

Official Use Only	
Ref. AFP	51 / <input type="text"/>
GM	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other Restrictions	Yes <input type="checkbox"/> No <input type="checkbox"/>

# Technical Questionnaire (MAIZE)

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](mailto: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 *Zea mais* L. Grain maize  Forage maize

(c) Common name

(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)

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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
- (b) Single-cross hybrid
- (c) Three-way hybrid
- (d) Double-cross hybrid
- (e) Open-pollinated variety
- (d) other (please indicate formula)

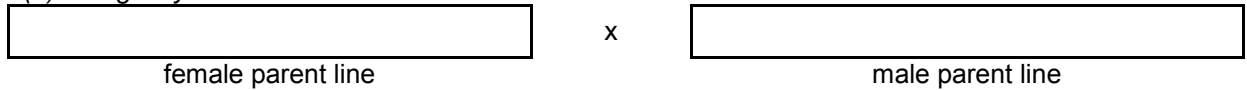
Variety resulting from:

- 1. Crossing 
  - (a) Controlled cross   
(please state parent varieties)
  - (b) Partially known cross   
(please state parent variety/ies)
  - (c) Unknown cross
- 2. Mutation   
(please state parent variety)
- 3. Discovery and development   
(please state where and when discovered and how developed)
- 4. Other   
(please provide details)

**4.3 Method of propagating the variety**

4.3.1 In the case of hybrid varieties the production scheme should be provided. This should provide details of all the parental lines for propagating the hybrid eg

(a) *Single hybrid*



(b) *Three-way hybrid*

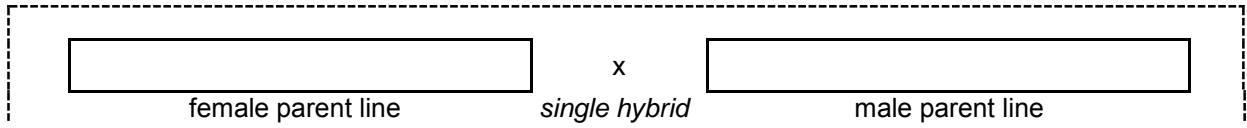
single hybrid (below) used as female parent

or

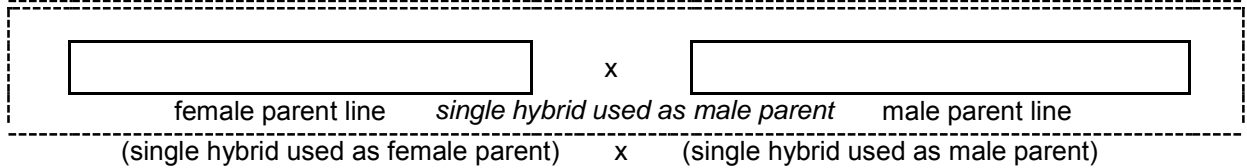
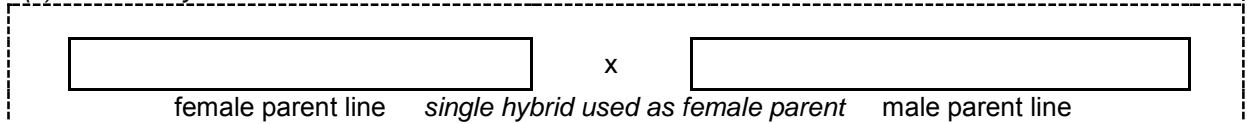
x

male parent line

single hybrid (below) used as male parent



(c) *Double hybrid*



and should identify in particular:

(i) any male sterile female parent lines

(ii) maintenance system of male sterile female parent lines

4.3.2 Open-pollinated varieties

4.3.3 Other (please provide details)

**4.4 Managing the risk of adventitious GM presence**

(a) The region and the country in which the variety was bred or discovered and developed

(b) Country of origin of the seed of the candidate variety

(c) Are you currently a participant in the voluntary AGMP risk audit programme run by the GM Inspectorate for England on behalf of Defra? Yes  No

If 'No' please provide an assessment of your company's quality assurance measures with respect to adventitious GM presence in conventional seed

**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
<b>5.1 Tassel: time of anthesis (6)</b>		
Very early		1 <input type="checkbox"/>
Very early to early	KW1069, Spirit (SC)	2 <input type="checkbox"/>
Early	F257, Champ (SC)	3 <input type="checkbox"/>
Early to medium	F259, Centurion (SC)	4 <input type="checkbox"/>
Medium	F522, Zenith (SC)	5 <input type="checkbox"/>
Medium to late	A632	6 <input type="checkbox"/>
Late	B73	7 <input type="checkbox"/>
Late to very late	AM1513	8 <input type="checkbox"/>
Very late		9 <input type="checkbox"/>
<b>5.2 Tassel: anthocyanin colouration at base of glume (7)</b>		
Absent or very weak	W117, Royalty (SC)	1 <input type="checkbox"/>
Weak	F66, Boston (SC)	3 <input type="checkbox"/>
Medium	F107	5 <input type="checkbox"/>
Strong	EP1	7 <input type="checkbox"/>
Very strong		9 <input type="checkbox"/>
<b>5.3 Ear: anthocyanin colouration at base of silks (14)</b>		
Absent or very weak	F7, F195, Bonus (SC)	1 <input type="checkbox"/>
Weak	F257, El Toro (SC)	3 <input type="checkbox"/>
Medium	F244, Gyöngymazsola (SC)	5 <input type="checkbox"/>
Strong	W401	7 <input type="checkbox"/>
Very strong		9 <input type="checkbox"/>
<b>5.4. <u>Only hybrids and open-pollinated varieties</u> Plant: length (22.2)</b>		
Very short		1 <input type="checkbox"/>
Short	PR39D23	3 <input type="checkbox"/>
Medium	PR37Y12	5 <input type="checkbox"/>
Long	DKC5166	7 <input type="checkbox"/>
Very long		9 <input type="checkbox"/>

Characteristic	Example varieties	Note
<b>5.5 Ear: type of grain (34)</b>		
Flint	F2	1 <input type="checkbox"/>
Flint-like	F252	2 <input type="checkbox"/>
Intermediate	F107	3 <input type="checkbox"/>
Dent-like	A654	4 <input type="checkbox"/>
Dent	W182 E	5 <input type="checkbox"/>
Sweet	Jubilee (SC)	6 <input type="checkbox"/>
Pop	Iowa pop (SC)	7 <input type="checkbox"/>
Waxy		8 <input type="checkbox"/>
Flour		9 <input type="checkbox"/>

**5.6 Ear colour of dorsal side of grain (37)**

White	F481	1 <input type="checkbox"/>
Yellowish-white	A188	2 <input type="checkbox"/>
Yellow		3 <input type="checkbox"/>
Orange yellow	F66	4 <input type="checkbox"/>
Orange	EP1	5 <input type="checkbox"/>
Red Orange		6 <input type="checkbox"/>
Red	Iowa pop (SC)	7 <input type="checkbox"/>
Purple		8 <input type="checkbox"/>
Brownish		9 <input type="checkbox"/>
Blue black		10 <input type="checkbox"/>

**5.7 Ear: anthocyanin colouration of glumes of cob (39)**

Absent or very weak	F2, F257	1 <input type="checkbox"/>
Weak	F252	3 <input type="checkbox"/>
Medium	W117	5 <input type="checkbox"/>
Strong	A632	7 <input type="checkbox"/>
Very strong		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 <sup>1</sup>	State of expression of similar variety	State of expression of candidate variety

<sup>1</sup> 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 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. 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

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**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.

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**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

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**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