

Sectoral Road Map: Agriculture and the Environment

Policy issues

Environmental issues are at the forefront of any vision for the future of farming. Food Harvest 2020 combines output growth with a commitment to the principles of sustainability and the implementation of world-class environmental practices. Verification of our environmental status will be increasingly required through the measurement of outcomes in relation to water quality, biodiversity, greenhouse gas (GHG) emissions and nutrient efficiency. There is an ongoing need to improve understanding of the links between farming activity and environmental outcomes. In the past this has contributed to the enactment of legislation and the introduction of environmental schemes, which through their adoption by farmers have had a significant bearing on environmental status.

Environmental research will increasingly play a role in putting forward the scientific basis for the formulation of policy, as well as improving the capacity of farmers to deliver improved environmental outcomes. Research and knowledge transfer will work together at farm level to develop the methodologies and metrics to verify the sustainability of our produce and develop an improved capacity among farmers to implement technologies and practices that increase sustainability.

Food Harvest 2020 highlights the importance of utilising our green image to promote our food exports. Ireland currently achieves high environmental standards. However, it is important that all sectors of the agri-food industry work together to shift the basis of our green image from attractive images of Ireland's green landscape to credible and verifiable evidence of the achievement of sustainable food production.

Nutrient efficiency

Improving nutrient efficiency is a key requirement for farmers if Ireland is to meet both output growth and environmental objectives. Managing soil fertility is the key to achieving high levels of production from grassland and crops. Improving nutrient efficiency requires that management practices be adopted that increase the proportion of nutrient recovered in farm output and reduce the amount that is lost to water and air. It also saves farmers money. Basing recommendations on soil test results is essential to achieving this. The focus of both research and knowledge transfer is on ensuring that best



practice models are developed and adopted by farmers. Maximising nutrient recycling and use through organic fertilisers and soil reserves is critical.

Actions

Teagasc will undertake a programme of research to facilitate the development of the revised 'Nutrient and Trace Element Advice for Grassland and Tillage Crops' by 2015. Teagasc will develop an online nutrient management plan (NMP) system to provide nutrient management advice to client farmers, focusing on the adoption of practices that improve nutrient efficiency, and reducing losses to the environment while maintaining soil fertility levels consistent with increasing farm output.

Targets 2020

- Increase farm gate nitrogen (N) efficiency by 10%.
- Decrease the proportion of soils with either index 1 or index 4 (very low or very high) for phosphorus (P) from 47% in 2012 to less than 30% in 2020.
- Reduce proportions of soil samples with significant lime requirement (greater than 7.5t/ha) to less than 25%.

Water quality

Ireland must achieve good or excellent status in 100% of ground and surface water. The timeline to achieve this has been reviewed in light of the 'time lag' between changes in practice and water quality outcomes. The Agricultural Catchments Programme will provide a comprehensive knowledge base on the dynamics of nutrients in representative catchments and thereby provide the knowledge on which to base the continuation of profitable farming under the Nitrates Directive.

Environment (continued)

Actions

For farmers, following an effective nutrient management plan and eliminating point source pollution are the keys to improving water quality. Knowledge gaps remain in relation to the pathways for nutrient losses to water. Research will focus on building an understanding of these pathways and on developing technologies and practices that can increase the efficiency of nutrient use and minimise the loss to water. Advisers will incorporate new information and best practice into nutrient management advice.

Targets 2020

- 80% of water bodies achieving good status by 2021.
- Proportion of soil P index 4 samples reduced to below 10%.
- Maintain Ireland's Nitrates Derogation based on achievement of target outcomes.

Gaseous emissions

Achieving reductions in gaseous emissions represents the most significant challenge for Irish agriculture in the context of achieving the targets set out in Food Harvest 2020. Ireland has undertaken to reduce its CO₂ emissions by 20% by 2020. Farmers will be required to focus on lowering emissions levels per unit of production. Providing information and support in policy development will remain a key role for Teagasc in this domain. Future (ammonia emissions) targets are expected to be more challenging. By adopting cost-effective slurry application strategies based on timing, farmers can reduce ammonia losses.

Actions

There is considerable scope for farmers to reduce GHG emissions per unit of output by adopting a range of identified practices and improving productivity. For the most part these are win-win, in that they lead to improved profitability. Teagasc will continue to investigate and promote a variety of technologies and practices to mitigate gaseous emissions on farms. Teagasc will roll out the Farm Carbon Navigator, designed to identify capacity for reducing emissions per unit of product and promote the adoption of technologies and practices that improve efficiency, lower emissions and improve profitability.

Targets 2020

- GHG emissions per unit of output reduced by 2% per annum to 2020.
- Maintenance of current position as most carbon-efficient dairy producer in the European Union (EU) (LCA) and improvement from fifth to third in beef production.

Biodiversity

The EU is strengthening its policy framework to halt the loss of biodiversity by 2020. Biodiversity targets will feature prominently among future CAP and environmental reforms. The National Biodiversity Plan 2010-2015 targets biodiversity conservation in protected areas as well as in the wider countryside.

Actions

The adoption by farmers of the most cost-effective biodiversity measures for agri-environment schemes and on the development of high nature value (HNV) farming systems will be the focus of research. The Advisory Service will support farmers in achieving biodiversity through Cross Compliance and targeted biodiversity measures.

Targets 2020

- Restoration of Annex 1 habitats and species to favourable conservation status by 2020 (including the freshwater pearl mussel).
- Halt the further loss of farmland bird populations.
- Control of harmful invasive alien species.
- Identification and promotion of HNV farming systems.

Soil

Soil is the key resource of farming. Increased information on our soils is required in order to continue the development of agriculture, both in terms of production potential and environmental sustainability.

Actions

The completion of the Irish Soil Information System (ISIS) is a prerequisite for effective policy formulation and implementation. This increased knowledge of soil and its variability will be incorporated into research and advisory programmes that are more soil specific. These will be essential to tackle issues of yield stabilisation and reduce the environmental pressures of farming systems.

Targets 2020

- Complete the ISIS project by 2014.
- Deliver soil-specific advice to improve nutrient efficiency and reduce risk of loss to air and water.

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The road map for environment is available on www.teagasc.ie.