

Animal Health and Welfare Planning - A Review

Contributing to WP2 - Development of principles for animal health planning in organic dairy farms and assessing the use of health plans in the UK and Norway.

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1 Report Summary

In UK, animal health planning is being increasingly promoted and implemented in both the organic and conventional livestock sectors – health planning is compulsory for organic certification in the UK. The type health planning that is taking place and the health plans being used vary widely across the UK livestock industry. This study details how health and welfare plans are promoted and implemented by British Governments, industry quality assurance and organic certification bodies. Details of animal health and welfare planning activities taking place in other European countries are also detailed though these activities are limited compared to the UK. An analysis of the key principles of health and welfare plans and planning identified from these review is presented and these principles compared with those derived at the first ANIPLAN Workshop held in Denmark in October 2007. A review of attitudes towards health and welfare planning is presented and shortcomings of the “UK style” of health planning identified so that conclusions can be drawn as to how best to take effective animal health and welfare planning forward into European partner countries via the ANIPLAN project.

2 Introduction

In UK, animal health planning is being increasingly promoted and implemented in both the organic and conventional livestock sectors – health planning is compulsory for organic certification in the UK. At the moment very little is known about how health and welfare plans are developed, how they are implemented and how health and welfare planning is being promoted to farmers. Experiences in the UK are valuable for developing animal health and welfare planning on a European wide basis.

To this end, a study has been undertaken of the various organisations (governments, quality assurance bodies, organic certification bodies) in the UK and to a lesser extent Europe, that promote the concepts of animal health and welfare planning as being integral to good livestock management. Websites, reports, quality assurance and organic regulations and peer reviewed journal articles have been used to gather information on what health and welfare planning activities are taking place, what key principles of animal health and welfare planning are being promoted, what farmer perceptions are of the health planning process and written health plans, what the potential shortcomings of written health plans may be and some suggestions to take forward in the ANIPLAN Project.

Whilst the ANIPLAN Project is very much focussed on health and welfare planning for organic dairy cows, information from a much broader range of systems is presented in this document as there many things that can be learned and transferred from other livestock sectors.

3 What is health and welfare planning?

The process of animal health and welfare planning is defined in a number of government and industry documents in the UK. In The Positive Animal Health Plan produced by Defra (2004)¹, farm health planning is defined as a pro-active approach to positive health incorporating animal disease prevention and control. A definition of exactly what is meant by “positive animal health” was not given in either the Positive Animal Health Action Plan (Defra, 2004) or the Animal Health and Welfare Strategy for Great Britain (Defra, 2004)². However, the definition of health proposed by the World Health Organisation in 1946 for human populations comprehensively identifies all aspects of positive health (Hovi et al, 2004)³ and applies equally well to animals – “Health is a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity (WHO, 1946)⁴. The Welsh Assembly Government, in

¹ POSITIVE ANIMAL HEALTH - AN ACTION PLAN FOR A PARTNERSHIP APPROACH. Promoting high standards of disease prevention and control through farm health planning <http://www.defra.gov.uk/fhp/pdf/actionplan.pdf>

² Defra (2004) Animal Health and Welfare Strategy for Great Britain. Defra Publications, London, UK.

³ Hovi, M. Gray, D., Vaarst, M., Striezel, A., Walkenhorst, M. and S. Roderick (2004) Promoting Health and Welfare through Planning. In: Vaarst, M., Roderick, S. Lund, V. and W. Lockeretz (eds) Animal Health and Welfare in Organic Agriculture. CABI Publishing, Wallingford, UK, pp 253-277.

⁴ WHO (1946) Preamble to the Constitution of the World Health Organization, as adopted by the International Health Conference, New York, 19-22 June, 1946. Official Records of the World Health Organization, No. 2, p. 100.

the Animal Health Planning Framework (2007)⁵, describe animal health planning as the process of formalising and adding value to what they do instinctively as livestock keepers and it can help the farmer keep abreast of new problems and solutions, preempting potential health crises and the huge costs both in medicines and lost stock that may ensue. The Scottish Government (SEERAD)⁶ state that animal health planning is a proactive approach to raising livestock health and welfare standards and contributing to farm business profitability and product quality on the basis of individual veterinary advice and forward planning.

The Soil Association⁷, National Dairy Farm Assurance Scheme (NDFAS)⁸ and Assured British Meat (ABM)⁹ (the latter two being quality assurance schemes) all state that health planning is a written strategy of preventative healthcare. NDFAS and ABM go further by stating that health planning is also a recording system to monitor herd health and welfare.

The National Sheep Association (NSA) (NSA, 2006)¹⁰ were one of the few organisations to make the distinction between health and welfare planning and health plans. In an investigation into the attitudes towards farm health planning in the English sheep sector (NSA, 2006) farmers felt that they regularly undertook health planning to prevent or reduce disease problems on their farm, but many of them could see little value in health plans themselves which were perceived merely as paperwork for the benefit of others. This distinction between farm health planning and farm health plans was an important finding in the study as it influences the choice of future strategies for improving the health and welfare of the national sheep flock. In the same study (NSA, 2006) an industry representative highlighted the importance of having a written health plan document for cross-compliance purposes (in Scotland) and or quality assurance and organic certification schemes. Theoretically, this health plan document, if it was kept simple, could be more widely accepted by farmers and then emphasis could be placed on training, group discussions, veterinary advice etc. extolling the principles of health planning as a process rather than a piece of paperwork.

⁵ Welsh Assembly Government (2007) Animal Health Plan. Published by the Welsh Assembly Government.

⁶ Animal Health and Welfare in Scotland: Implementing the Animal Health and Welfare Strategy <http://www.scotland.gov.uk/Topics/Agriculture/animal-welfare/AHWStrategy/Introduction>

⁷ Pye-Smith, C. (2003) [Batteries Not Included: Organic Farming and Animal Welfare](#). Soil Association, Bristol, UK.

⁸ National Dairy Farm Assurance Scheme standards: <http://www.ndfas.org.uk/>

⁹ Assured British Meat Beef and Lamb Farm Standards: http://www.abm.org.uk/abm/far_section.aspx?id=000HK277ZX.0EIUB5JS9XSC0

¹⁰ National Sheep Association (2006) National Sheep Association investigation into attitudes towards farm health planning in the English sheep sector. National Sheep Association, UK.

Vaarst et al (in prep)¹¹ distinguish between three types of animal health and welfare planning. The first, acute problem solving, is carried out in the face of a disease outbreak or when a health problem is identified as causing a decrease in productivity. The second type is tactical planning which is a goal oriented strategy to avoid a particular disease and is an approach commonly used on both conventional and organic farms. This type of planning involves a detailed knowledge of the problem disease and the measures required to prevent or minimise the risk of the disease occurring. This type of planning is often used with disease accreditation schemes such as the Johnes Disease and BVD schemes (Cattle Health Certification Standards) in the UK. The third type of planning, strategic planning, uses farm-specific goals as its starting point and includes both strategic and tactical elements. Such planning tends to be more aspirational than operational, making it more difficult to measure the outcomes of strategic planning and subsequently whether progress is being made. Tactical planning by contrast involves data collection and requires review and evaluation. A combination of both strategic and tactical planning is essential to ensure farmer buy in by setting the goals themselves, whilst at the same time ensuring progress is made by collecting data and reviewing.

Ultimately the aim of health and welfare planning is to improve the health and welfare of livestock and more lateral thinking perhaps needs to go into what constitutes animal health and welfare planning and the distinct roles of health plans versus health and welfare planning.

4 Animal Health and Welfare Planning Activities in Great Britain

Animal health and welfare planning is high on the political agenda of government and industry bodies. Outlined below are some of the activities taking place in Great Britain related to health and welfare planning – the ultimate aims of these activities being the improve the health and welfare of farmed livestock in Britain and to develop a national disease prevention strategy.

4.1 Animal Health and Welfare Strategy for Great Britain

The Animal Health and Welfare Strategy for Great Britain¹², published in 2004, was designed to improve the health and welfare of kept animals in England, Scotland and Wales.

The Animal Health and Welfare Strategy for Great Britain explicitly states:

“Livestock owners can improve the health and welfare of their animals through animal health planning. This involves:

- identification of risks of introduction and spread of disease and infections;
- early recognition of disease; and

¹¹ Vaarst, M., Noe, E., Andersen, H.J., Enevoldsen, C., Thamsborg, S.M., Kristensen, T., Enemark, P., Bennedsgaard, T.W., Pedersen, S.S., Sorensen, C., Nissen, T.B. and Stjernhold, T. (in preparation). Health advisory service in Danish organic herds. Development of three different models based on farmers expectations to advisors.

¹² Defra (2004) Animal Health and Welfare Strategy for Great Britain. Defra Publications, London, UK.

- prioritising measures to control any existing problems and manage risks, including the responsible use of medicines.
- preventing the introduction of endemic diseases or zoonoses and thus improving the productivity of the overall herd or flock; and
- slowing or minimising the spread of disease from one farm to another during an exotic disease outbreak.”

The implementation of the strategy is being undertaken by the English, Welsh and Scottish Governments and differs between countries. Details of the animal health and welfare planning activities as part of the strategy implementation in each country are described below.

4.1.1 *England*

The following activities, which support and promote the use of farm health planning, are taking place to implement the Animal Health and Welfare Strategy for Great Britain in England (Defra, 2004)¹³.

- The Positive Animal Health Action Plan
- A Review of Best Practices in Disease Prevention in GB
- Identification of the Costs and Benefits of Disease Prevention
- Dissemination of Research
- A Review of Training and Advice Needs

Animal health and welfare planning in England is entirely voluntary except for those livestock keepers who wish to be organically certified or participate in certain industry lead quality assurance programmes. Specific funds are not available in England to support farmers directly to develop and maintain animal health plans on their farms (unlike Scotland).

4.1.1.1 The Positive Animal Health Action Plan

The Positive Animal Health Action Plan (Defra, no date)¹⁴ aims to promote high standards of disease prevention and control and foster a culture of good practice by those involved with the care, health and welfare of farm-reared animals. The action plan defines what is meant by animal health planning and outlines the activities it proposes to increase the consistent and effective use of animal health planning by all animal keepers in England.

Farm health planning is defined (Defra, no date) as a proactive approach to positive animal health incorporating animal disease prevention and control. It is:

- Early recognition and identification of diseases present at a holding;
- Identification of the risks of introduction and spread of diseases and infections;
- Putting in place measures to manage risks, and improve overall disease prevention and control.
- A tool for identification of cost effective measures, which contributes to farm business planning.

¹³ Defra (2004) Delivering the Animal Health and Welfare Strategy in England. Implementation plan 2004. Defra Publications, London, UK.

¹⁴ POSITIVE ANIMAL HEALTH - AN ACTION PLAN FOR A PARTNERSHIP APPROACH. Promoting high standards of disease prevention and control through farm health planning <http://www.defra.gov.uk/fhp/pdf/actionplan.pdf>

A definition of exactly what is meant by “positive animal health” was not given in either the Animal Health and Welfare Strategy for Great Britain (Defra, 2004) or the Positive Animal Health Action Plan (Defra, no date)

In addition to promoting animal health and welfare planning, a number of other activities are outlined in the Positive Animal Health Action Plan (Defra, no date):

Best and good practice

Examples of best and good practice are identified, collated and disseminated throughout the livestock sectors to help livestock keepers achieve consistently high standards of animal health by the most effective means. Examples of good practice case studies are available on the Farm Health Planning pages of the Defra website (<http://www.defra.gov.uk/fhp>).

Costs and benefits of disease prevention

Identifying the costs and benefits of implementing good animal health practice will help provide both individual livestock keepers and the different industry sectors with a clearer understanding of the value of farm health planning. A Defra funded project - Farm level case studies of the costs and benefits of disease control measures on livestock farms¹⁵ is currently underway (due to finish at the end of 2007) using case studies to model six different livestock diseases – two for cattle (digital dermatitis and bovine virus diarrhoea), two for sheep (ectoparasites and footrot), one for pigs (enzootic pneumonia) and one for poultry (coccidiosis). The cost benefit models for these diseases have been developed, tested, validated and demonstrated at various farmer events. The work has not officially been published to date.

Dissemination of research and a review of existing training and advice

Significant funding is directed at animal health and welfare research, so it is an essential part of the implementation plan that the benefits of improved husbandry and disease control practices are effectively communicated in an appropriate manner to all those who have an interest. The government will also review existing training and advice to ensure that it is easily accessible by those that need it such as farmers, vets and those who advise livestock keepers, and to review these arrangements where necessary.

4.1.2 Wales

In Wales, as in England, animal health planning is a voluntary initiative that farmers are being strongly encouraged to take up both to improve the health and welfare of kept animals as well as to reduce the costs of maintaining high levels of health. Health Planning is being promoted to farmers as basically formalising and adding value to what they do instinctively as livestock keepers. A careful review with a professional practitioner can help the farmer keep abreast of new problems and solutions, pre-empting potential health crises and the huge costs both in medicines and lost stock that may ensue.

An Animal Health Planning (AHP)¹⁶ framework for sheep, beef and dairy enterprises

¹⁵ Farm level case studies of the costs and benefits of disease control measures on livestock farms. Defra Funded Project SE4004.
http://www2.defra.gov.uk/research/Project_Data/More.asp?I=SE4004&M=CFO&V=URD

¹⁶ Welsh Assembly Government (2007) Animal Health Plan. Published by the Welsh Assembly Government.

has been prepared and published in paper format and includes advisory notes by the Office of the Chief Veterinary Officer (OCVO). The AHP framework is described as a recorded risk management cycle that, ideally, includes enterprise records and incorporates:

- Evaluation (assess performance and risks)
- Mitigation (prevent risk)
- Responding (make changes and set targets)
- Monitoring (keep records)
- Evaluation....

The AHP framework itself comprises an introductory section, a section on farm details (name, address, responsible persons etc.), disease risk and prevention (bio-security), general assessment of risks to the health and welfare of the animals, modules for each of the livestock categories listed above which include details on quarantine facilities and movements and worksheets to analyse the specific livestock enterprise, and finally, a section on prioritising issues to deal with, finding solutions and setting targets for improvement. The AHP framework is not an all encompassing animal health planning tool and it is recommended that advice from veterinary and other expert consultants will be required to make it work to maximum effect.

The veterinary and/or expert advisors role is to help their client identify the most important and significant risks; optimise production; advise the client as to what mitigation might be available and to help them to decide what action to take.

The AHP framework and guidance notes have been distributed to all veterinary practices in Wales and a number of veterinary training days have taken place. The framework will continue to be promoted through farmer events and training days. Copies of the framework are not sent to all farmers directly - they have to request a copy either through their vet or via the Welsh Assembly Government. This is to ensure data is collected on the number of farmers requesting information on animal health planning and to enable vets to engage with interested farmers.

4.1.3 Scotland

Land management contracts (LMCs) were introduced in Scotland by the Scottish Executive Environment and Rural Affairs Department (SEERAD) in 2005 to help to encourage sustainable land management in Scotland (this includes the implementation of the Animal Health and Welfare Strategy for Great Britain). It is a whole farm system of support which makes payments for the delivery of environmental, social and economic benefits for public good. The LMC concept has 3 tiers:

- 1) The Single Farm Payment and cross compliance – securing a basic level of environmental protection, food safety and animal welfare.
- 2) LMC Menu Scheme – delivering widespread benefits leading to economic, social and environmental improvement. This scheme includes the Animal Health and Welfare Management Programme.
- 3) Development for 2007 – will deliver tailored benefits leading to economic, social and environmental enhancement.

4.1.3.1 Animal Health and Welfare Management Programme

The Animal Health and Welfare Management (AHWM) Programme is one of the available options under the Land Management Contract Menu Scheme. This is a five-year commitment that involves farmers taking a proactive approach to raising livestock health and welfare standards and contributing to farm business profitability and product quality on the basis of individual veterinary advice and forward planning. Those individual businesses with a minimum of four livestock units are eligible to apply to carry out all the options. Pigs and poultry are currently excluded from participation of the scheme.

Support for farmers is available towards the cost of implementing an individual AHWM Programme that reflects particular farm management structures. There are specific supported activities, including:

- Animal Health and Welfare Management Plan
- Performance Monitoring / Benchmarking
- Bio-security (including fencing, quarantine facilities etc.)
- Sampling (livestock blood/disease sampling)
- Forage Analysis (quality of feed)

Whereas the first option is compulsory, any or all of others can be taken up depending on the needs of particular business.

4.1.3.2 Animal Health and Welfare Management Plan

There are two compulsory actions:

- Implement a proactive scheme for treating diseases, including guidance on following a vet's advice and treatment – the scheme will detail the agreed first and second lines of treatment, individual dosage instruction and the withdrawal periods for each treatment.
- Implement a scheme for using vaccines and preventative medicines - detailing the vaccines or preventative medicines that will be used, and individual dosage instructions and withdrawal periods for each vaccine or preventative medicine.

There is no standard template for the Plan, however, it must include:

- a summary of the annual discussion (assessment) with a vet,
- a list of agreed treatment and vaccine/preventative medicine plans as per the compulsory actions outlined above,
- outline of the agreed activities under any voluntary options the farmer wishes to take, although the detail may be given in other documents and finally
- the Animal Health and Welfare Management Plan must be agreed, implemented and re-assessed with a vet on an annual basis.

An alternative to having an Animal Health and Welfare Management Plan under the Land Management Contract Menu Scheme is membership of quality assurance and organic schemes. In the UK, animal health planning is mandatory for all organic producers and also compulsory in many quality assurance programmes in conventional livestock farming (only those schemes where health planning is a compulsory requirement are acceptable).

4.1.3.3 Supporting activities in Scotland

The Animal Health and Welfare Management Programme (membership of approximately four and a half thousand livestock farmers in 2006) is supported

through the Scotland Rural Development Plan. This initiative supports farmers in bringing their vet on-farm at least annually to discuss and agree a plan to improve farm animal health and welfare. As well as helping to raise standards of animal health and welfare on-farm, this initiative is also indirectly supporting the sustainability of large animal veterinary practices. As part of the Animal Health and Welfare Management Programme, farmers were also able to obtain support for additional recording on-farm for animal health and welfare benchmarking purposes. Since 2005, individual farmers have been collecting data that can be utilised for on farm monitoring of health and welfare, feeding back into the review and implementation of Animal Health and Welfare Plans. In the summer of 2007 it is intended to launch a database to enable cross-industry benchmarking analysis of this data, as well as its long-term storage.

In previous years, promotion of the Programme, and health planning as a concept, through a presence at agriculture shows and workshops for both veterinary surgeons and farmers has contributed to the impressive uptake of the scheme, while the regular provision of induction training for veterinary surgeons has helped veterinary practices to implement the Programme on the ground. Additional activities included the ongoing development of a web-based sheep health plan, which has already attracted significant attention, and the production and free distribution of a DVD promoting the benefits of health planning and good bio-security. This DVD was produced jointly by the Scottish Executive, Quality Meat Scotland and SAC, bringing Government, industry and researchers together to get the message across.

4.1.4 Department of Environment Food and Rural Affairs (Defra)

4.1.4.1 Dairy and Beef Cattle

DEFRA is funding 27 projects in the beef and dairy sectors to promote the use of active farm health planning. The projects aim to:

- Show the benefits of farm health planning at farm level such as healthy animals and healthy profits;
- Increase awareness of farm health planning, planning tools and cost benefit models through targeted communications, advice and training;
- Create a network of farm health planning champions and advocates to promote the benefits and practicalities of farm health planning to the rest of industry.

The approach to proactive health planning of the FHP working group is based on three key principles of:

Measurement – identifying the impact of health on the performance of stock, good record keeping for benchmarking and identification of problem areas;

Management - prioritising control measures for these problems using cost/benefits calculations and the most effective management methods. Development of action plans for specific issues;

Monitoring – using good recording, assessing effectiveness of measures and reviewing/revising health plans accordingly.

This requires a four-stage process:

- Health and disease parameters surveillance
- Risk analysis and cost benefit assessment
- Risk management decision making
- Monitoring and reviewing outcomes

In practice this means:

- Farm disease recording with focus on determining key performance indicators
- Farmer and vet/consultant jointly identify existing health problems on a farm, rating them in economic importance and making evidenced based health and economic decisions as to which should be emphasised
- Institute management, husbandry, treatment and vaccination changes
- Monitor and review health and financial outcomes

DEFRA provides on their website the health planning charts that cover the essential eight areas of dairy health planning¹⁷:

- Fertility
- Milk hygiene and mastitis
- Lameness and locomotion
- Infectious and parasitic disease
- Calving and metabolic diseases
- Milk profile
- Calves and youngstock
- Culling and disposals

4.1.4.2 Sheep

A national initiative to promote the adoption of farm health planning in the sheep industry was launched in June 2007¹⁸. The initiative is industry led and aims to demonstrate the performance value of implementing health planning whilst encouraging high standards of health and welfare.

The Sheep Farm Health Planning communications campaign emphasizes the need to take a long term view of health and welfare and encourages farmers to contact a vet or adviser to go through a three stage process of measuring existing performance, managing the health planning process and its implementation, and monitoring ongoing progress adapting health plans in the light of experience.

4.1.4.3 Pigs

As part of the Farm Health Planning partnership¹⁹, Defra has commissioned a pilot project to design, test and implement a web-based Pig Herd Health Plan (PHHP)²⁰. This pilot project involves collaboration between the National Pig Association (NPA), the British Pig Executive (BPEX), the Pig Veterinary Society (PVS) and producers, in partnership with Defra. The pilot PHHP acts as an information hub dedicated to pig health, linking information on health management factors, veterinary inputs, pig production data, and carcass quality.

¹⁷ DEFRA dairy health planning charts - <http://www.defra.gov.uk/fhp/cattle/health-planner.htm>

¹⁸ Defra (2007) Improve your bottom line. The English Sheep Farm Health Planning Initiative. Defra Publishing, London, UK.

¹⁹ Defra Farm Health Planning Partnership – for information: <http://www.defra.gov.uk/fhp/index.htm>

²⁰ For a demonstration of the web based Pig Herd Health Plan (PHHP) developed by the Defra Farm Health Planning Partnership see: <http://www.demo.phhpanalysis.com/>

The British Pig Association (BPA) is also working in partnership with Defra to promote health planning to the small-scale/hobby pig farming sector in England. The BPA are arranging a series of regional workshops that concentrate on pig health and welfare but also cover basic tasks such as bio-security, identification and safe handling. The focus will be on health planning without excessive medication alongside the need for prevention of exotic disease as part of the national breed conservation effort (farmers taking part in the workshops will be provided with a simple template for a health plan).

Defra is also funding a project under which BPEX, in conjunction with the NPA, will be working with vets over the coming year to create or develop existing self help producer groups²¹. These groups will allow farmers to discuss the health issues relevant to them with their vet and other like minded producers. The subject matter discussed will be decided by the group and vet who will be facilitating the meetings. This will provide farmers with access to more veterinary time and other producers' knowledge and experiences. Over the course of the year, farmers will learn to develop their health plans and introduce changes that will have measurable benefits to the health of their pigs. This will be achieved by getting an understanding of their current health status; pooling producer knowledge and using the herd health plan as an evolving and up to date management tool.

4.1.4.4 Poultry

A pilot project began in summer 2007 to identify the current status of poultry farm health planning and to develop a generic planning template that can be used by all poultry farmers and keepers. Details of the pilot are not yet available²²

4.2 UK Organic Certification Bodies

4.2.1 *Compendium of UK Organic Standards*

The Compendium of UK Organic Standards (Defra, 2006)²³ is the standard for organic food production that must be complied with in the UK. It is based on, and complies with, Council Regulation (EEC) No. 2092/91, as amended. There are some differences between the livestock standards in the Compendium, and Council Regulation (EEC) No. 2092/91, as permitted by Article 12 of the Council Regulation – the key difference being in relation to Annex 1, Article 5 (EC, 1991) which in the Compendium, has the following additional article on animal health planning:

Article 5.1.2 of the Compendium states:

“The development and management of organic livestock systems requires special care in nurturing positive health and vitality, ensuring the proper control of disease and the encouragement of positive animal welfare. ("Positive welfare" is used here in the sense used by Farm Animal Welfare Council (FAWC) to mean the satisfaction of

²¹ For more information on the Defra/BPEX/NPA self help producer groups see:
http://www.bpex.org/technical/tech2/health/farm_health_planning-cornwallgroup.asp

²² Details of the poultry farm health planning project will become available on the following web site (<http://www.defra.gov.uk/fhp/poultry/index.htm>) on completion of the project.

²³ Defra (2006) Compendium of UK Organic Standards. Defra Publishing, London, UK

the animal's needs, including behavioural needs and not merely the avoidance of cruelty.) This must be provided for by a plan drawn up by the farmer, preferably working in partnership with a veterinary surgeon and agreed between them during and after conversion, to develop and operate an organic livestock system which conforms to these Standards. The plan must ensure the development of a pattern of health building and disease control measures appropriate to the particular circumstances of the individual farm and allow for the evolution of a farming system progressively less dependent on allopathic veterinary medicinal products.”

In the Compendium, Article 5.1.2 is accompanied by a guidance note which suggests that an established, recognised template, for example the Bristol Welfare Assurance Programme (BWAP)²⁴ should be used for developing health plans. This BWAP system aims to increase the ability of certification schemes to deliver assurance to consumers on animal welfare by incorporating valid, repeatable and feasible animal-based assessment techniques into certification schemes. The assessment links the data from the assessment of medicine records, and animal based observations with an evaluation of the farms management of health and welfare issues (health plan) and an assessment of compliance with relevant certification or legal requirements.

4.2.2 *The Soil Association*

The Soil Association states (Pye-Smith, 2003)²⁵ that organic livestock farming aspires to what the Farm Animal Welfare Council (FAWC) describes as ‘positive welfare’. This means far more than the avoidance of ill-treatment; it implies that the animals are kept in a state of excellent health and that all their needs, physical and behavioural, are satisfied. Organic farmers seek to avoid the appearance and spread of diseases and parasites without recourse to conventional veterinary treatments, although there is a requirement that animals which become ill must be treated immediately. Antibiotics and other veterinary medicines can be used under the guidance of a veterinary surgeon “to save life, to prevent unnecessary suffering, or to provide the only way to restore the animal to full health.”

General rules of organic livestock farming include:

- Selecting breeds which are adapted to local conditions and resistant to diseases.
- Organic livestock must have access to pasture whenever conditions allow, the free-range lifestyle is considered as of fundamental importance for animal welfare and health.
- Encouraging farmers to have closed herds and flocks (reared exclusively on the farm) to avoid risk of introducing diseases.
- Housing conditions must meet the animal's biological and ethological needs (sufficient space, good access to food and water etc.).
- Health and vitality of organic stock is based on sound nutrition.
- All organic farms must have an animal health plan which is reviewed annually – together with the management plan it provides an outline of the strategies the farm will adopt to diagnose and remedy any health and welfare problems.
- Practising mixed grazing in order to keep internal parasites at bay.
- Using antibiotics for ‘growth promotion’ purposes is prohibited.
- Vaccination is permitted only where there is a known risk of a disease which cannot otherwise be controlled.

²⁴ Bristol Welfare Assurance Programme <http://www.vetschool.bris.ac.uk/animalwelfare>

²⁵ Pye-Smith, C. (2003) [Batteries Not Included: Organic Farming and Animal Welfare](#). Soil Association, Bristol, UK.

4.2.2.1 Recommendations of Soil Association in relation to animal health planing²⁶

In organic livestock systems the prevention of pest and disease problems and high levels of management and husbandry is the key. The standards require all producers to submit an animal health plan during the early stages of their conversion. An animal health plan should provide a written strategy for the management of animal health to organic standards during the conversion period - and beyond. Producers are strongly advised to get advice from their veterinary surgeon in developing the plan, although this is not a formal requirement.

The plan should:

- Identify all significant potential livestock pest and disease problems that may occur
- Outline the methods of preventing their occurrence
- Outline what treatments will be used should they occur and
- Describe an approach to improvement of overall herd-health and reduction of reliance on veterinary treatments.

As a rough guideline the animal health plan might:

- Identify all persistent mineral deficiencies, disease and parasite health problems that occur on the farm
- Identify husbandry changes that will be needed in order to remedy problems, such as the adoption of a clean grazing system, appropriate stocking levels, improved hygiene practices and improved housing ventilation
- Identify all treatments that are used - or may have to be used - at all stages of the conversion period - and beyond. The plan should identify how the use of these treatments will change throughout the conversion process and ways of reducing reliance on veterinary treatments and ensuring that organic withdrawal periods are observed, etc.
- Identify different management practices for all ages of stock including the feeding regime, housing details, medication procedures, grazing policy and the management practices that will develop immunity (e.g. selection for breeding, choice of pasture for youngstock and so on)
- Identify record keeping procedures and systems. Producers are expected to keep detailed records and invoices of all brought-in-feeds, livestock movements and veterinary treatments, along with their field and crop records

The animal health plan should be revised on a regular basis (at least once a year). In this way it can become a useful management tool for monitoring pest and disease problems in the herd, identifying what has/hasn't worked in the past - and any key problem areas. It should also be updated (preferably with the vet) according to the progress or problems experienced. All members of farm staff dealing with livestock should have access to and understand the animal health plan.

4.2.3 *Organic Farmers and Growers*

The development and management of organic livestock systems requires special care in nurturing positive health and vitality, ensuring the proper control of disease

²⁶ Soil Association (2006) [Organic beef and dairy production introductory guide](#). Soil Association, Bristol, UK.

and the encouragement of positive animal welfare. ('Positive welfare' is used here in the sense used by Farm Animal Welfare Council (FAWC)²⁷ to mean the satisfaction of the animal's needs, including behavioural needs and not merely the avoidance of cruelty.) This must be provided for by a plan drawn up by the farmer, preferably working in partnership with a veterinary surgeon and agreed between them during and after conversion, to develop and operate an organic livestock system which conforms to these Standards. The plan must ensure the development of a pattern of health building and disease control measures appropriate to the particular circumstances of the individual farm and allow for the evolution of a farming system progressively less dependent on allopathic veterinary medicinal products. Organic Farmers and Growers has developed a guide to developing Health Plans on organic livestock units for producers²⁸ which can be used for creation of the plan and the pro forma Health Plan Record sheet, which should be used to record the contents²⁹.

Development of the Plan must involve the personnel who manage the stock and include³⁰:

- The disease organism or health problem;
- The management/husbandry practices that will be used to break the organism's life cycle and reduce the reliance on veterinary treatments;
- The management/husbandry practices or alternative therapies that will be used to minimise or reduce the problem;
- The selected veterinary medicines that will be used should the management practices not be successful;
- The specified withdrawal periods for the treatments and the longer withdrawal periods required in the Standards;
- The necessary vitamin and mineral supplements needed to maintain health;
- Ongoing monitoring to ensure the effectiveness of the Plan and to update it as necessary.

The Animal Health Plan should help the Livestock Keeper reduce, in a planned and careful way, the level of medicine use on the converting/organic livestock unit. The farmer can use the appropriate veterinary treatments, given the increased withdrawal time to minimise the suffering of animals but he/she must also look at how to prevent the need for such treatments in the future.

²⁷ Defra (2006) [Compendium of UK Organic Standards](#). Defra Publishing, London, UK

²⁸ Organic Farmers and Growers (2006) [A guide to developing health plans for organic livestock units – Technical Leaflet 105](#). Organic Farmers and Growers. UK

²⁹ OF&G inspection and certification control manual. Livestock production standards (section 8):

<http://www.organicfarmers.org.uk/licensees/controlmanual/index.php>

³⁰ OF&G inspection and certification control manual. Documentation for producers (section 6):

<http://www.organicfarmers.org.uk/licensees/controlmanual/index.php>

4.2.3.1 Practical steps to develop a Health Plan³¹

As well as outlining the key principles for health and welfare planning, Organic Farmers and Growers also provide advice on the practical steps that should be taken to develop a health plan. These are as follows

- 1) Ask a vet to make a consultancy visit to discuss the establishment of the Health Plan;
- 2) Make a copy of a record sheet for each disease or health problem that can be filled;
- 3) Identify the disease organism or health problem;
- 4) Learn about the organism's life cycle and/or the health problem;
- 5) Identify the current veterinary or other treatments used;
- 6) Think about management/husbandry practices that could be used to break the organism's lifecycle or improve the animal's health, whilst reducing reliance on veterinary treatments;
- 7) Identify management/husbandry practices or alternative therapies that could be used to minimise or reduce the problem;
- 8) Identify in advance the alternative veterinary medicines that can be used should the management practices not be successful;
- 9) Identify the specified withdrawal periods for the treatments and calculate the longer withdrawal periods required for organic management;
- 10) Include the personnel who manage the stock in the process and ensure that a copy of the Health Plan is made available to them;
- 11) Monitor the effectiveness of the Health Plans with the assistance of the Vet and/or farm personnel and update them or create new plans where necessary.

4.2.4 *Scottish Organic Producers Association (SOPA)*

SOPA developed a livestock management plan proforma in 2000³². The following details what should be included for each livestock enterprise:

- Describe present management.
- Describe how this management is to be re-evaluated, justified and modified in the developing organic system
- Examine what disease is present or can be anticipated. What evidence has been taken into consideration in developing the present system?
- Identify those areas that may need to change under organic management or require additional veterinary investigation.

³¹ A Guide to Developing Health Plans on Organic Livestock Units for Producers (OF&G technical leaflet 105)

http://www.organicfarmers.org.uk/licensees/farmersandgrowers/technical_leaflets/index.php

³² www.safonetnetwork.org/workshops/ws2/presen/Atkinson.pdf - Assessing animal health and welfare from a Certification Bodies point of view Chris Atkinson Technical Manager Scottish Organic Producers Association, SAFO 27 March 2004

4.3 UK Livestock Sectors

4.3.1 RSPCA Freedom Food³³ - Dairy³⁴ and Beef Cattle³⁵ Health Plan Guidance

Freedom Food is a farm assurance and food labelling scheme set up by the RSPCA in 1994 to improve farm animal welfare and to address growing consumer demand for higher welfare produce. The production of a written veterinary health plan is a requirement of the assurance scheme. The plan should be agreed between the veterinary surgeon and the producer and, where appropriate, the herdsman. It should involve regular visits to the herd by the farm's own veterinary surgeon.

The health plan should cover the following four areas:

Basic disease control measures - Where possible, the emphasis should be to control disease by using management and husbandry techniques rather than relying totally on routine medicinal therapies. The areas that need focus are: mastitis, parasite control, lameness, vaccination, stockmanship, neonatal care, pneumonia / respiratory disease, carcass disposal and casualty slaughter.

Herd security against infectious disease - Measures designed to prevent new infectious disease agents from being introduced to the farm might include maintaining a closed herd whenever possible. Such measures include: quarantine, disposal of clinical waste, storage of medicines, zoonoses and notifiable diseases.

Monitoring and control of disease present on the farm

The herd must be continually monitored and records kept for herd performance including: production diseases, infectious diseases, and injury as a result of housing/husbandry. The objective must be to use the records as part of a preventative medicine policy, as well as being used as part of the daily management of the unit to help evaluate the health/welfare status of the herd. All treatments administered, their success, and any withdrawal period should also be recorded. The recording of births, deaths, movements and medicine use is a legal requirement.

Disease surveillance

An important part of any health plan is the prompt identification of disease problems before they become serious. Stockmanship of a high quality is crucial for successful identification of potential problems. Appropriate examinations and laboratory tests (where necessary) enable early warning of disease.

³³ RSPCA Freedom Food website:

<http://www.rspca.org.uk/servlet/Satellite?pagename=RSPCA/RSPCARedirect&pg=FreedomFoodHomepage>

³⁴ RSPCA (1999) RSPCA Veterinary Health Plan – Dairy Cattle Guidance Notes. RSPCA, Horsham, West Sussex, UK.

³⁵ RSPCA (1999) RSPCA Veterinary Health Plan – Beef Cattle Guidance Notes. RSPCA, Horsham, West Sussex, UK.

4.3.2 *The National Dairy Farm Assured Scheme (NDFAS)*³⁶

Increasingly consumers are seeking reassurance in the areas of animal health and welfare and many physical measurements can be taken on farm. When considered in isolation, these measurements may give a misleading indication of the welfare or health status of the dairy cows in the herd. This scheme places increased emphasis on the keeping of accurate and meaningful health records, which, with the help of veterinary surgeons, will allow the monitoring of herd health and welfare.

The assurance of herd health and welfare under NDFAS requires the presence of a Herd Health Plan. This is a written document in a form of a plan of preventative healthcare and protocols as well as a recording system to monitor herd health and welfare. The records must chronicle the incidence of specific health conditions and reflect prevalence by assessing progress of each condition over time. A working health plan provides the assurance that health and welfare are being monitored and addressed on an assured farm, with specific protocols and records reviewed at least annually for routine and preventative care.

The health plan can be developed with the help of models or templates provided by various agencies. The plan must be structured for each individual farm. It is recommended that the plan will be discussed and agreed with a veterinary surgeon, although it is not an obligatory requirement.

4.3.2.1 Herd Health Plan Requirements

There must be a written herd health plan present on the farm that is available to all farm staff who have responsibility for the animals, and which fully complies with the requirements of the scheme. The herd health plan must be reviewed annually. Detailed records for the occurrence of all health and welfare conditions must be maintained on the farm, including: lameness, mastitis, fertility, reproductive disorders and calving problems, metabolic disorders, calf diseases, other diseases and conditions.

4.3.3 *Rural Business School, Duchy College – Devon Farm Health Planning Group*³⁷

An initiative to promote the adoption of farm health planning in the cattle industry has been launched in Devon. The project aims to demonstrate the financial value of implementing health planning while encouraging high standards of animal health and welfare. The Devon Farm Health Planning Group is collaboration between six Devon-based veterinary practices and the Duchy College Rural Business School. The Group demonstrate the economic and animal health importance of high quality proactive herd health planning by working in partnership with selected focus farms in West, North & Mid- Devon. The focus farms are selected to reflect the range of different cattle enterprises existing across the county, ranging from intensive dairy to extensive suckler production. The information gained from the project will be disseminated to the wider farming community via focus farm based open days and regular communications with the farming press and so encourage the widespread adoption of health planning by cattle farmers across the county.

³⁶ National Dairy Farm Assurance Scheme standards: <http://www.ndfas.org.uk/>

³⁷ http://www.cornwall.ac.uk/rbs/index.php?page=_Projects&id=1457

4.3.4 Assured British Meat (ABM) standards³⁸

ABM, in setting assurance standards for the beef and lamb sector, takes a whole chain approach with beef and lamb farms, livestock transport, auction markets, abattoirs and cutting and packing plants being included.

The ABM farm standards include sections on Animal Welfare and Animal Health and Nutrition. Under the Animal Health section it is stated that: 'A written herd/flock health plan must be established, implemented and reviewed at least annually or more frequently in the event of any substantial changes to husbandry practices'. The purpose of the written herd/flock plan is to help participants to review their approach to animal health on a regular basis and demonstrate commitment to preventative medicine and planned animal health. Producers are encouraged to seek veterinary advice in preparing the plan.

As a minimum the plan must cover the areas of:

1. farm bio-security,
2. vaccinations,
3. parasite control,
4. routine management procedures and
5. veterinary operations.

Animal health planning in the ABM standards is defined as a proactive approach through planning, monitoring and reviewing to ensure positive animal health incorporating animal disease prevention and control. It is:

- Early recognition and identification of diseases present at a holding;
- Identification of the risks of introduction and spread of diseases and infections;
- Putting in place measures to manage risks, and improve overall disease prevention and control.
- A tool for identification of cost effective measures, which contributes to farm business planning.

4.3.5 Assured British Chicken³⁹

Assured Chicken Production (ACP) is an industry-wide initiative that addresses all the important issues concerning the production of chicken. It is the objective of Assured Chicken Production to set standards for the nutrition and welfare of poultry and to verify producers' compliance with them. Another objective is the development of the standards to achieve high levels of food safety and environmental care.

To meet these requirements each site must have a written health and welfare programme tailor-made to the needs of the unit, and must contain a strategy for the prevention and control of common diseases. As a minimum the programme must be annually reviewed and updated. The programme must set out health and husbandry procedures covering the whole of the production cycle. The scheme is audited to ensure a written programme is in place.

³⁸ ABM Beef and Lamb Farm Standards:

http://www.abm.org.uk/abm/far_section.aspx?id=000HK277ZX.0EIUB5JS9XSCO

³⁹ http://www.assuredchicken.org.uk/_code/common/item.asp?id=4035881

4.3.6 *National Animal Disease Information Service (NADIS)*

NADIS was formed over 10 years ago to monitor diseases in cattle, sheep and pigs. It currently consists of 54 sentinel practices and the 6 UK Veterinary Colleges, though there are plans to expand this to 100 veterinary practices with funding support from Defra. Their primary role is to provide information across the whole spectrum of endemic diseases of interest to farmers and vets, on a regional basis, and consider pigs, cattle and sheep. They provide forecasts (e.g. parasite forecasts based on data collection and climatic patterns), health problems to look out for each season and what can be done to prevent/treat, discussion forums for vets and farmers and analysis of disease trends across time (over 10 years data so far).

NADIS activities includes monitoring disease in cattle, sheep and pigs, knowledge transfer to vets and livestock industry, monthly reports published by 'UK Vet' and www.nadis.org.uk, bulletins supplied to regional and local agricultural press and main websites and reporting of veterinary surgeon records of all disease cases and preventive medicine work. Information from the participating veterinary practices and veterinary colleges is downloaded onto a central data base every two weeks to ensure that information is up to date and relevant to the current situation on farm. The UK is also divided into 10 different weather regions to make climatic related information more relevant on a local level.

The resources produced by NADIS can play an important role in animal health and welfare planning. They can collect quantities of animal health data (albeit on a regional basis) that would be impossible to collect and analyse on an individual farm level. This type of data is particularly useful for individual farmers to benchmark their own animal health performance against others, in order to be able to identify areas for improvement. Forecasting data, particularly for parasites, can also be useful for devising control strategies. The NADIS website also provides useful information on various diseases and conditions and therefore can be a useful resource for farmers and advisors.

4.4 **European perspective**

4.4.1 *European Commission*

Following a wide-ranging evaluation and consultation process the European Commission has produced "A new Animal Health Strategy for the European Union (2007-13) "Where prevention is better than cure"⁴⁰.

Animal health and welfare planning is not specifically mentioned in the draft strategy, however, some issues, such as bio-security and disease monitoring and surveillance that could be addressed in a health planning context are covered. Very little mention is made of policies aimed specifically at farmers to improve health and welfare of animals. The exception to this is the statement made on bio-security: "Successful bio-security measures must address isolation of new animals brought to the farm, isolation of sick animals, regulation of the movement of people, animals, and equipment, and procedures for cleaning and disinfecting facilities. This responsibility lies with the animal owners" (EC, 2007).

⁴⁰ EC (2007) A new Animal Health Strategy for the European Union (2007-2013) where "Prevention is better than cure". Office for Official Publications of the European Communities, Luxembourg.

4.4.2 Norway

Henriksen (2004)⁴¹ reports on a Norwegian Agricultural Authority funded advisory and development project entitled “Good animal welfare in organic farming”. The project involved dairy farmers and advisors associated with the TINE BA dairy cooperative and utilised their existing group counselling systems and activities in the Norwegian Cattle Health Service. The Norwegian Cattle Health Service has had a health card recording system in place since 1976, where production data, disease and treatment information must be recorded and The Norwegian Dairy Herd Recording Systems records information about milk yield, fodder, breed etc. There has been no formalised animal health planning requirement in the Norwegian dairy industry however, and one of the key outcomes of the project was to develop a template for a health and welfare plan for organic dairy farms and provide appropriate training and advice to encourage uptake and use of health and welfare planning. A check list for welfare assessment (including animal based parameters and a farmer questionnaire) to assist organic inspectors was also developed. No mention is made by Henriksen (2004) of the animal health and welfare planning principles or content of the proposed template.

4.4.3 Germany

In Germany there is very little in way of formal animal health and welfare planning on farms and that which has been done is mostly associated with research projects. Link (2006)⁴² describes a project launched by the Federal Program for Organic Farming called ‘Implementing animal health and welfare in organic husbandry’. The project was divided by species into dairy cows, breeding sows and laying hens, with each section managed by one of the participating research institutes (The University of Kassel, Witzenhausen, the University of Goettingen, the Institute of Organic Farming, Trenthorst and the Bioland^o). In the first stage of the project, checklists were developed and tested to evaluate the animal welfare situation on farms. For each species, 20 to 30 organic farms were selected and evaluated. It was then proposed that when these evaluations had been analysed, animal health plans for each farm would be developed to help them improve their animal welfare situation. No mention is made as to the required content of the animal health plans or the principles on which they would be based.

4.4.4 Switzerland

In Switzerland, animal health and welfare planning as a concept does not exist in either the organic or conventional livestock sectors, however, standards of animal welfare are high because of strict welfare laws and direct support payments through agri-environmental schemes for promoting animal welfare (OECD, 2007)⁴³.

⁴¹ Henriksen, B. (2004) Development of an advisory system that supports good animal welfare in organic milk production in Norway. In: Hovi, A. Sundrum and S. Padel (eds) Organic livestock farming: potential and limitations of husbandry practice to secure animal health and welfare and food quality. Proceedings of the 2nd SAFO Workshop 25-27 March 2004, Witzenhausen, Germany.

⁴² Link, M. (2006) Improving animal health and welfare in Germany. In: C. Rymer, M. Vaarst and S. Padel (eds), Future perspective for animal health on organic farms: main findings, conclusions and recommendations from SAFO Network, Proceedings of the 5th SAFO Workshop 1 June 2006, Odense, Denmark.

⁴³ OECD (2007) Switzerland – Agricultural Policies in OECD Countries: Monitoring and Evaluation 2007). Viewed on <http://www.oecd.org/dataoecd/14/1/39579771.pdf> (17 December 2007)

According to the BioSuisse regulation on organic agriculture, animal health on organic farms should be achieved primarily by preventative measures rather than the traditional veterinary approach (particularly in the area of udder health and milk quality) of treatment (mostly with antibiotics) of sick animals (Heil et al., 2006)⁴⁴. The Pro-Q project “Promoting and maintaining bio-milk quality in Switzerland by prevention and minimization of antibiotics” (Heil et al., 2006) was started to promote to try and achieve this in the organic dairy sector. Farmers, in conjunction with their vets, were required to collect data on the current state of udder health (including milk quality and physical characteristics) and then develop a plan of complementary therapy treatment and changes to management practices to improve udder health and reduce the use of antibiotics. Additionally, farmers were provided with advice and support on health and welfare planning via the internet (web based information services), advisory groups and expert meetings. A database system was also developed to process the health data collected. The main barriers to increased animal health and welfare planning were identified as lack of veterinary expertise and interest and the cost and administrative burden to farmers.

4.4.5 Austria

No formalised animal health and welfare planning is undertaken in Austria. The Austrian Animal Health Service, which has been in place in Austria for 2 years, simply enables a check list type approach to animal health and welfare on the farm and does not allow for planning and the development of actions to improve animal health and welfare.

4.4.6 Holland

As with Germany, Switzerland and Austria there are no formal animal health and welfare planning requirements in Holland. However, the KKM (milk quality programme) initiated in Holland in 1998 is compulsory for all dairy farmers and part of this scheme involves periodic farm visits by veterinarians. These visits usually involve the vet simply identifying health problems in the herd visually rather than investigating health records and developing a preventative health management strategy (Smolders, pers comm.).

4.4.7 Denmark

There is no existing formalised animal health and welfare planning for organic farming in Denmark; however, there are a number of initiatives in place that could support this type of activity. There is an existing veterinary advisory service for conventional dairy herds that could provide a health planning service. At present, however, the focus of this service is usually on immediate improvements in disease prevention rather than longer term animal health promotion. Since 2000, the organisation “Organic Denmark” has offered its members a Farm Development Plan service. There is no specific focus on animal health and welfare, however, farmers can articulate animal health and welfare improvement as a goal and work with advisors to integrate this goal in the whole farm planning process. Between 1999

⁴⁴ Heil, Fritz; Ivemeyer, Silvia; Klocke, Peter; Notz, Christophe; Mäschi, Ariane; Schneider, Claudia; Spranger, Jörg und Walkenhorst, Michael (2006) [pro-Q: Förderung der Qualität biologisch erzeugter Milch in der Schweiz durch Prävention und Antibiotikaminimierung. Abschlussbericht Mai 2003 bis April 2006](#) [pro Q: Promotion of the quality of organically produced milk in Switzerland through prevention and minimisation of antibiotics. Final report May 2003 to April 2006]. Bericht, Forschungsinstitut für biologischen Landbau FiBL, CH-Frick.

and 2001 a 2 year action research project took place in Denmark where animal health advisory service contracts were developed for a sample of organic farmers using three different models (theme oriented health planning, close herd monitoring and continuous process and analysis). None of these models were particularly effective from an animal health and welfare planning perspective. More recently, the concept of Danish Stable Schools (Vaarst et al, 2007)⁴⁵ has been used in relation to animal health and welfare improvement on organic dairy farms and this technique may be useful for increasing the level of formal animal health and welfare planning that takes place in Danish dairy herds.

4.5 International Perspective

4.5.1 OIE – World Organisation for Animal Health

A number of codes of practice for animal health for both terrestrial and aquatic animals have been developed by the OIE. The aim is to assure the sanitary safety of international trade in terrestrial animals (mammals, birds and bees) and aquatic animals (fish, molluscs and crustaceans), and their products. This assurance is achieved through the detailing of health measures to be used by the veterinary services or other competent authorities of importing and exporting countries in establishing health regulations for the safe importation of animals and animal products. Such measures aim to avoid the transfer of agents pathogenic for animals and/or humans, without the imposition of unjustified trade restrictions.

No specific mention of animal health and welfare planning is made in either of these codes - there is, however a great deal of emphasis on risk analysis, bio-security, recommendations on specific diseases and hygiene and testing procedures.

5 Animal health and welfare planning principles

An analysis of the health and welfare principles mentioned by the 15 organisations (Appendix 1) outlined in Section 2 was undertaken. These organisations were identified as some of the key players in promoting and encouraging health and welfare planning in the UK and to a lesser extent Europe. The principles were identified from websites, published documents and quality assurance and organic certification regulations.

The analysis of the principles of health and welfare planning indicates that there are around 14 key principles (Table 1) that arise across the sets of principles studied, however, some are more common than others and there appear to be differences in emphasis between organic and conventional health and welfare plans. For example, veterinary involvement being a requirement (or recommended), aiming to reduce the use of veterinary medicines and encouraging the use of preventative management and husbandry are more prevalent, by proportion, in the organic health and welfare principle sets. Other principles such as bio-security and mitigation of risk, analysis and review of collected data, describing routine husbandry practices and the use of preventative medicines such as vaccination (all of which were not mentioned in the

⁴⁵ Vaarst, M., Nissen, T.B., Ostergaard, S., Klaas, I.C., Bennedsgaard, T.W. and J. Christensen (2007) Danish Stable Schools for Experimental Common Learning in Groups of Organic Dairy Farmers. *American Journal of Dairy Science* **90** (5), 2543-2554.

organic documents studied) and explicitly addressing animal welfare were more prevalent, by proportion, when all 15 sets of principles were analysed (organic and conventional).

Table 1. Key principles of animal health and welfare planning identified from a total of 15 bodies that have requirements for animal health and welfare planning (5 of which were organic specific, 4 UK and 1 Swiss))

Code	Principle	Frequency (out of 15 sets of health planning principles, including organic))	Frequency (out of 5 UK organic certification bodies)
A	Identification of current disease status and potential risks	10	4
B	Evaluation of current situation/risks (also prioritisation in some cases)	5	1
C	Develop strategies to deal with current situation or to prevent potential disease problems	10	4
D	Bio-security and mitigation of risk	4	0
E	Monitoring through data recording	8	3
F	Analysis and or review of collected data	7	2
G	Veterinary involvement a requirement or recommended	5	3
H	Aim to reduce the use of veterinary medicine (or encourage the use of alternative therapies)	5	4
I	Explicitly addresses animal welfare	3	0
J	Describe the use of veterinary medicines and treatments	6	2
K	Encouraging use of preventative management and husbandry	6	3
L	Describe routine husbandry practices.	2	0
M	Preventative medicine use (including vaccinations)	2	0
N	Must be available to all staff who work with the livestock	2	1

Additional key principles mentioned by individual organisations included:

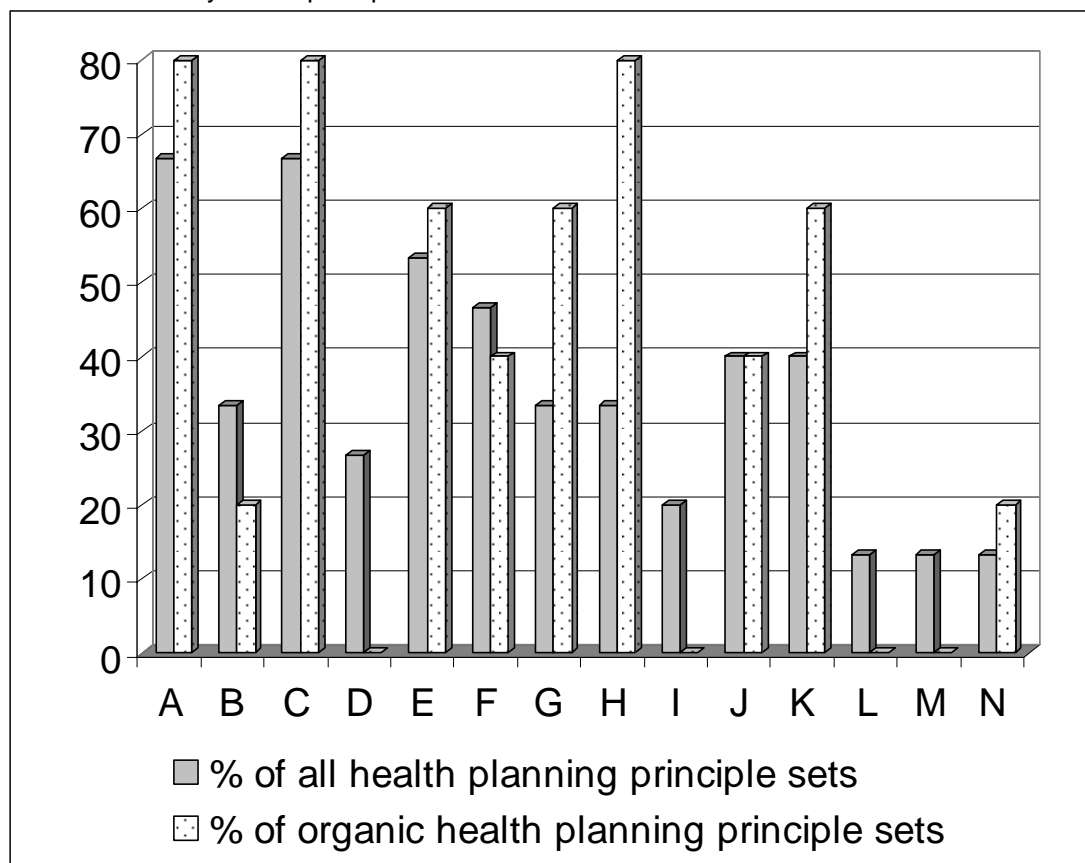
- The specified withdrawal periods for the treatments and the longer withdrawal periods required in the standards (Organic Farmers and Growers Standards).
- The necessary mineral and vitamin supplements needed to maintain health (Organic Farmers and Growers Standards).
- Stockmanship of a high quality is crucial for successful identification of potential problems (RSPCA Freedom Foods Standards).

It should be remembered that this is an analysis of the main principles of health and welfare planning proposed by various bodies, it is not an in depth analysis of the best practice or standards documents themselves as it would require considerably more time and resource to do so. These documents may in fact contain further requirements related to the key principles identified above.

Restricted use of veterinary medicines is one of the practices that distinguishes organic livestock production from conventional, therefore, it is unsurprising that reducing the use of veterinary medicines is a more important key principles in the organic sets of health planning principles (Figure 1). Complementary to that principle is the use of preventative management and husbandry to prevent ill health occurring in the first place. The Compendium of UK Organic Standards (the minimum requirement for organic certification in the UK) recommends that animal health plans

be drawn up with the help of a vet, therefore each of the UK certification bodies also include this principle. Of the four most common principles across all 15 sets of principles (bio-security and mitigation of risk, analysis and review of collected data, describing routine husbandry practices and the use of preventative medicines such as vaccination and explicitly addressing animal welfare), three are highly relevant to the organic livestock sector as well. The exception perhaps being the description of routine preventative medicine use, given that the prophylactic use of veterinary medicines is unacceptable in organic production.

Figure 1. % of sets of animal health and welfare planning principles that make specific mention of the key health principles identified in Table 1 above.



Of concern, is the lack of a requirement in the organic health planning principles to analyse and review recorded health data. This was one of the key shortcomings of UK style health planning identified in studies by Huxley et al (2003a)⁴⁶, Sibley (2000)⁴⁷ and Bell et al. (2006)⁴⁸ that reduced the effectiveness of health planning to improve health and welfare on farms. If data recorded are not reviewed or analysed the farmer and vet cannot get an accurate picture of the current state of health and welfare in the herd, where potential problems may lie, and whether the strategies

⁴⁶ Huxley, J.N., Burke, J., Roderick, S., Main, D.C.J., Whay, H.R. (2003a) Herd Health and Welfare Benchmarking on Organic Dairy Farms in South-West England. *Cattle Practice* **2**(4), 331-333.

⁴⁷ Sibley, R. J. (2000) Planning health care on dairy farms. *In Practice* **22**, 405-407.

⁴⁸ Bell, N.J., Main, D.C.J, Whay, H.R., Knowles, T.G., Bell, M.J., Webster, A.J.F. (2006) Herd health planning: farmers perceptions in relation to lameness and mastitis. *Veterinary Record* **159**, 699-705.

being implemented to deal with health problems are effective or not. Possible ways of encouraging farmers to increase analysis and review of health data, including the use of benchmarking, are discussed further in Section 6.

The lack of farm bio-security as a key principle of health and welfare in the organic sets of principles is also of concern. One of the most fundamental ways of preventing disease in animals is to prevent disease organisms coming on the farm in the first place.

The financial aspects of animal health and welfare planning were highlighted by a sample of UK sheep producers as being a key principle of importance to them (NSA, 2006). This was not mentioned, however, in any of the 15 sets of principles analysed in this document.

It is clear that there is considerable variation between sets of health and welfare planning principles from the organisations studied and that the organic and conventional principles do differ in their emphasis. Of key concern, however, is the lack of reference in some sets of principles, particularly the organic ones, to fundamental issues in health and welfare planning, for example the analysis and review of health and welfare data to gauge the situation over time.

5.1 ANIPLAN Workshop development of health planning principles

At the first ANIPLAN Workshop held in Denmark on 9th-12th October 2007, participants from the 7 partner countries were asked to identify what they thought were the key principles of animal health and welfare planning. Participants worked in small groups and then after plenary discussion, a consensus was reached on 8 key principles which are listed below.

ANIPLAN Partner animal health and welfare planning principles:

- Continuous development and improvement
 - Identify current status and risks (using animal and resource based parameters)
 - Evaluation and target setting
 - Promotive, preventative and responsive strategies and action
 - Review
- Farm specific
- Farmer ownership (setting targets, accounting for aspirations, setting planning agendas)
- External person(s) should be involved (to provide unbiased advice/support)
- External knowledge
- Within framework of organic principles (systems approach)
- Written documentation
- Acknowledge existing positive aspects of health and welfare also

If these principles are contrasted with those derived from the literature (Table 1.), there is considerable overlap of principles. In particular, identification of current disease status and potential risks, evaluation of current situation, strategies for dealing with problems and analysis and review of situation are clearly represented in both sets of principles. However, monitoring is not explicitly mentioned in the ANIPLAN principles, though the collection of animal and resource based parameters to identify the current situation is stated. Veterinary involvement in the health

planning process is recommended or required in the principles derived from the literature (Table 1), however, in the ANIPLAN principles, this is broadened to an external person (could be a vet or an animal nutritionist for example) to provide unbiased advice and support and also external knowledge – which could come in the form of computer simulation models, feed planning packages, animal disease databases etc. Other principles derived from the literature such as aiming to reduce veterinary medicines, explicitly addressing animal welfare and encouraging the use of preventative management and husbandry all fall within the ANIPLAN principle of “within the framework of organic principles” – referring here to the principles of organic agriculture as defined by IFOAM⁴⁹ and within EU Regulation EC2092/91⁵⁰ and the organic livestock amendment EC1804/99⁵¹. Principles identified from the literature but not included in the ANIPLAN principles include describing routine husbandry practices and preventative medicine use – however these tended to be more commonly associated with conventional health and welfare planning than organic (Table 1). Another that wasn't addressed in the ANIPLAN principles was that the health and welfare plan must be available to all staff who work with livestock on a farm. This is covered to some extent by the ANIPLAN principle of “farmer ownership”.

The principles identified by the ANIPLAN partners will form the foundation of any health and welfare planning that is developed and used as part of the research carried out in this project. Defining a set of principles on which to base health and welfare planning rather than developing a set health and welfare planning template, means that ANIPLAN partners all have a common understanding of what is meant by animal health and welfare planning in the project, but have the flexibility to adapt the health planning process to suit an individual countries conditions and specific requirements.

6 Attitudes towards health planning

Most dairy farms in the UK have had to implement a herd health plan as a prerequisite of all dairy farm quality assurance schemes (e.g. NDFAS⁵², see section 3.2.1 above). All organic dairy farms need an animal health and welfare plan as a compulsory part of organic certification. A good health plan should consist of many of the principles outlined in Section 3 and bring together information about the farm, the animals and the management systems being applied to both. It should identify current and potential health and welfare problems (based on herd health data), strategies for their management and prevention, monitoring of implemented strategies and as a minimum, annual review to identify progress. However, the actual health planning process carried out on farms varies significantly and

⁴⁹ IFOAM (2005) Principles of Organic Agriculture. International Federation of Organic Agriculture Movements. Bonn.

⁵⁰ EC (1991) “Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs”. Official Journal of the European Communities L198 (22.7.91): 1-15.

⁵¹ EC (1999) “Council Regulation (EC) No 1804/1999 of 19 July 1999 supplementing Regulation (EEC) No. 2092/91 on organic crop production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production”. Official Journal of the European Communities L222 (24.8.99): 1-28.

⁵² NDFAS standards: <http://www.ndfas.org.uk/>

subsequently so does the effectiveness of health planning as a tool to improve animal health and welfare. Studies by Huxley et al. (2003a)⁵³ and Bell et al. (2006)⁵⁴ looked at dairy farmers' perceptions and use of herd health plans. Huxley et al. (2003a) studied 15 organic dairy farms in South-West England, all with herd health plans. Of the 15, only 10 had health plans that were developed with the assistance of a vet, one with the help of an advisor and 4 on their own without external advice. Health plans had been in place on the farms for between 2 and 48 months. Opinions on health plans were varied. Positive comments included: "Makes you think, question what you are doing, look for options", "Makes you look at figures", "Document to refer to, makes you think about animal health". Negative comments also arose however, including: "Waste of space, fill it in, don't look at it", "Just more paper work", "There because you have to have them", "Time spent better doing job rather than writing down on paper". In the Bell et al. (2006) study, 58 dairy farmers from south-west England, the Midlands and Wales, UK were interviewed on aspects of health planning, health recording, health problems, control measures and their own opinions on herd health planning. 50% of the 236 comments (from 50 of the farmers) indicated that health planning was a disadvantage to the farm (Bell et al., 2006). Forty-nine comments from 43 farmers indicated a direct benefit to someone else, such as the milk purchaser, supermarket, or general public and only sixty nine comments from 43 farmers indicated a direct benefit to the farm. Farmers' attitudes towards the plans were not found to be associated with the type of plan used, the quality of the plans, and the quality of the records or the extent of their record review (Bell et al., 2006). Nor were they related to the level of perceived health problem on the farm or the measures they took to deal with them. Both studies (Bell et al., 2006 and Huxley et al., 2003a) indicate that farmers are generally not happy that the health planning is a worthwhile exercise to improve animal health and welfare in their herds and they only undertake the process due to farm assurance and organic certification requirements. There are farmers out there however, who are finding health planning a useful process (as indicated in the studies) so there must be shortcomings in the health plan implementation process used by many farmers.

In 2006 the National Sheep Association undertook, on behalf of DEFRA, an investigation into the attitude towards farm (flock) health plans and planning within the various parts of the English sheep industry in both the lowlands and uplands⁵⁵. The main focus was to gather the thoughts of commercial producers. By trying to extract their thoughts and feelings on how they could improve the health and welfare of the sheep under their care, it was hoped that means could be found for help to be given which would not only achieve this but also add to their financial returns as a result.

Farm visits (NSA, 2006) revealed a clear distinction between farm health plans and farm health planning. A large amount of time and effort went into planning how to improve the health and welfare of their sheep flock (e.g. by developing vaccination programmes) but this planning did not manifest itself as a flock health plan in the vast majority of cases as little or no value was seen in this. The farm health plan was

⁵³ Huxley, J.N., Burke, J., Roderick, S., Main, D.C.J., Whay, H.R. (2003a) Herd Health and Welfare Benchmarking on Organic Dairy Farms in South-West England. *Cattle Practice* **2**(4), 331-333.

⁵⁴ Bell, N.J., Main, D.C.J, Whay, H.R., Knowles, T.G., Bell, M.J., Webster, A.J.F. (2006) Herd health planning: farmers perceptions in relation to lameness and mastitis. *Veterinary Record* **159**, 699-705.

⁵⁵ National Sheep Association (2006) National Sheep Association investigation into attitudes towards farm health planning in the English sheep sector. National Sheep Association, UK.

viewed as a paper exercise for the benefit of someone else (e.g. quality assurance body). Whilst there was a lack of farmer interest in producing farm health plans, a definite thirst for information relating to animal health and welfare was apparent, with quite considerable amounts of time being spent on such activities. The main sources of information were the internet and through membership subscriptions to relevant colleges and institutions. This indicates that farmers are interested in improving the health and welfare of their animals, but perhaps formalised animal health planning requirements are the not the most appropriate means of achieving this.

Another interesting result of this study (NSA, 2006) was the difference in perceptions of animal health and welfare plans and planning between farmers and industry bodies. Industry tended to view the written health plans themselves as necessity, for cross-compliance (Scotland), quality assurance schemes and organic certification – but conceded that these documents need to be relatively simple and as long as they show a pro-active approach to improving health and welfare they tick the box as far as these schemes go. Industry bodies felt that engaging farmers in a manner where they can see the benefits of health and welfare planning (perhaps through showing them the financial benefits) rather than forcing them down the route of having to produce a formulated written health plan, would encourage further uptake of the health and welfare planning process.

Suggestions were made by the NSA (2006) that perhaps more lateral thinking is required on what health plans look like. By using a range of health planning tools that are designed well, appeal to farmers and can be used effectively for the benefit of the whole industry – then farmers are more likely to take them up. Suggestions made included laminated lambing cards giving tips on health and welfare during lambing, a directory of information sources (including veterinary and other qualified professionals) that can be a resource for farmers and interactive software that would allow question and answer sessions for individuals and have a scenario setting capability to assist with developing health and welfare management strategies. The NADIS website (see section 3.3.6) is a good example of an existing health planning tool that can be used by farmers and veterinarians to assist with the health planning process. Another example of an existing tool is DeSTVAC⁵⁶ which is a decision support tool developed by the University of Reading to identify appropriate vaccination usage on organic sheep and cattle farms.

It needs to be remembered the aim of health and welfare planning is to improve the health and welfare of farmed livestock – if farmers do not see written health plans as being useful then alternatives need to be identified to ensure farmer buy-in to health and welfare planning process.

7 Shortcomings of UK-style health and welfare planning

Alongside the questionnaire and subjective rating of the quality of the herd health plans (looking at the plan itself, not how it was implemented), Huxley et al. (2003a)⁵⁵ also carried out animal based health and welfare assessments on all 15 farms. There was found to be no link between the scores given for the quality of records kept and herd health planning and the overall results for the animal based health and welfare assessments (i.e. good quality record keeping and health plans did not necessarily result in a higher health and welfare score on the farm). There was also

⁵⁶ Hovi, M. (2003) Vaccine use in organic cattle and sheep systems: Development of a decision support tool based on risk assessment (<http://orgprints.org/6776/>)

no correlation between the length of time the plan had been in place and the health and welfare assessment score either. This suggests that on these farms herd health plans are not an effective tool for improving animal health and welfare.

The implementation of the health plan on the farm is the essential process that many farmers omit – many see it as a paper work/box ticking exercise to satisfy the quality assurance of organic certification requirements. Key to that successful implementation process is data collection and analysis to monitor progress and regular reviewing on of that data (Sibley, 2000)⁵⁷. In a study by Huxley et al. (2003a) of 15 organic dairy farmers who had animal health plans in place, only 14 said they reviewed their health records (only 9 did so on a regular basis) and of those 14 only 3 said they made review records and of those 3 none could produce documentary evidence of the review. In the study by Bell et al. (2006) described in the previous section, all the dairy farmers studied kept mastitis records (a legal requirement in the UK (The Welfare of Farmed Animals (England) Regulations 2000 (Anon, 2000)⁵⁸) and 95% of them kept lameness records (a NDFAS dairy farm assurance scheme requirement). However, even though this data was collected, only 38% of the farmers studied reviewed their records and like the Huxley et al. (2003a) study, very few (5%) of these reviews were comprehensive and retained for future reference. This lack of a written record of reviews is also a serious problem given that over time is very difficult for farmers to accurately remember herd health data which may result in an underestimate of a health or the farmer not picking up a deteriorating health situation over time.

Pocock (2004)⁵⁹ went as far as saying that there are serious shortcomings in health planning being an effective tool to deliver health and welfare assurance. The key problems he identified with the UK system of health planning were:

- There are no industry standards for the levels of health and welfare farmers should be striving for – a national strategy is needed to raise deficient farms to at least national average levels, and there is not saying that that is even a high enough standard.
- There is no system of quality control on the health planning activity, either from the veterinary side of the process or the farm assurance/organic certification side of the process – often to have a plan is enough, it does not necessarily have to be implemented successfully.
- The data recording system is not robust – there is not structured formal review of data required, much data is held on farm (where we see from Bell et al. (2006) and Huxley et al. (2003a) that very few farmers look at it) and again targets are not set for performance.
- There is no auditing and assessment process on health plans – again to have a plan is often enough for farm assurance and organic certification bodies. The implementation process needs should be audited however, and the outcomes of the health planning process assessed and preferably benchmarked against other similar farms or national averages.

⁵⁷ Sibley, R. J. (2000) Planning health care on dairy farms. *In Practice* **22**, 405-407.

⁵⁸ ANON (2000) The Welfare of Farmed Animals (England) Regulations 2000. London, HMSO.

⁵⁹ Pocock, B.W. (2004) Is Health Planning an Effective Tool to Deliver Health and Welfare Assurance? *Cattle Practice* **12**(1), 65-67.

- Training veterinary surgeons on animal health and welfare planning is required as this is a specialist area. Farmers and other advisors in the health planning process also need appropriate training and support.

These are all issues that need addressing if health planning in the UK is to be effective at improving the health and welfare of farmed livestock.

The use of animal health data benchmarking was mentioned in several studies as a possible means for motivating farmers to implement health plans properly (Huxley et al., 2004⁶⁰, Bell et al., 2006, Main, 2006). Benchmarking is the establishment of levels of specified conditions for the purpose of comparison between farms and can be used by farmers to identify areas of weakness on their farms in comparison to others (Huxley et al., 2004). This enables them to develop strategies to deal with that particular weakness. Benchmarking also has the added benefit of showing farmers what they could achieve by showing what the top percentage of farmers are achieving. Huxley et al. (2004) examined the response of producers to animal welfare assessment benchmarking reports and although many farmers identified problems and implemented management changes, the success of the interventions was variable. A key element in this study was that the source of advice given as to the type of intervention required was not controlled which highlights the importance of good quality advice following a benchmarking process. This reiterates Pocock's (2004) point that training in the area of animal health and welfare planning is required for vets, farmers and other advisory experts.

Health planning is a tool that can be used to assist in the active prevention and monitoring of health and welfare on farm and is flexible enough to allow for solutions to specific problems on specific farms. In the UK, however, these plans are undervalued and whilst animal health data is often collected it is often inaccurate (relying on farmers' memory rather than actual recording) and is frequently not analysed and reviewed over time. This results in farmers not being aware of problems on the farm or situations deteriorating over time. Benchmarking may raise awareness of how a farmer is performing in relation to his or her peers and hence motivate them to perform better, however the benchmarking process needs to be backed up with good technical advice. Work needs to be done by the livestock industry to develop some sort of quality control system for animal health plans which are required for quality assurance or organic certification. The health and welfare of animals will not be improved merely by having an animal health plan. Farmers need to be encouraged to implement the plan effectively and this is an area that may require more study.

8 Conclusions

The analysis of 15 sets of health and welfare planning principles derived from various UK government initiatives, organic certification bodies and livestock industry bodies resulted in the identification of 14 key principles. There were key differences between the organic and conventional sets of principles, primarily in relation to the use of veterinary medicines. There were also deficiencies apparent in some of the

⁶⁰ Huxley, J.N., Burke, J., Roderick, S., Main, D.C.J., Whay, H.R. (2004) Animal welfare assessment benchmarking as a tool for health and welfare planning in organic dairy herds. *Veterinary Record* **155**, 237-239.

sets of organic health and welfare planning principles, particularly the requirement to analyse and review data – an activity that is of importance in and planning process.

Attitudes towards health and welfare planning differed between farmers and industry bodies and a very clear distinction is apparent, especially in the farming community between health and welfare planning and health plans. Farmers feel that written health plans are of limited benefit to them but recognise that they do satisfy the requirements of government and industry bodies (e.g. for cross compliance, organic certification, quality assurance). Other shortcomings of the UK system of health and welfare planning were also identified including plans often being written but not effectively implemented, lack of analysis and review of collected health and welfare data, a lack of quality control in health planning systems and a lack of auditing to see if the health and welfare planning has been effectively implemented on the farm.

Given these findings there are several issues that need to be kept in mind when taking the ANIPLAN project forward:

- There are useful health and welfare planning principles from the conventional sector that should be applied to the organic sector
- The distinction needs to be made between health and welfare planning and health and welfare plans
- In order to ensure widespread farmer uptake of the health and welfare planning process, alternatives to written, formalised health plans need to be identified.
- Written health plans are a necessity for quality assurance and organic certification – where they are being used quality control and auditing measures need to be put in place to ensure they are fulfilling their requirements
- Benchmarking health and welfare data may be a useful way of encouraging farmers to plan their health and welfare management strategies.

Appendix 1 Key animal health and welfare planning principles identified from UK Government, organic certification and industry bodies.

Organisation	Key Principles
AH&W Strategy for Great Britain	<ul style="list-style-type: none"> • identification of risks of introduction and spread of disease and infections; • early recognition of disease; and • prioritising measures to control any existing problems and manage risks, including the responsible use of medicines. • preventing the introduction of endemic diseases or zoonoses and thus improving the productivity of the overall herd or flock; and • slowing or minimising the spread of disease from one farm to another during an exotic disease outbreak.
Positive Animal Health Action Plan (England)	<ul style="list-style-type: none"> • Early recognition and identification of diseases present at a holding; • Identification of the risks of introduction and spread of diseases and infections; • Putting in place measures to manage risks, and improve overall disease prevention and control. • A tool for identification of cost effective measures, which contributes to farm business planning.
Animal Health Planning Framework (Wales)	<ul style="list-style-type: none"> • Evaluation (assess performance and risks) • Mitigation (prevent risk) • Responding (make changes and set targets) • Monitoring (keep records) • Evaluation....
Animal Health and Welfare Management Plan (Scotland)	<ul style="list-style-type: none"> • Implement a proactive scheme for treating diseases, including guidance on following a vet's advice and treatment (compulsory) • Implement a scheme for using vaccines and preventative medicines (compulsory) • a summary of the annual discussion (assessment) with a vet, • outline of the agreed activities under any voluntary options the farmer wishes to take, although the detail may be given in other documents and finally • the Animal Health and Welfare Management Plan must be agreed, implemented and re-assessed with a vet on an annual basis.
Compendium of UK Organic Standards	<ul style="list-style-type: none"> • Aiming for "positive animal health and welfare" • Preferably drawn up with a vet • Must show development of a pattern of health building and disease control measures • Must allow for the evolution of a farming system progressively less dependent on allopathic veterinary medicinal products
Soil Association	<ul style="list-style-type: none"> • should provide a written strategy for the management of animal health to organic standards during the conversion period - and beyond

	<ul style="list-style-type: none"> • Producers are strongly advised to get advice from their veterinary surgeon in developing the plan • The animal health plan should be revised on a regular basis (at least once a year). • should also be updated (preferably with the vet) according to the progress or problems experienced. • All members of farm staff dealing with livestock should have access to and understand the animal health plan. • Identify all significant potential livestock pest and disease problems that may occur • Outline the methods of preventing their occurrence • Outline what treatments will be used should they occur and • Describe an approach to improvement of overall herd-health and reduction of reliance on veterinary treatments.
Organic Farmers and Growers	<ul style="list-style-type: none"> • plan must ensure the development of a pattern of health building and disease control measures appropriate to the particular circumstances of the individual farm and allow for the evolution of a farming system progressively less dependent on allopathic veterinary medicinal products • Identify the disease organism or health problem; • The management/husbandry practices that will be used to break the organism's life cycle and reduce the reliance on veterinary treatments; • The management/husbandry practices or alternative therapies that will be used to minimise or reduce the problem; • The selected veterinary medicines that will be used should the management practices not be successful; • The specified withdrawal periods for the treatments and the longer withdrawal periods required in the Standards; • The necessary vitamin and mineral supplements needed to maintain health; • Ongoing monitoring to ensure the effectiveness of the Plan and to update it as necessary. • The farmer can use the appropriate veterinary treatments, given the increased withdrawal time to minimise the suffering of animals but he must also look at how to prevent the need for such treatments in the future.
Scottish Organic Producers Association	<p>Describe present management.</p> <ul style="list-style-type: none"> • Describe how this management is to be re –evaluated, justified and modified in the developing organic system • Examine what disease is present or can be anticipated. What evidence has been taken into consideration in developing the present system. • Identify those areas that may need to change under organic management or require additional veterinary investigation.
The National Dairy Farm Assured Scheme (NDFAS)	<ul style="list-style-type: none"> • chronicle the incidence of specific health conditions and reflect prevalence by assessing progress of each condition over time

	<ul style="list-style-type: none"> • assurance that health and welfare are being monitored and addressed with specific protocols and records reviewed at least annually for routine and preventative care • The health plan can be developed with the help of models or templates provided by various agencies • the plan must be structured for each individual farm recommended that plan be discussed and agreed with a veterinary surgeon • available to all farm staff who have responsibility for the animals • The herd health plan must be reviewed annually. • Detailed records lameness, mastitis, fertility, reproductive disorders and calving problems, metabolic disorders, calf diseases, other diseases and conditions.
RSPCA	<p>Basic disease control measures</p> <ul style="list-style-type: none"> • Where possible, the emphasis should be to control disease by using management and husbandry techniques rather than relying totally on routine medicinal therapies. <p>Herd security against infectious disease</p> <ul style="list-style-type: none"> • maintaining a closed herd whenever possible • Other measures include: quarantine, disposal of clinical waste, storage of medicines, zoonoses and notifiable diseases. <p>Monitoring and control of disease present on the farm</p> <ul style="list-style-type: none"> • records kept for herd performance including: production diseases, infectious diseases, and injury as a result of housing/husbandry • objective must be to use the records as part of a preventative medicine policy, as well as being used as part of the daily management of the unit to help evaluate the health/welfare status of the herd • all treatments administered, their success, and any withdrawal period should also be recorded • the recording of births, deaths, movements and medicine use is a legal requirement. <p>Disease surveillance</p> <ul style="list-style-type: none"> • prompt identification of disease problems before they become serious. • Stockmanship of a high quality is crucial for successful identification of potential problems. • Appropriate examinations and laboratory tests (where necessary) allow getting an early warning of disease.
Assured British Meat Standards	<ul style="list-style-type: none"> • A written herd/flock health plan must be established, implemented and reviewed at least annually or more frequently in the event of any substantial changes to husbandry practices • Producers are encouraged to seek veterinary advice in preparing the plan • Early recognition and identification of diseases present at a holding;

	<ul style="list-style-type: none"> • Identification of the risks of introduction and spread of diseases and infections; • Putting in place measures to manage risks, and improve overall disease prevention and control. • A tool for identification of cost effective measures, which contributes to farm business planning. <p>Must cover areas of:</p> <ul style="list-style-type: none"> • farm bio-security, • vaccinations, • parasite control, • routine management procedures and • veterinary operations.
Assured Chicken Production standards	<ul style="list-style-type: none"> • tailor made health and welfare programme for specific farm • strategies for prevention and control of diseases • outline of health and husbandry procedures of whole production cycle • annual review
Norwegian Cattle Health Service	production data, disease and treatment information recorded
The Norwegian Dairy Herd Recording System	information about milk yield, fodder, breed etc
BioSuiss – ProQ Project	<ul style="list-style-type: none"> • collect data on the current state of udder health (including milk quality and physical characteristics) • develop a plan of complementary therapy treatment and changes to management practices to improve udder health and reduce the use of antibiotics • database system used in conjunction to process the health data