TEAGASC PhD WALSH SCHOLARSHIP OPPORTUNITY

“Optimizing grazing infrastructure on dairy and beef farms”
Ref 2019048

Background
Increasing grass utilization is a key driver in increasing net profit and farm sustainability on grassland farms. Improved grassland management relies upon robust grazing infrastructure, that is; appropriately sized paddocks with multiple access points, serviced by roadways of sufficient quality and an adequate supply of drinking water. Grazing infrastructure is generally underdeveloped on many grassland farms. Appropriate partitioning of the grazing area allows ease of management and maximum efficiency in allocating forage for grazing livestock. Farm roadway networks can undermine management due to inadequate configuration, length, width or condition while water supply can be compromised by inadequate source, pipe network, or trough capacity. A significant increase in herd sizes, particularly in dairy enterprises since the abolition of milk quotas, has rendered existing grazing infrastructure wholly inadequate for current stock numbers. The restrictions placed on grassland management by inappropriate grazing infrastructure have not yet been quantified, while associated financial and labour costs are unknown. This project will quantify costs associated with current infrastructure status on a range of dairy and beef farms and implement improvement strategies for both the partitioning of grazing area into paddocks and the provision of roadway infrastructure and drinking water. Current infrastructure deficits hinder effective grassland management and animal performance significantly and therefore drastically reduce efficiencies on grassland farms. Pasturebase Ireland has highlighted that there is significant scope for increases in herbage production, through improved grassland management and grazing infrastructure. This research aims to categorize a selection of farms in terms of current infrastructure status, outline key deficits in current infrastructure and assess financial and labour costs associated with inadequate infrastructure. Furthermore, it will establish best practice in infrastructure design specifications and outline strategies for infrastructural improvements.

Requirements
The work programme of the student will involve a blend of course-work, experimental design, modelling, data collection, data analysis and networking with experts in the field. Applications are invited from graduates holding a first or upper second-class primary degree or equivalent or M.Sc. in a relevant discipline (Agricultural Science; Biosystems, Environmental or Civil Engineering; Computer Science; or any related disciplines). The candidate will also have the opportunity to identify the practical implications of their research results on farm management and will have the opportunity to speak at international scientific and farm management conferences. A full EU driving licence is required.

Award
The PhD Scholarship is a joint research project between the Teagasc Animal & Grassland Research and Innovation Centre, Moorepark and Cork Institute of Technology (CIT). The student will be based at Teagasc Moorepark and will be registered at CIT, working under the supervision of Drs Pat Tuohy, Michael Egan, Michael O’ Donovan, Stuart Childs and Muireann Conneely (Teagasc) and Dr Michael Murphy (CIT). The Scholarship provides an annual stipend of €22,000. University fees up to a maximum of €6,000 per annum are paid by the student from this stipend, which is tenable for 4 years.

Further Information/Applications
Dr Pat Tuohy, Teagasc, Animal & Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork; email: patrick.tuohy@teagasc.ie

Dr Michael Murphy, MESSO Research Group, School of Mechanical, Electrical & Process Engineering, Cork Institute of Technology, Cork; email: MichaelD.Murphy@cit.ie

Application Procedure
Applicants should submit a CV and covering letter detailing their qualifications and experience to Pat Tuohy (patrick.tuohy@teagasc.ie) and Michael Murphy (MichaelD.Murphy@cit.ie)

Closing Date
Friday April 17th, 2020