



# Sustainable Agri-Food Sciences Division Lunch-time Staff Seminar

You are invited to attend a lunchtime seminar

on

**Cutting P fertiliser inputs - no quick fix to improve water quality**

given by

**Rachel Cassidy, Agri-Environment Branch**

on

**Thursday 17 December 2015 at 1.30 pm**

in

**G5, AFBI, Newforge Lane, Belfast**

*Despite the implementation of EU regulations controlling the use of fertilisers in agriculture, reserves of phosphorus (P) in soils continue to pose a threat to water quality. Mobilisation and transport of this legacy P from soil to surface waters has been highlighted as a probable cause of many water bodies continuing to fail to achieve targets under the Water Framework Directive. However, the rates and quantities lost from farmland, and the time taken for the threat to water quality to pass, following cessation of fertiliser P application remain poorly understood.*

*Monitoring at the CENIT grassland site in Hillsborough provides some insights. From 2000 five field-scale grassland plots received a range of low to high P fertiliser amendments, which resulted in a gradation of soil P indices across the plots. From 2005 P applications ceased and subsequently P losses in runoff and drain flow from each plot were monitored closely until 2012. Unexpectedly, the concentration time series of losses across the plots were almost identical; the control plot which received no P additions from 2000, and remained at Olsen P index 2 for the duration of the study, lost as much P as those plots receiving heavy applications of P until 2005. In the analysis the hydrological drivers, such as rainfall and soil moisture deficit, have a much greater impact on losses than soil P concentrations. This raises questions on the environmental sustainability of current nutrient advice for some soil types in Northern Ireland. This talk will provide an overview of the findings of this study and look at some implications for management.*