Phosphorus (P) is known to be a major factor in the eutrophication of surface freshwater, with most arising from a diffuse agricultural source. Buffer strips have been shown to be effective at retaining P, but most research has focused on inorganic P since organic P was not considered to be readily available to plants and microorganisms. However, some organic P compounds are, or can readily become, bioavailable, and thus may pose a pollution risk. This is particularly important because organic P can have a greater contribution than inorganic P to total P in runoff (taken to mean both surface and subsurface loss) from grassland.

Buffer strip soils have been shown to have higher dissolved organic P concentrations than neighboring agricultural soil due to increased microbial cycling. The implication is that dissolved species may be very mobile, indicating buffer strips may increase the transfer of organic P from soil to watercourses.

Acknowledgements
This project is funded by Defra (Project WQ0126). North Wyke Research receives grant aided support from the Biotechnology and Biological Sciences Research Council (BBSRC).

References