiser.

Do you wish any optional characters to be measured?

Yes No

If 'Yes' please give details

10.2 Additional VCU characters

Are there any non-standard characters to be measured?

Yes No

If 'Yes' please provide details of the proposed test to APHA. The characteristic being tested for must have Value for Cultivation and Use. The test must be able to demonstrate whether the candidate has the characteristic and be statistically valid. The agreement of the UK National Authorities is required before special tests can be undertaken and additional fees will be charged.

10.3 Other factors for VCU assessment

Are there any other factors that should be taken into account for the VCU assessment (e.g. susceptibility to commercial herbicides, special uses, agronomic characteristics, pest/disease resistance)?

Yes No

If 'Yes' please give details

Declaration

I/We declare that to the best of my/our knowledge and belief the statements made in this Technical Questionnaire are correct

Signature of Applicant

Date

(original signature unless emailed)

Name in BLOCK letters

For and on behalf of