

Sustainable animal health

Veterinary Ireland submission on the Rural Development Programme for Ireland 2014–2020

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INTRODUCTION

As the organisation representing the majority of food animal veterinary practitioners in Ireland, we would like to take this opportunity to put forward a submission on the future of the Rural Development Programme for Ireland. Veterinary Ireland represents more than 1,400 practitioners throughout the country. Veterinary practitioners work closely with farmers, providing clinical and disease control services, as well as playing a central role in public health, food safety and animal welfare. It could also be argued that veterinary practitioners are an important part of the social fabric of rural communities, providing a trusted point of external contact for many isolated farmers. We believe that this strong social bond could be a key component of in maximising 'sustainable animal health'. Veterinary practitioners represent a mobile, highly motivated, scientifically trained team of professionals integrated into the fabric of rural communities, willing and readily capable of facilitating technology transfer to farmers countrywide.

ANIMAL HEALTH AND PRODUCTIVITY

The concept involves veterinary practitioners and animal health organisations (e.g. Animal Health Ireland) engaging with livestock farmers in a pro-active fashion to highlight animal disease and welfare issues, environmental issues, risk of zoonoses, food-chain hazards and risk control measures. Such a programme would involve veterinary practitioners engaging with their clients to facilitate the transfer of relevant technology in the areas of sub-clinical disease awareness, preventative medicine, environmental sustainability, animal data monitoring and recording (ICBF). Sustainable animal health is an innovative environmentally sensitive approach to the management of animal health and welfare at farm level with a view to producing safe food by the most environmentally-sustainable means possible, thereby increasing competitiveness of food production at farm level.

SUSTAINABLE ANIMAL HEALTH – OBJECTIVES

1. To lead and facilitate technology transfer regarding best international practice on animal health and productivity in association with Animal Health Ireland to farmers.
2. To reduce the carbon footprint of Irish meat and milk by reducing waste and inefficiency currently caused by subclinical and endemic disease.
3. To promote resource efficiency by improving the reproductive performance of the national herd in a sustainable manner.
4. To facilitate proactive recording and reporting of on-farm data with a view to moving towards Precision Agriculture.
5. To lead Irish agriculture to superior standards in animal health and welfare.
6. To minimise the impact which current disease management strategies are contributing to antimicrobial resistance and anthelmintic resistance.



RATIONALE

We believe a fundamental gap exists between scientific knowledge and technology available to Irish agriculture and farmers on the ground. Importantly we believe veterinary practitioners are ideally placed and skilled to close this gap (Devitt C., 2012), enabling farmers to move towards the objectives outlined above.

TECHNOLOGY TRANSFER

Ireland has a unique advantage when viewed on an international stage. Animal Health Ireland is an industry-led organisation issuing best-practice advice in the areas of animal health and welfare. There is no comparable organisation throughout the world. If this valuable resource were to be fully utilised we believe that it would offer a unique competitive advantage to the livestock sector in Ireland. Animal Health Ireland offers best-practice advice in all the major disease and welfare areas affecting cattle, i.e. BVD, Johnes disease, mastitis, IBR, calf diseases, fertility, parasitology and biosecurity. We believe however that this valuable national resource is being under-utilised leading to a failure of effective technology transfer at farm level. The veterinary profession has the network in place to address this communication deficit. We believe that there are benefits to the industry as a whole, including ICBF, by engaging with the veterinary profession, through the recording of on farm data related to animal health and welfare. Such a facility would add huge value to the current dataset in terms of analysis of disease-susceptibility data, animal disease surveillance, animal disease prevalence data and treatment protocols. Such a system could contribute to the analysis of anthelmintic and antimicrobial usage, thereby facilitating an evidence-based risk assessment of the hazards posed by these products to the livestock sector and entire food chain

ENVIRONMENTAL SUSTAINABILITY

As world population growth continues, agriculture's impact on the environment will continue to grow, as world food producers seek to feed an ever-increasing world population. One of the main means of producing food in an environmentally sensitive and sustainable fashion will be through improving the efficiency of meat and dairy product production. This will involve addressing current inefficiencies, by encouraging improvements in fertility, genetics, preventative medicine and disease management. Worldwide, agriculture accounts for more than 30% of greenhouse gas emissions, of this farmed livestock account for 18% of greenhouse gas emissions (Green et al., 2011).

Ruminants are significant producers of methane, which is regarded as a very potent greenhouse gas (23 times more potent than CO₂ from a global warming perspective). Innovation is needed to reduce livestock's environmental

impact by increasing efficiency in the sector. The EPA, based on a Teagasc analysis, has projected that livestock greenhouse gas emissions will increase by 6.9% over the period 2010-2020 to 20m tonnes CO₂ eq. In contrast the transport sector is projected to constitute 12.5m tonnes CO₂ eq. in 2020. The efficiency of livestock farming in Ireland has been identified as an area which can yield significant improvements (Food Harvest 2020). One of the direct consequences of improving the efficiency of Irish livestock production would be a reduction in the carbon footprint of every tonne of meat and dairy products produced. Analysis of the Irish livestock sector yields similar information to elsewhere in the world, i.e. endemic and subclinical diseases are having a serious negative impact on the environmental sustainability of this agricultural sector. It is estimated that endemic disease costs Irish dairy farmers in excess of €400m/annum. Furthermore, these diseases result in unnecessarily high culling rates of animals and wastage of product. For example, recent figures from the UK suggests that 25% of dairy herds cull more than 30% of animals (Green et al, 2011). It is accepted world-wide that herd health initiatives reduce the impact of subclinical and endemic disease. The Irish beef herd produces 80 calves per 100 cows. The average calving interval in 2011 was 407 days (ICBF). The top fifteen per cent of farmers achieve 95 calves per 100 cows and a 365-day calving interval. Realising this target would improve the competitiveness of livestock farming and reduce the carbon footprint of meat and milk. In the UK, it was found that the most efficient farms had the smallest carbon footprint. Improving submission rate from 50% to 70% produced improvements in fertility which could reduce emissions of methane by up to 25% and ammonia by about 14% (Garnsworthy, 2004). Therefore, improving submission rates alone represents a realistic, achievable route to improve herd profitability, whilst at the same time reducing the environmental impact of dairy farming (Green et al., 2011). Veterinary practitioners are best placed to facilitate knowledge transfer to farmers in this area, utilising both farm and ICBF data to the maximum potential. This could also provide a valuable component of the Origin Green concept being developed by Bord Bia.

SUSTAINABLE ANTIMICROBIAL AND ANTHELMINTIC USAGE

Resistance to anthelmintic substances and flukicides are widespread throughout Europe (Papaloupas, 2012). There is a need to address the impact which current disease management strategies are having on microbial and parasitic ecosystems. Excessive and improper use of anthelmintics has led to the situation where parasite populations in many parts of the world have developed anthelmintic resistance. This has created the situation in some areas where altered parasite populations has

meant that sheep farming has become very difficult and in some cases impossible. Therefore this change of parasitic populations could lead to changes in management practices, for example, in the case of hill-sheep with subsequent knock-on effects on local ecosystems and biodiversity.

Antimicrobial resistance is of major concern at consumer level and policy level throughout the EU. The use of antimicrobial compounds in food animal production, although having proven demonstrated benefits including improved animal health, higher production and, in some cases, reduction in foodborne pathogens, has been linked to antibiotic resistance in human medicine and demonstrated difficulties in the selection of therapeutic agents to treat diseases caused by these organisms. In recent years, steps have been taken internationally to curb this effect. The presence of VRE (vancomycin resistant Enterococci) in chickens and pigs selected for by the use of avoparcin, a growth-promoting glycopeptide related to vancomycin, has led to withdrawal of its use in many countries. Streptogramins such as virginiamycin have also been withdrawn in some countries because of induction of resistance to pristinamycin, a streptogramin recently introduced into human medicine to treat VRE. It has been suggested that there may be artificial selection pressures placed on the environmental transfer of AMR genes through modern use of antimicrobials, and through the disruption of natural antimicrobial ecosystems and the build-up of antimicrobial residues in the environment (Kostich and Lazorchak, 2008). National awareness programmes have been set up to help address this issue, e.g. SCOPS, One Health One Medicine. Veterinary practitioners are at the forefront of integrating these schemes at farm level.

The Veterinary Ireland submission, including vaccination and parasite control programmes, through individual farm risk assessments, will significantly contribute to the reduction of environmental drug contaminants, with a view to restoring and enhancing Irish ecosystems.

ANIMAL WELFARE

Disease and disease-syndromes are a serious source of animal welfare related problems on livestock farms throughout the world. Mastitis, lameness, infections and peri-parturient problems pose a major animal welfare problem on Irish dairy farms (O'Grady et al). It is worthwhile here to consider the 'five freedoms' which are regarded as basic rights for all farmed animal species. Webster (2001) reviews them as follows:

1. Freedom from thirst, hunger and malnutrition – by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from discomfort – by providing a suitable environment including shelter and a comfortable resting

area.

3. Freedom from pain, injury and disease – by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour – by providing sufficient space, proper facilities and company of the animal's own kind.
5. Freedom from fear and distress – by ensuring conditions which avoid mental suffering.

There is an onus upon all sectors of the agricultural community, including farmers, animal health professionals and policy makers, to ensure that all possible means are put in place to minimise the risk allowing animals to suffer from pain, injury or disease.

SUBMISSION RECOMMENDATIONS

1. We recommend that a review of the livestock production sector be conducted with a view to instituting a technology transfer programme to effectively transfer high-level technology from all sources (e.g. AHI, ICBF, academic institutions) to farm level.
2. We recommend veterinary involvement in design and implementation of any such technology-transfer programme.
3. We recommend that an educational programme be put in place for farm animal veterinarians and farmers to facilitate effective transfer of all available technology sources to livestock farmers. We recommend that a funding mechanism be put in place to facilitate such a programme.
4. We recommend that a study be conducted to analyse the socioeconomic factors which motivate farmers to engage in the process of technology transfer and implementation in the areas of animal health and welfare and the environmental sustainability of current livestock management practices.
5. We recommend that a mechanism be put in place to measure the effects of any such programme, this could be achieved through such things as:
 - a. monitoring of on-farm daily liveweight gain, monitoring milk output per cow, monitoring disease levels, monitoring wastage (e.g volumes of waste milk produced per year), monitoring of anthelmintic and antimicrobial resistance on farm.
 - b. Monitoring data at national level, eg through analysis of data fed back to ICBF on antimicrobial usage.
 - c. Surveillance of parasite/disease levels, eg. through analysis of data from abattoir post-mortem results.

CONCLUSIONS

The veterinary profession in Ireland is uniquely placed to facilitate the transfer of 'sustainable animal health' technology. Such veterinary-facilitated programmes already exist and are successful in other EU member states, examples of such programmes could include, but not

be limited to; veterinary-facilitated discussion groups, preventative medicine programmes, and delivery of farm-skills courses such as lameness and mastitis courses for farmers. Veterinary practitioners have intimate knowledge of every livestock farm in the country, and are integrated into farming society. The bond between farmers and their veterinary surgeon constitutes part of the cohesive framework of rural society. Veterinary Ireland is actively engaging with other industry organisations, such as Animal Health Ireland, ICBF, DAFM and Meat Industry Ireland, to explore possibilities for veterinary involvement in technology-transfer at farm level. The development of a sustainable animal health programme could complete the circle in terms of knowledge transfer by providing a direct personal link between high level information sources and the farmer. It is well recognised that the most effective means of message communication is via person to person contact. On-farm, direct and personal contact with farmers is key to this, current lack of person to person contact means that awareness creation about the importance of subclinical disease management and the importance of taking a pro-active approach to animal welfare and environmental issues is often lost.

Veterinary Ireland looks forward to engaging with the Rural Development Programme consultation process, with a view to exploring the feasibility of developing a policy and strategy on the issue of Sustainable Animal Health.

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Reader Questions and Answers

1. WHICH OF THESE IS NOT AN OBJECTIVE OF A SUSTAINABLE ANIMAL HEALTH PROGRAMME?

- a) To reduce the carbon footprint of Irish meat and milk by reducing waste and inefficiency currently caused by subclinical and endemic disease.
- b) To promote resource efficiency by improving the reproductive performance of the national herd in a sustainable manner.
- c) To facilitate proactive recording and reporting of on-farm data with a view to moving towards Precision Agriculture.
- d) To promote the growth of herd size and farm capacity.
- e) To lead Irish agriculture to superior standards in animal health and welfare.

2. A FUNDAMENTAL GAP EXISTS BETWEEN SCIENTIFIC KNOWLEDGE AND TECHNOLOGY AVAILABLE TO WHOM ON THE GROUND?

- a) Vets
- b) Farmers
- c) Scientists
- d) Researchers

3. ONE OF THE MAIN MEANS OF PRODUCING FOOD IN AN ENVIRONMENTALLY SENSITIVE AND SUSTAINABLE FASHION WILL BE THROUGH IMPROVING WHAT IN MEAT AND DAIRY PRODUCTION?

- a) Accountability
- b) Efficiency
- c) Sustainability
- d) Environmental measures

4. LIVESTOCK GREENHOUSE GASES ARE PREDICTED TO INCREASE BY HOW MUCH FROM 2010-2020?

- a) 6.9%
- b) 7.9%
- c) 8.9%
- d) 9%

5. IT IS ESTIMATED THAT CURRENT ENDEMIC DISEASES COSTS IRISH DAIRY FARMERS IN EXCESS OF HOW MUCH PER ANNUM?

- a) €200m
- b) €300m
- c) €400m
- d) €500m

ANSWERS: 1. D, 2. B, 3. C, 4. A, 5. C.