

Dr. Rebecca Phillips returns from research in Australia

Dr. Rebecca Phillips, NGPRL Research Plant Physiologist, recently returned from a four month research project in Australia developing new environmental research instrumentation. In Australia, Dr. Phillips assisted a scientific team from the University of Wollongong who are experts in atmospheric measurements. The team worked onsite at facilities of the Manildra Group, the largest user of wheat for industrial purposes in Australia.

Over the last 50 years Manildra has vertically integrated and as a result diversified the product range to include flour, pre-mixes and products derived from flour such as modified starches, glucose syrups, maltodextrine, gluten, specialty protein products and ethanol.

The field site pictured processes wheat grain into starch products. The process yields a highly organic



AIS-AU, stands for Agriculture, Industry and Science in the Australia.

waste bi-product that is fractionated into products used for ethanol and cattle feed. The remaining effluent is irrigated onto several hundred acres of grass fields for cattle to consume.

The scientific team which Phillips collaborated with are studying this area to determine the effects of effluent on soil-plant-water-atmosphere relationships in this tidal floodplain region where acidity and salinity must be carefully managed. Collaboration with Dr. Phillips helped them advance



The back of the instrument Dr. Phillips is working on in the lab.

knowledge of mechanisms controlling production of trace gases and associated linkages with soil carbon.

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The FTIR is the full scale Fourier transform infrared spectrophotometer.