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Doriane introduces Bloomeo Breeding, bringing AI-led precision to modern plant breeding

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Doriane SAS has officially launched Bloomeo Breeding, its next-generation software platform designed to redefine how plant breeding programmes are managed, integrated and accelerated in an increasingly data-intensive agricultural landscape.

The launch marks a significant expansion of the companyâ??s broader Bloomeo ecosystem following successful deployment across agronomy testing and variety development programmes. With the new platform now commercially available, Doriane is positioning the solution as a central operating layer for breeding organisations ranging from global seed companies to research institutions and mid-sized breeding enterprises.

At a time when agricultural innovation cycles are under mounting pressure from climate volatility, food security concerns and evolving market expectations, breeding organisations are increasingly seeking systems capable not only of storing data, but of orchestrating complex scientific workflows across distributed research environments.

It is precisely this transition that Bloomeo Breeding seeks to address.

Unlike traditional breeding databases built around fragmented data repositories, the platform introduces a workflow-oriented architecture designed to unify every stage of the breeding lifecycle â?? from parental selection and crossing strategies to field advancement, trial evaluation and commercialisation pathways.

At the heart of the platform lies an open, API-driven infrastructure intended to function as a central nervous system for breeding research and development. The architecture enables integration across laboratory systems, legacy databases, external analytics platforms and operational workflows, allowing organisations to consolidate breeding intelligence within a single digital environment.

Commenting on the launch, Louis Gauthier, Co-CEO of Doriane SAS, noted that modern breeding organisations are moving beyond the need for static databases toward collaborative systems capable of streamlining increasingly complex breeding operations.

According to him, breeding programmes today require interconnected platforms that can accelerate decision-making, integrate multi-source datasets and support cross-functional collaboration at scale.

The platform has also been developed around a KPI-driven operational framework aimed at improving breeding efficiency and programme return on investment. By embedding breeding objectives into workflow execution from the outset, the system provides real-time visibility into operational performance, trial progression and programme bottlenecks.

Integrated dashboards consolidate data from multiple sources, enabling breeding teams to compare cultivar performance against predefined product profiles while supporting faster and more informed decision-making.

One of the platformâ??s defining capabilities lies in its integration of genetics, environment and management variables into a unified analytical model â?? often referred to within agricultural science as GxExM interactions.

Through this approach, the platform enables breeders to analyse how genetic material performs not only across varying environmental conditions, but also under different agronomic and management practices. The system integrates phenotypic, genotypic, agronomic and environmental datasets within a single operational framework while supporting field data collection through a mobile offline-first application.

The objective, according to the company, is to transform breeding programmes from isolated data analysis exercises into fully contextualised and predictive decision environments.

Tristan Duminil, Head of Agronomy at Doriane SAS, observed that modern plant breeding increasingly depends on understanding how varieties interact dynamically with both environment and management systems rather than genetics alone.

He added that the platform was specifically designed to make this complexity operationally actionable for breeding teams.

Beyond scientific integration, Doriane has also placed significant emphasis on usability and organisational adoption. The platform has been designed to support stakeholders across the entire breeding ecosystem, including breeders, field technicians, laboratory teams, data scientists and management functions.

According to the company, earlier Bloomeo modules currently support more than 550 users within Limagrain, achieving adoption rates of approximately 95 percent â?? a figure Doriane attributes to its user-centric interface design and implementation methodology.

The launch of Bloomeo Breeding follows an investment of nearly â?¬10 million over four years, combining Dorianeâ??s four decades of expertise in plant breeding data systems with advances in software engineering and agricultural analytics.

The company stated that it plans to continue investing approximately â?¬2 million annually into platform development, with future priorities focused on envirotyping capabilities, environmental data integration, advanced analytics, workflow optimisation and partnerships with AgTech innovators.

For Doriane, the launch represents more than the release of a software platform. It reflects a broader transformation underway within agricultural science â?? where breeding is increasingly becoming a convergence of biology, environmental intelligence, predictive analytics and digital infrastructure.

As global agriculture confronts the dual challenge of producing more resilient crops while accelerating innovation timelines, platforms such as Bloomeo Breeding are emerging as the connective tissue linking scientific discovery with scalable agricultural impact.