

IAH (Irish Group) and Teagasc Seminar "Groundwater & Agricultural Practices"

A joint IAH (Irish Group) and Teagasc seminar entitled "Groundwater & Agricultural Practices" was held at Johnstown Castle, Wexford on the 22nd and 23rd September 2000. The objective of the course was to review agricultural practices and topics relevant to hydrogeology, for example, landspreading of manure's and nitrate issues. The event was well attended with 44 delegates representing the Geological Survey of Ireland, the Environmental Protection Agency, Teagasc, Trinity College and various hydrogeological and engineering consultancies, registering for the first day.

Following the welcoming address by John Lee, Head of Research at Teagasc, Sean O'Regan, Teagasc Chief Environmental Advisor, spoke about farmyard pollution and grant aid to farmers to reduce pollution. After this presentation the remainder of the first day of the seminar was spent in the field visiting the various Teagasc experiment facilities. The field based activities were led by Owen Carton and other Teagasc personnel.

The first stop was a demonstration of landspreading where the traditional splash plate spreading technique was compared with the more recent band spreading method. Owen Carton explained that 50-60% nitrogen is lost to the atmosphere using the splash plate technique but only 20-40% is lost with the band spread methodology. Odour from landspreading is also reduced with the band spread technique. Consequently, band spreading is the preferred landspreading method.

Aidan Fanning described a lysimeter experiment to examine nitrate leaching in five 5 different soil types which represent the principal soils in the country. Following this presentation, the group visited a milking parlour at the Teagasc Dairy Farm and examined dirty water control and spreading of dirty water.

After lunch Sean Diamond described soil moisture measurements using tensiometers with data loggers. Sean also explained the measurement of infiltration rates using double ring infiltrometers. The group then visited the Teagasc Organic Farm where Noel Culleton hosted a discussion on organic farming and constructed wetlands. At the next site Pamela Bartley described her research on nitrate leaching to groundwater from grasslands. Results to date suggest acceptable nitrate levels in the groundwater resources underlying the application areas. The final stop of the day was a demonstration of describing subsoils using the BS5930 standard by Vincent Fitzsimons and Melissa Swartz of the Geological Survey of Ireland.

A presentation session was held on the second day in the EPA lecture theatre with speakers from Teagasc, EPA and the IAH. Donal Daly of the GSI discussed groundwater vulnerability and protection issues followed by a presentation on soil hydrology and soil water regimes by Sean Diamond of Teagasc. Dave McGrath of Teagasc spoke about pesticides in Irish soils and Karl Richards of the EPA discussed agricultural nitrate and phosphorous in the environment.

The second half of the presentation session focused on landspreading issues. Vera Power of the EPA discussed the evaluation of groundwater protection assessment for landspreading from the EPA's perspective. The preparation of Environmental Impact Statements for landspreading proposals was discussed by Mark Conroy of Tobin Environmental Services and Donal Marron of K.T. Cullen & Co. Mark focused on the hydrogeological and hydrological assessment of organic waste landbanks and Donal discussed nutrient management plans for landspreading of waste.

The presentation session provided an excellent forum for discussion of the relevant issues raised during the two-day seminar. The IAH would like to thank all of the speakers and the Teagasc personnel who described the various research experiments at Johnstown Castle, especially Owen Carton who led the field activities. We also thank all the delegates who attended the seminar and Teagasc and the EPA for hosting the event.

Morgan Burke, IAH (Irish Group) Fieldtrip Secretary.