

Global Conference on Sustainability in Agriculture & Food Systems

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Abstract of the intervention:

Developing new wheat germplasm with gene editing strategies in UK

According to estimates compiled by the Food and Agriculture Organization (FAO), by 2050 we will need to produce 60% more food to feed a world population of over 9 billion. Food insecurity and low dietary quality cause public health problems. Less land and water for producing food, in addition to the climate crisis, imposes substantial challenges to produce food for the growing population in sustainable way. As a major staple crop, unrivalled in its geographic range of cultivation, wheat accounts for more than 20% of the protein and caloric intake of human diet worldwide. Plant breeders and scientists use crop diversity to develop new wheat germplasm. Recent major advances in genome editing (GE) and a step-change in wheat transformation efficiency, as well as cultivar flexibility, means that scientists are well placed to rise to these future challenges facing global wheat production. New plant breeding technologies (NPBTs) could contribute to increase crop yields and improve nutrition, pest management, resilience to climate change, and reduce postharvest losses. The timely arrival of UK legislation reducing the stringency of GE trial regulations places the UK agricultural research and development sector in a position to fully exploit these highly complementary breakthroughs.