Estate, Glasshouse & Field Services Unit

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Early in 2003, the Unit was renamed and reorganised to clarify its service provision to the science programmes within the institute.

David Petrie retired on 30 March 2003 after 34 years, having worked in both the Field and Glasshouse Sections on all aspects of soft fruit production. Latterly, he was heavily involved in weather observation at Mylnefield for both the Meteorological Office and local researchers.

Glasshouse Section The first phase of a new glasshouse complex and header house was opened in June 2003. It consists of large $(80m^2)$, medium $(25m^2)$ and small $(13m^2)$ cubicles for general research use. This high quality 'Venlo' glasshouse has all plant growing conditions monitored and controlled by an environmental computer. Different temperate environments can be set up in each cubicle. Automatic irrigation and feeding of plants reduces the need for staff to access cubicles, minimising the spread of pests and diseases. Some cubicles have higher specifications for supplementary lighting and HEPA filters (14 μ) on the fan ventilation inputs. This is especially important for growing barley for double haploidy, transformations, genomics and gene silencing research.

Close control of the growing environment is required for the screening of potato selections for leaf blight to ensure that spore germination and leaf penetration is achieved successfully. The glasshouse used for this work was upgraded with a new air conditioning system with humidity enhancement achieved through ultrasonic fogging.

The controlled environment facilities were updated by



Interior of AO glasshouse.

the overhaul of four rooms and the construction of a further three new rooms. Seven free-standing CE cabinets were also purchased during the year.

Contract work undertaken entirely by the glasshouse staff include germination tests of oilseed rape selections and the provision of game cover plants for exhibition by The Game Conservancy Trust.

Field Section Experimental land continues to be lost through road and building development. A further 22 hectares will be temporarily or permanently removed from the crop rotation system at the main Mylnefield/Bullionfield farm for the Science Park. Preparations for the infrastructure required the transfer of large numbers of experimental blackcurrant, raspberry and strawberry plants to a new site on the south of the farm.

The recommencement of SCRI's raspberry breeding was evident in the field by the construction of a onehectare block of Spanish tunnels to assess new selections under commercial protective cropping regimes. This new venture required four field staff to attend a three-day course on the construction and operation of soft fruit tunnels.

The establishment of SCRI as a LEAF (Linking Environment And Farming) Innovation Centre to demonstrate new areas of research in sustainable agriculture has increased the ground area dedicated to 'green' activities. A range of minimum tillage treatments were applied to sowings of winter barley to assess their effects on crop performance and yield. Various projects under the Countryside Premium Scheme were continued and extended including tree



Construction of Spanish tunnels

wind-breaks, species-rich grassland, beetle banks and mixed native hedgerows (hawthorn, blackthorn, elder, hazel, alder, holly and dog rose). The 10-hectare broad-leaf woodland, (oak, ash, birch, gean, hazel and rowan) under the Woodland Premium Scheme had extensive maintenance work carried out during the summer months to remedy weed and rabbit problems.

The provision of off-station field services has increased, especially for potato research and includes Ayr (blight trials), Balruddery (high-health seed production) and Glen Ogil (seed stock maintenance and selection). Several contracts are undertaken by field staff. The genotype x environment interactions of Americanswitch, reed canary and elephant grasses for biomass accumulation continues to be assessed as part of a multi-site trial co-ordinated by Rothamsted Research. Another project examined the tensile strength and durability of a wide range of commercial and trial fleeces and their effects on potato yields.

Two new field committees were established - the Farm Strategy Group to co-ordinate the fundamental aspects and overall direction of farm activities and the Field Experiments Committee, to monitor the progress of each year's field trials.

