

Official Use Only	
Ref. AFP	85 / <input type="text"/>
GM	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other Restrictions	Yes <input type="checkbox"/> No <input type="checkbox"/>

Technical Questionnaire (SUNFLOWER)

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 Lines (PL)

(b) Species: Latin name **Helianthus annus 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

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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(b) Provisional designation (breeder's name/reference)

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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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)

4.2 Type of material

- (a) inbred line
- male sterile line
- male fertile line B (maintainer of sterility)
- male sterile line R (restorer of sterility)
- (b) Hybrid
- male sterile single hybrid
- male fertile single hybrid
- three-way hybrid
- (c) open pollinated variety
- (d) other (please indicate)

4.3 Other information on genetic origin and breeding method (to be completed for each component of a hybrid variety)

Component name	Genetic origin	Parentage with any other known components

4.4 Formula (hybrids only).

Please complete sections 5 to 7 for each component on a separate sheet

Single hybrid

	X	
Female line		Male line

Three-way hybrid

	X	
Female parental line		

Single hybrid used as female

	X	
		Male parental line of three-way hybrid

NB in male sterile systems, indicate, the name of the maintainer line of the female parental line

4.5 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) **4.6 Method of propagation**(a) Cuttings (b) *In vitro* propagation (c) Seed (d) Other (please specify) **4.7 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) **4.8 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 Leaf: green colour (4)		
Light	H 52.9.1.1	3 <input type="checkbox"/>
Medium	HA 821	5 <input type="checkbox"/>
Dark	HA 303	7 <input type="checkbox"/>
5.2 Leaf: blistering (5)		
Absent or very weak		1 <input type="checkbox"/>
Weak	HA 342, RHA 273	3 <input type="checkbox"/>
Medium	HA 291	5 <input type="checkbox"/>
Strong	HA 303, RHA 361	7 <input type="checkbox"/>
Very long		9 <input type="checkbox"/>

Characteristic	Example varieties	Note
5.3 Time of flowering (14)		
Very early	HA 302, RHA 381	1 <input type="checkbox"/>
Early	RHA 273	3 <input type="checkbox"/>
Medium	RHA 274	5 <input type="checkbox"/>
Late	RHA 271	7 <input type="checkbox"/>
Very Late	RHA 361	9 <input type="checkbox"/>
5.4 Ray floret: colour (19)		
Yellowish white		1 <input type="checkbox"/>
Light yellow		2 <input type="checkbox"/>
Medium yellow	HA 89	3 <input type="checkbox"/>
Orange yellow	RHA 361	4 <input type="checkbox"/>
Orange	CM 587, RHA 295	5 <input type="checkbox"/>
Purple		6 <input type="checkbox"/>
Reddish brown		7 <input type="checkbox"/>
Multicoloured		8 <input type="checkbox"/>
5.5 Plant: natural height (28)		
Very short	HA 379	1 <input type="checkbox"/>
Short	HA 291	3 <input type="checkbox"/>
Medium	RHA 801	5 <input type="checkbox"/>
Tall	H 52.9.1.1	7 <input type="checkbox"/>
Very tall		9 <input type="checkbox"/>
5.6 Plant: branching (excluding environmental branching) (29)		
Absent	HA 89	1 <input type="checkbox"/>
Present	RHA 271	9 <input type="checkbox"/>
5.7 Seed: main colour (38)		
White		1 <input type="checkbox"/>
Whitish grey		2 <input type="checkbox"/>
Grey	Trisun 860	3 <input type="checkbox"/>
Light brown		4 <input type="checkbox"/>
Medium brown	RHA 273	5 <input type="checkbox"/>
Dark brown		6 <input type="checkbox"/>
Black	HA 89	7 <input type="checkbox"/>
Purple		8 <input type="checkbox"/>

Characteristic	Example varieties	Note
5.8 Seed: stripes <u>on</u> margin (39)		
None or weakly expressed	RHA 273	1 <input type="checkbox"/>
Weakly expressed	H 52.9.1.1	2 <input type="checkbox"/>
Strongly expressed	HA 89	3 <input type="checkbox"/>

5.9 Seed: stripes between margins (40)

None or weakly expressed	RHA 273	1 <input type="checkbox"/>
Weakly expressed	RHA 293	2 <input type="checkbox"/>
Strongly expressed	HA 89	3 <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

- (a) Downy mildew (specify the races)
- (b) Rust
- (c) other (please indicate)

7.2 Use

- (a) Oil and cake
- (b) Birds and direct human consumption
- (c) Ornamental
- (d) other (please specify)

7.3 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

7.4 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 No

(b) Chemical treatment (eg growth retardant or pesticide) Yes No

(c) Tissue culture Yes No

(d) Other factors Yes No

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 <https://www.gov.uk/guidance/vcu-protocols-and-procedures-for-testing-agricultural-crops>, 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 by ticking the appropriate box – see below. 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