NUCLEUS Research Themes

NUCLEUS undertakes work within six key research themes focused around different soil-plant systems approaches to improve agronomic NUE (e.g. optimising soil management to increase effective use of fertilisers and reduce losses of reactive N to the environment). The first five research themes are experimentally focused, using the latest state of the art in technology and include: **Sensors**: Use of Sensor Technologies to Improve NUE in Crop Production; **Soil Physics**: Linking the Impacts of Soil Physical Condition and N Cycling on Plant Growth; **Plant Roots**: Manipulating Plant Root Systems for Improved NUE; **Soil Amendments**: Enhancing NUE through applications of Soil Amendments; **Rice**: Increasing Agronomic NUE in flooded and rain-fed rice production. These are supported by a further over-arching theme concerned with maximising the impact of the *NUCLEUS* Virtual Centre: **Capacity Building, Training & Outreach** Programme. In addition, issues of: **scale**; **modelling**; **diversity in cropping systems** and **farmer engagement** are cross-cutting themes, embedded within each research theme.