Government Chemist webinar: Covid and agricultural sustainability

The Government Chemist's vision is to provide world class measurement science to support an innovative and growing UK agrifood sector that trades sustainably on a global basis. This is achieved through the provision of impartial and unbiased technical advice and scientific measurement functions not just as a route of technical appeal for the UK Government and industry but also as a valued expert resource.

To support this vision the Government Chemist seeks to engage stakeholders through diverse events, including its webinar series.

Webinar: Impact of COVID-19 on agricultural sustainability – developing resilience for the future

The ultimate consequences of COVID-19 on communities, countries and the world has yet to be realised and may take years to understand fully. However, the revolution in technological innovation instigated by the research community for SARS-CoV-2 testing and in the development of a vaccine has catapulted novel approaches of use for wider human diagnostics. The pandemic has also highlighted the chasm that exists for food security in the least-developed countries, a situation which can be seen as an analogy for the agricultural sustainability challenges currently facing more developed countries.

Improvements in pathogen detection, soil analysis, genetic diversity and the utilisation of gene editing tools (such as CRISPR) for rapid modifications to plant varieties have a role to play in facilitating solutions for the future. However, there remains a disconnect between these high-level solutions and their realistic application on the ground. Accessibility to, and timeliness of delivery of, cost-effective technological advancements requires immediate action by the global agricultural community and is critical to enabling the breeders to respond to the changing demographics of their challenged communities.

This presentation will investigate how genomics, and in particular the application of novel technologies such as ultrahigh throughput (uHTP) workflows developed for diagnostic solutions to the pandemic, can play its part in providing resilience and future-proofing against climate change, population increases and possible further pandemics.

About Darshna Vyas

Darshna is a Senior Scientist at LGC specialising in plant genetics. She has been involved in a wide range of projects in the area of agricultural sustainability. She was the project manager for Bill and Melinda Gates Foundation – Generation Challenge Program which ensured the successful application of KASP assay genotyping as an advanced molecular marker tool for breeding programs in developing countries.

Darshna began her career at the James Hutton institute developing molecular markers for disease resistance in raspberries. Her crop development experience continued at Biogemma UK Ltd working primarily on cereal crops developing SSR methodology and SNP discovery for starch biosynthetic enzymes.

Darshna participated in the Artemisia Project funded by the Bill and Melinda Gates Foundation at York University, an important step towards understanding breeders' requirements for varietal development using molecular markers in MAS. Field trial management in Kenya, Uganda, China, India and Madagascar saw the development of successful commercial varieties of Artemisia for the sustainable supply of artemisinin for Artemisinin Combination Therapy (for the treatment of malaria) production.

Darshna will be introduced by the Government Chemist, Dr Julian Braybrook.