Innovate UK

Results of competition: Agri-Tech Catalyst - Early stage - round 4

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
Selex ES; SOYL	Feasibility study to develop technology for predicting wheat yield	£460,085	£207,037
Project description - provided by applicants			
The collaborative project between Selex ES and SOYL will test the feasibility of developing new technology for predicting wheat yield using a wide range of data including; remotely sensed information describing the crop and soil. The project is highly innovative as it seeks to produce the first commercially viable yield prediction service that not only predicts yield, but also to identify the key factors expected to limit yields. New applications for remote sensing technologies will be developed and innovative techniques for integrating a wide range of data types will be employed. The ultimate goal of this initiative is to produce a decision support tool that enables more efficient operating practices for a wide range of clients within the wheat industry.			

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University of Nottingham; Dunbia; Farm Wizard	Development and validation of a system for automatic detection of lameness in sheep	£391,906	£242,492

Project description - provided by applicants

This project seeks to address the challenge of sheep lameness, a predominant cause of both poor productive and reproductive performance on sheep farms costing industry around £80 Million /yr. Lameness control relies on early detection and treatment of lame sheep yet there are no suitable /optimal tools for lameness detection. The project proposes to develop and test validity of a system for automatic lameness detection in sheep.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
GALVmed; CTTBD (Malawi); Arecor Ltd	Vaccine Diluent Improvement for ECF-ITM	£267,697	£195,678

Project description - provided by applicants

This project represents a unique opportunity to translate British technology and expertise from the human health sector into livestock disease control in the developing world context. The project focuses on East Coast Fever (ECF), a major constraint on small-holder cattle production in East, Central and Southern Africa. An effective vaccine, ECF-ITM, currently exists for the disease but it has a number of important drawbacks that affects its use in the field. This project will trial the use of novel formulations as a replacement for the ECF-ITM vaccine diluent. Success in the project will deliver important ECF-ITM vaccine product enhancements, notably vaccine stability. This will afford far greater mobility and flexibility to ECF vaccinators resulting in an estimated 300,000 additional cattle being effectively immunised per year. This will be a notable development in the sustainable intensification of small-holder cattle production in the region.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Rothamsted Research; Seed-Co Ltd	Aphid resistant wheat for the smallholder farmer in Africa	£237,723	£94,932

Project description - provided by applicants

Seed-Co are the largest seed company in Africa, operating in 13 countries in Eastern, Central, Western and Southern Africa and have developed varieties suitable for different environmental conditions as well as for the smallholder farmer, therefore any pest resistance traits will benefit farmers in Africa and further afield. Smallholder farmers face difficult challenges in protecting their crops against pests and diseases in these countries. Aphid pests can cause severe damage and yield losses to wheat. This project will identify wheat lines which show resistance to aphids, which can be bred into wheat varieties suitable to be grown in rain-fed, low-potential environments, thereby safeguarding the yield of smallholder farmers and reducing the reliance on expensive and environmentally unfriendly pesticides. By doing this we hope to contribute to the food and income security of the African smallholder farmer.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Russell IPM Ltd; Russell IPM Bangladesh Ltd; Bangabandhu Sheikh Mujibur Rahman Agricultural Uni; East Malling Research; Natural Resources Institute, University of Greenwich	Application of General Repellents against Agricultural Pests	£325,845	£244,301

Project description - provided by applicants

General semiochemical repellents are widely used for protecting humans and livestock from attacks by arthropod pests in developing and developed countries, but they have been little explored or used for crop protection. The aim of this project is to prove the concept that volatile, repellent chemicals can be used to reduce the damage caused to agricultural crops by a range of insect pests. This could provide a widely-applicable new approach to management of crop pests that reduces the use of conventional pesticides and is compatible with integrated pest management and sustainable agricultural intensification. The approach is applicable in both developed and developing countries. The project will be a collaboration between a UK SME, Russell IPM, two UK research institutes, East Malling Research and the Natural Resources Institute, and an SME, Russell IPM Bangladesh, and university, Bangabandhu Sheikh Mujibur Rahman Agricultural University, in Bangladesh

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Moredun Research Institute; Benchmark Animal Health Ltd.	Pan-specific vaccine to control Streptococcus agalactiae disease in tilapia aquaculture	£352,211	£254,607

Project description - provided by applicants

As the world population grows and becomes more affluent, an increasing number of people include protein in their diet. Aquaculture is the fastest growing source of animal protein and a major source of income in Asia, South-America and Africa. Tilapia is a popular fish, both with farmers and consumers, but disease can cause massive losses on tilapia farms. Streptococcus agalactiae, which can affect tilapia as well as people, is a major cause of such losses. Currently, antibiotics are commonly used to combat this problem. This is not sustainable because of the risk of antimicrobial resistance. As an alternative, we propose to develop a vaccine that would protect fish from all types of S. agalactiae that affect them. This project brings together scientific expertise in the area of fish disease and vaccine development and commercial expertise in vaccine production and distribution. Jointly, the partners aim to provide the global aquaculture industry with effective and affordable tools for sustainable disease control.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Berry Gardens Growers; Real IPM; East Malling Research; University of Greenwich	Early attractants for the major new fruit pest, Drosophila suzukii; a ‘super lure'.	£211,186	£ 158,498
Project description - provided by applicants			
The UK fruit industry is under continual pressure from the introductions of non-native pests and diseases. This project will aim to better monitoring and time pesticide application against a highly damaging soft and stone fruit pest, Drosophila suzukii. It will achieve this by developing a more species specific attractant for future use in monitoring traps and, eventually, control technologies.			