



# CEREAL VARIETY TESTING

To be marketed in the UK a variety must be National Listed and pass the DUS test: Distinctness (D) from all other varieties; Uniformity (U) of the plants within the variety; and Stability (S) with all plants remaining consistent.

In the UK this test is administered by APHA for National Listing and UK Plant Breeders' Rights (PBR) and by the Community Plant Variety Office (CPVO) for European PBR. On their behalf, NIAB carries out the DUS testing of wheat, barley, oats, oilseed rape, sugar beet, field beans and fodder kale.

DUS testing ensures that new varieties are unique and that they remain 'true to type'. Differences between some varieties can be easy to detect but others may be far more subtle. Characters are assessed visually, or measured then analysed, to determine distinctness and generate the variety description. Uniformity and stability are assessed by the detection of varietal off-types.

The trial is conducted over at least two growing seasons. The DUS test procedure is determined by CPVO technical protocols which follow UPOV principles.

Each species has a set number of characters to be recorded each year: barley has 28 characters, wheat 25 and oats 22. In 2020 NIAB's DUS Cereals team will be assessing 136 new wheat, 135 new barley and 17 new oat varieties across seven different trials throughout the year.

Each candidate variety is also tested for VCU (Value for Cultivation and Use) for National Listing, but that is another story.



Wheat lower glume shoulder width and elevation



Wheat scur length



Wheat ear density and distribution



Barley lower leaf sheath anthocyanin



Barley rachilla hair type – long and short



Barley anthocyanin pigmentation of lemma nerves



Barley sterile spikelet – divergent and parallel