

INTERNATIONAL BREEDING FOR LOCAL SUCCESS

Have you ever wondered who develops the varieties grown on your farm? This article takes you on a journey into cereal breeding in France, Germany and the United Kingdom. Breeders provide insights into their daily work, discuss current varieties and share valuable practical advice on cultivation.

More about
cereal breeding:



High-performing varieties do not arise by chance. They are the result of targeted crossbreeding, consistent selection and intensive testing over many years. Success in plant breeding depends not on a single trait, but on the combination of yield potential, disease resistance and adaptability.

Periods of drought, heat stress during grain filling and changing disease pressures associated with climate change and increasingly variable weather conditions are adding to production risks. As a result, modern varieties are expected to combine strong agronomic performance with resilience across a wide range of growing conditions.

This is the focus of the international cereal breeding programme of Deutsche Saatveredelung AG (DSV). Through a wide-ranging breeding

programme and an extensive testing network across multiple locations in Europe, DSV develops varieties with strong disease resistance, climate adaptability and broad adaptation to different growing environments.

DSV's three cereal breeding stations in Germany, France and the United Kingdom form part of a global network of eight breeding stations. This structure helps ensure that new genetics are broadly adapted and perform well under practical farming conditions.

The following insights from DSV breeders highlight different breeding approaches and provide perspectives on how breeding objectives are translated into practical variety development.



Germany: Disease resistance and yield performance

The E-quality wheat variety **EXSAL** is the result of a breeding approach that combines disease resistance and agronomic performance. The breeding objective was to develop a variety that maintains its performance under increased disease pressure while delivering a high yield potential.

As the most widely multiplied awned wheat variety for the 2026 harvest, EXSAL has gained broad market adoption.

The variety combines strong yield performance with

the quality characteristics required for marketing in the A-quality wheat segment.

Dr Jost Dörnte, winter wheat breeder at DSV's Leutewitz site in Germany, explains that several resistance traits were specifically combined for EXSAL: very good Fusarium resistance (grade 3), stem break resistance (Pch1) and gall midge resistance protect the plant throughout its entire development. This pays off particularly in tight crop rotations or following maize.

The variety combines good lodging resistance with strong yield potential and has demonstrated consistent performance under untreated and reduced-input conditions, including in organic farming systems.

"Many farmers value varieties that combine disease resistance with reliable agronomic performance. This was a key objective in the development of EXSAL," says Dörnte.

» The development of robust varieties
does not just happen by chance;
it is a key breeding objective. «

Dr Jost Dörnte, DSV winter wheat breeder,
Leutewitz, Germany



DSV ONCE AGAIN MARKET LEADER IN WINTER BARLEY 2026!

Analysis of certified seed multiplication areas (SMA) 2026: JULIA remains the most widely multiplied variety, with 5,115 ha. ESPRIT is being multiplied on 1,042 ha.



France: Challenging conditions shape future genetics

The DSV cereal breeding sites in France are frequently characterised by drought and early-season heat stress. The Group A winter wheat variety **KAROQUE** was developed under precisely these conditions.

"KAROQUE was selected for rapid early development and reliable early grain filling," explains Sébastien Cuvelier, DSV winter wheat breeder in France, describing the breeding approach. For growers, this means the variety makes efficient use of winter and spring moisture and is better able to cope with stress occurring later in the season.

Particularly on sites affected by summer drought or where sowing is delayed, KAROQUE maintains its reliable earliness. This provides greater harvest security and helps distribute peak workloads more effectively.

As A-Quality wheat, KAROQUE combines high protein content with reliable falling number performance. Additional strengths include its short plant height, good lodging resistance and vigorous establishment in both autumn and spring.

"Early maturity combined with reliable quality was a key breeding objective, and one we have successfully achieved with KAROQUE," Cuvelier concludes.

The B-quality wheat that supports crop management

A different breeding focus was pursued with the winter wheat variety **DJANGO**. As a Group B wheat, DJANGO combines agronomic traits that can support crop management decisions in practice. In the context of increasing resistance challenges and a continued reduction in the availability of active ingredients, varieties with a balanced agronomic profile are becoming increasingly relevant.

DJANGO shows rapid development in both autumn and spring, producing broad leaves and closing the rows early. These characteristics can contribute to crop competitiveness against grass weeds.

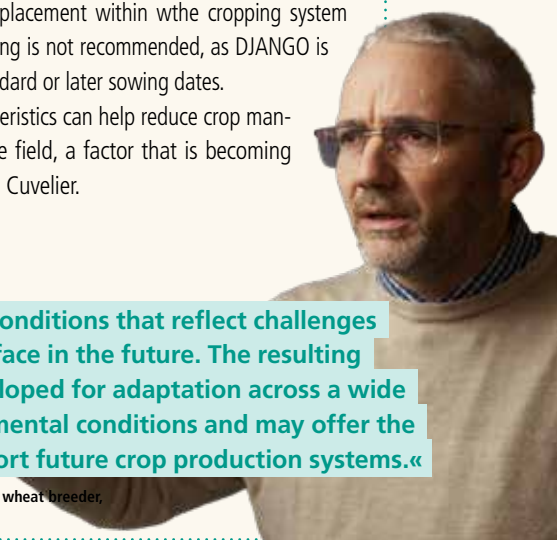
Cuvelier notes that the variety may be of particular interest on farms facing high grass-weed pressure or operating with reduced crop protection inputs. Additional characteristics include early maturity, high yield performance and reliable falling number performance. Good tolerance to Fusarium supports its suitability for cultivation following maize. Resistance to orange wheat blossom midge further contributes to the variety's agronomic profile.

As with all varieties, correct placement within the cropping system remains important. Early sowing is not recommended, as DJANGO is generally better suited to standard or later sowing dates.

"The variety's specific characteristics can help reduce crop management requirements in the field, a factor that is becoming increasingly important," says Cuvelier.

» We breed under conditions that reflect challenges many farms may face in the future. The resulting varieties are developed for adaptation across a wide range of environmental conditions and may offer the potential to support future crop production systems.«

Sébastien Cuvelier, DSV winter wheat breeder, Terminiers, France



United Kingdom: Breeding for yield performance

The Group B wheat **CHAMPION** combines several yield-related characteristics within a single variety. Strong tillering capacity, high stand density and a high number of grains per ear provide the foundation for its yield performance.

The variety's yield potential was demonstrated in United Kingdom in 2022, when CHAMPION achieved a grain yield of 17.95 t/ha under the conditions of a world-record harvest. This result highlights the genetic yield potential of the variety.

"The variety shows a more moderate rate of development in spring, while maintaining stand stability over an extended period and demonstrating broad adaptation across a range of growing conditions," explains Dr Matt Kerton, DSV winter wheat breeder in the United Kingdom.

For practical crop management, later sowing dates, an adequate nutrient supply and close monitoring of rust diseases are important considerations. Resistance to orange wheat blossom midge is an additional agronomic characteristic that may support crop production.

"Where CHAMPION is managed appropriately within the production system, high yield performance can be realised," says Kerton.

Conclusion

An extensive breeding and testing network creates the basis for broadly adapted genetics. Varieties developed under a wide range of environmental conditions offer the potential to shape the future of crop production.

» We deliberately combine different yield-forming traits to maximise the performance potential of a variety. «

Dr. Matt Kerton, DSV winter wheat breeder, Wardington, United Kingdom

