# Innovate UK

## Results of Competition:Agri-Tech Catalyst - Industrial Research - Round 6Competition Code:1607\_CRD\_SAF\_AGCATIR6

### Total available funding is £4m across Early Stage, Industrial Research and Late Stage from DFID

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
KWS UK Ltd	Hybrid wheat in Africa - increasing	£358,186	£179,093
Sensako PTY Ltd	productivity and stability	£354,420	£248,094
University of Sydney		£305,730	£305,730

#### **Project description - provided by applicants**

The project "Hybrid wheat in Africa - increasing productivity and stability" will test several hundred hybrid spring wheat lines created with lines from major, global spring wheat regions such as Southern and Eastern Africa, the Americas, Australia and Europe. The test hybrids will be tested in 33 different environments on five continents over two years. This will test the hypothesis that geographically distant genepools can be exploited in wheat hybrids aiming at high, low and intermediate wheat production regions. Furthermore, extensive studies in Southern and Eastern Africa and Australia will investigate the perceived increased yield stability of wheat hybrids over traditional inbred varieties as stability of production is a key contributor to food security in developing countries. Finally, methods for cost-efficient hybrid seed production in South Africa will be tested with the aim of being able to produce affordable wheat hybrid seed locally.

Note: you can see all Innovate UK-funded projects here

https://www.gov.uk/government/publications/innovate-uk-funded-projects Use the Competition Code given above to search for this competition's results

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	KASP genomic selection:	£610,738	£305,369
	improving farmers' livelihoods through better rice varieties	£89,938	£89,938
Bangor University	5	£431,709	£431,709
Anamolbiu Private Ltd		£152,107	£106,475
Nepal Agriultural Research Council		£94,263	£94,263
National Institute for Biotechnology and Genetic		£13,296	£13,296

#### Project description - provided by applicants

This project directly addresses the challenge of improved food security and livelihoods for international development. For about half a billion people in Asia, most of them poor, rice provides over 50% of the caloric supply so the size and stability of the rice harvest is crucial. The simplest way to increase yields is by the breeding of new rice varieties with greater resistance to diseases and pests and improved tolerance to stresses. To help in this breeding all Asian national rice breeding programmes use DNA markers. This project will develop LGC genomics' proprietary molecular technologies (called KASP) by providing thousands of new KASP markers. By the end of the project, KASP will become the marker of choice for rice breeders through greater choice of markers (available for any cross), reduced costs (allowing a three-fold increase in the size of the breeding programme) and increased speed and reliability. This will provide a revolution in rice breeding by making it possible to do genome-wide, selection instead of selecting for markers at a few target traits. A single improved rice variety can increase harvest value by millions of pounds a year so improved rice breeding methods in all Asian countries will have great impact on improved food security and improved farmers' livelihoods.

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Dearman Engine Company Ltd	Advanced Mobile Pre-Cooling	£850,339	£510,203
Mornay Trading (PTY) Ltd	System	£213,003	£106,501
Harvestfresh Farms CC		£56,654	£28,327

#### Project description - provided by applicants

The project aims to develop and demonstrate an Advanced Mobile Pre-Cooling System (AMPCS) for post harvested fruits and vegetables in South Africa. The fruits and vegetables pre-cooling market is estimated to be worth £730m in Africa. The AMPCS provides a cleaner, cost-effective alternative to diesel-based systems. The blast-chiller is powered by the Dearman engine, a novel expander which utilises liquid nitrogen for cooling and power generation. It is less dependent on grid infrastructure and zero-emission at the point of application, offering emissions (CO2, NOx and PM) and cost saving benefits. The pre-cooler can help to sustainably: 1) Reduce food and resource waste due to lack of refrigeration; 2) Improve farmers' productivity by reducing wastage; 3) Increase produce value by improving food quality; and 4) Allow farmers to sell products to a wider range of markets. The project will be a collaborative effort between Dearman, the technology provider; Transfrig the cold chain operator; and Harvest Fresh, a family-owned food producer based in the Gauteng province.

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