Advisory Committee on Releases to the Environment Advice

Advice on the precision bred status of organisms described within a precision breeding marketing notice

Precision Breeding Marketing Notice Reference: PBM/26/02/TRAE/001

Marketing notice received: June 2026

Notice summary: A precision breeding marketing notice describing a gene edited wheat plant (*Triticum aestivum*) where CRISPR-Cas9 has been used to create a base pair deletion in the promoter region of the *Short Vegetative Phase-A1 (SVP-A1)* gene. The resulting phenotype is a wheat plant with elongated glumes, lemmas and grains.

Advice of the Advisory Committee on Releases to the Environment (ACRE) under section 7 of the Genetic Technology (Precision Breeding) Act 2023 to the Secretary of State for Environment, Food and Rural Affairs.

ACRE considers the organisms described within the referenced marketing notice **to be precision bred,** based on the definition of a precision bred organism outlined in Section 1.2 of the Genetic Technology (Precision Breeding) Act 2023.

Overview

ACRE has assessed the information provided in this marketing notice against the definition of a precision bred organism outlined in Section 1.2 of the Genetic Technology (Precision Breeding) Act (the act). ACRE's advice is as follows:

'(a) Any feature of its genome results from the application of modern biotechnology'

The wheat plant has a 471-bp deletion in the promoter region of the nuclear gene *Short Vegetative Phase-A1 (SVP-A1)* resulting from the application of a site-directed endonuclease (CRISPR-Cas9) and appropriate guide RNAs introduced *via* Agrobacterium mediated transient transformation. This is a technique of modern biotechnology as defined by the act.

'(b) Every feature of its genome that results from the application of modern biotechnology is stable'

Genotyping of generations from T_1 to BC_1F_3 lines by next generation sequencing showed the edit to be stably inherited

'(c) Every feature of its genome that results from the application of modern biotechnology could have resulted from traditional processes, whether or not in conjunction with selection techniques, alone'

The transformation of the wheat plant with CRISPR-Cas9 and three specific guide RNAs is accepted to have resulted in a 471-bp deletion in the promoter region of *SVP-A1* gene resulting in an increase in gene expression and broadening of the genes' expression domains. These edits in the targeted gene are genetic changes that could have resulted from traditional processes as defined in the act.

'(d) Its genome does not contain any feature that results from the application of any artificial modification technique other than modern biotechnology'

The wheat plant does not contain any feature within its genome made by artificial modification techniques, other than modern biotechnology. To confirm this, the notifier performed qPCR analysis using primers specific to the transgenic cassette and reference gene introduced during the transient transformation. Lines returning no amplification demonstrated the presence of only genetic sequences that could arise from traditional processes. The absence of foreign DNA elements was subsequently supported by whole genome sequencing.

Therefore, based on the information provided within the referenced marketing notice, ACRE considers this plant to be precision bred.