

Animal and Bioscience Department

Title

Innovative control of fluke in Irish livestock leading to sustainable use of anthelmintics and reduced potential for anthelmintic resistance

Abstract

Food harvest 2020 (FH2020) has set challenging but realistic goals for the Irish food and agricultural sector. Farmers are taking up this challenge by increasing cow numbers, investigating new technologies and implementing means of improving efficiencies. Parasitic diseases present a substantial risk to achieving FH2020 goals by impacting on animal health and welfare, and farm profitability. *Fasciola hepatica*, *Ostertagia/Teladorsagia* species (spp.), *Dictyocaulus* spp., and *Paramphistomum* spp. all present difficulties for Irish livestock farmers. Of these, *F. hepatica* has been estimated to cost Irish farmers €25million annually. Levels of *F.hepatica* are increasing globally and fasciolosis is also re-emerging as a human disease. This proposal aims to develop tools (diagnostics, GIS, immunologicals, genomics) for use by multiple end-users including veterinarians, farmers, and policy makers. FLUKELESS will provide a blueprint for novel on-farm parasite control methodologies thereby allowing farmers to rapidly intervene and correct parasite-related animal health issues. The tools will be applicable to both cattle and sheep allowing effective decision-support at farm level thereby optimising the sustainable use of existing treatments and mitigating against anthelmintic resistance. Pharmacologicals will continue to play an important role in the control of fluke for the foreseeable future. The alternative strategies to be researched in this proposal allow real and measurable progress to be made with regard to fluke control in Ireland while actively promoting sustainable use of anthelmintics.

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