

Communicating North Wyke Research to others

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COMMUNICATING NORTH WYKE RESEARCH TO OTHERS

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Communicating the findings of recent research - not only within the scientific world but to wider audiences, nationally and locally - forms an important part of North Wyke's activities and has grown in importance over the last six years. Our activities range from regular events for enthusing young children about the role of science in their lives, hosting visits and providing seminars for other professionals and students in higher education, running open days and specialist events, through to working directly with farming groups to put North Wyke science and technology into practice. North Wyke does not have the resources to provide one-to-one advice for individuals, but we make great efforts to ensure that key messages from our work reach the wider public. Some of the ways that we achieve this are outlined below.

1. Science for farmers and land managers: getting the messages across

Finding ways of adapting agricultural practices in response to changing policy requirements is a problem faced by many farmers. Sustainability has become a key issue and is a concept firmly embedded in North Wyke research; it encapsulates the principles of maintaining prosperity and meeting the needs of people and environmental protection, now and for the future. Issues include: reducing inputs while maintaining productive grassland; reducing farm pollution and improving manure and fertiliser management; managing weed problems but looking after farmland wildlife and habitats; and understanding the causes and impacts of climate

change and its implications for farming and the countryside. These are among the topics that North Wyke staff have taken out to farmer groups in recent years. During our 25 years we have held a number of public open days as well as numerous specialist subject days and events for groups of visitors. We take stands to major shows and farming events, with staff on hand to deal with questions from the public. Journalists frequently consult North Wyke staff when it comes to getting up-to-date information on new topics. The IGER website is also a source of information leaflets. For example:

http://www.iger.bbsrc.ac.uk/Practice/Publications_&_Leaflets/InformationSheets.htm

We also get involved increasingly in projects with farming groups and other stakeholders in an interactive way as illustrated in sections 2 and 3.



Figure 10.1 Charolais x Holstein heifer calves

2. Practice into Profit - Beef Production

This programme is a recent example of demonstrating in a practical way the findings within a specific topic. It was aimed at reducing the cost of production and improving the profitability of beef production through optimising the use of cheaper grazed forage. What evolved was a sustainable beef system based on grass/white clover pastures.

The system: August-born heifer calves (Charolais x Holstein) were reared over winter and turned out onto grass/clover pasture to achieve maximum weight gain over the season and finished on high quality silage and rolled barley over the second winter at 20 months (Figure 10.1). Target rates for the rearing, growing and finishing phases (0.7, 0.9 and 0.8 kg per day) were exceeded.

Pastures: The herbage mixture contained diploid and tetraploid hybrid ryegrass along with large and medium leaf white clover varieties which had been bred for winter survival, early growth and tolerance of fertiliser nitrogen.

Grassland management: The cattle were continuously stocked after turnout and sward height was maintained between 6 and 8 cm throughout the season to ensure a good balance between high intakes and sward condition. The area grazed was adjusted with an electric fence and surplus herbage was conserved.

Fertilisers and manuring: Small applications of fertiliser were made at the start of the grazing season (around 60 kg N per ha). Composted farmyard manure was applied to the pasture in August following 2nd cut silage (Figure 10.2). Composting was achieved by turning the manure with a fore-loader on two occasions in the month following mucking-out of the cattle yards (Figure 10.3). This



Figure 10.2 Applying farmyard manure following a silage cut

resulted in relatively dry, friable material that was incorporated into the sward quickly, particularly manure which was stored under cover. The heifers were allowed to graze these areas, in addition to untreated areas, approximately 5-6 weeks after spreading.



Figure 10.3 Turning manure with a fore-loader

Did it pay? The outputs and costs were compared with the average for Signet Beefplan farms and showed improvements in output and reduced costs. Major savings in cost were achieved from lower concentrate feed and fertiliser use while improved performance of stock from all phases of production increased income.

Conclusions: Factors contributing to the success of this beef system, as demonstrated at open days and national beef events, included use of moderate levels of N fertiliser and composted FYM, setting and monitoring target growth rates for each production phase, using grazing management guidelines based on sward height to control pasture quality and using supplementary feed when necessary for housed cattle to ensure targets were met.



Figure 10.4 Best practice for slurry management in Nitrate Vulnerable Zones was the topic of the day at a workshop held at Trink Farm near St Ives in October 2005, organised jointly by FWAG and Grassland Challenge

Increasingly, our projects have had a high level of involvement through workshops, demonstrations and shareholder meetings with members of the industry, but, as the next sections demonstrate, interaction with other sectors of the community has become more and more important.

3. The Grassland Challenge

The Grassland Challenge Project aims to:

- Encourage farmers to run viable businesses with improved efficiency and increased margins.
- Develop a competitive Cornish livestock farming sector by utilising grassland and home grown forage.
- Maximise competitiveness on a sustainable basis in economic, social and environmental terms.

The Grassland Challenge was established in 2003 as a joint venture between Cornwall's Duchy College and North Wyke. Working with Cornish farmers, the objectives are to encourage technology transfer, promote best practice and increase production levels and profitability. The project is funded through the European Union and Defra as a result of Cornwall's Objective 1 status. It is now recognised as the main source of knowledge and support for grassland farmers in Cornwall.

The main thrust of the project is through a network of farmer focus groups and focus farms across the county involving nearly 300 farmers. Four extension officers coordinate activities to impart technical advice and obtain research information according to the groups' needs. This approach allows new technologies and best practice to be demonstrated in



Figure 10.5 The Woodchip Corral Event brought together contractors, researchers, practitioners and the Environment Agency to discuss current understanding and research priorities and attracted 200 farmers

a strictly commercial setting and is very much based on a particular group's discussions and priorities (Figures 10.4, 10.5 and 10.6). The main activities are determined by the Grassland Challenge Steering Committee formed from the Grassland Societies.

England Land Based Colleges. This process has already started with some activities spreading into Devon. The project aims to continue this vital service.

The monthly newsletter, technical bulletins, website, the annual conference, seminars and workshops all aid the flow of information. The project also acts as an important channel to communicate the priorities of Cornish farmers to researchers and fund holders.

The aim is to expand into the rest of the South West of England through Duchy College's link with the South West of



Figure 10.6 Grassland management features highly at Focus Group meetings



Figure 10.7 Science 'WithInTent' at the Devon County Show

4. Engaging with schools

Since 1997, North Wyke Research Station has had considerable interaction with schools through a number of initiatives, working closely with SetPoint South West. One of the main events is the annual North Wyke Science Fair for primary schools during National Science, Engineering and Technology (SET) week in March, funded through competitive BBSRC grants. During this week, on average, about 500 year-6 children plus teachers and helpers, from about 20 primary schools in the area, take part in hands-on demonstrations of various aspects of science. Over the years there have been demonstrations on insects, grazing behaviour, chemistry, photosynthesis, computing, environmental chemistry, farm wastes, wetlands and soil science. Feedback from teachers has been very supportive and the majority of local schools have attended every year. Some of the children who first came in 1997 are now in their second year at university, some even reading sciences!

'Science WithInTent' is an annual event at the Devon County Show which is funded through BBSRC and Royal Society grants in collaboration with the Devon Education Business Partnership (Figure 10.7). Children are invited into a marquee to take part in scientific investigations encompassing biology, chemistry and physics. In 2005 we made a special invitation to the Royal School for the Deaf and provided signers for the day.

Three members of North Wyke Staff are part of the Science and Engineering Ambassadors scheme and are BBSRC Science Coordinators for the South West region; they visit schools and also provide training for primary school science teachers. Activities such as those noted above provide very important linkages between North Wyke staff, the work they do and the local community.

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