

April 2013

VALUE  
of advice  
PROJECT

THE VALUE OF ADVICE REPORT



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# Executive Summary

The Natural Environment White Paper, Foresight Report on the **'Future of Food and Farming'** and the Farming Regulation Task Force all call for streamlining advice to farmers. This led Government to undertake an extensive review of the advisory landscape. As a result, the Agricultural Industries Confederation (AIC) has worked with Government as part of the Value of Advice project, to develop an understanding of how the commercial sector including the agri-supply industry, delivers professional advice to farmers.

Across the UK's farming activities professional advisers – ranging from agronomists to vets, and from feed advisers to seed representatives, play a vital role in delivering practical advice on farm. Once focused on improving production, today advice helps businesses improve competitiveness, resource efficiency, deliver environmental objectives and contribute to the wider agenda of sustainable intensification.

**The Value of Advice project was initiated in autumn 2012 with specific objectives to:**

- **Demonstrate the role of the commercial sector, including the agri-supply industry, in providing technical advice to farmers**
- **Identify how advice is provided by a range of different sources and is used by farmers**
- **Establish how professional advisers facilitate knowledge exchange and contribute to the delivery of policy to farmers through research and development (R&D) programmes, technical support and on-going training and development**

The UK food chain stretches from farm inputs to food retail and catering. The AIC represents companies delivering some £6.5 billion of farm inputs (including fertilisers, crop protection products, seeds and feed). AIC Members' service the farmers they supply through a significant labour force of professional advisers and representatives, with a cost of around £200 million annually. These advisers are supported by comprehensive R&D programmes, an extensive range of technical tools and on-going training to equip them to effectively transfer up-to-date knowledge and policy developments to farmers. Working with AICC and CAAV, as part of this project, has allowed the role of professional advisers within the wider advisory landscape to be mapped.

## The AIC Ring of Confidence

A sample of farmers from different backgrounds and farming types, as well as a range of professional advisers were interviewed to explore their relationships and particularly how advice is valued by farmers. This led to the development of the 'AIC Ring of Confidence' model which places the farmer at the centre with concentric rings of trust around him.

Farmers clearly have an inner ring of advisers who are highly influential. These advisers are considered effectively as part of the management team offering trusted, credible advice. The inner ring includes agronomists/crop advisers, accountants, feed advisers, representatives and animal nutritionists, vets, seed representatives, grain traders and land agents. These advisers focus on improving farm business performance and farmers recognise the value of this support by paying for this service.

In contrast, there is an outer ring of advisers who sit outside the management team. These advisers are largely focused on policy or legislative developments in isolation. They are generally less influential on the business decisions made by a farmer as they are perceived as providing advice that could be restrictive to the farmer's business. This is especially so if the benefits to the farm business are not well communicated or advice lacks appreciation of the farming system, as a whole.

Professional advisers deal with a broad range of issues affecting farmers: agronomy, seed choice, grain trading and feed, and this is in addition to the wide spectrum of professional advice delivered by land agents. This advice spans the Defra policy areas of farming competitiveness and performance, air quality, biodiversity, climate change mitigation and adaptation, nutrient management, soil quality and water quality. Professional advisers have the unique ability to consider how best to incorporate policy objectives into actions which are relevant to individual farm businesses.

The Value of Advice project demonstrates that professional advice is supported by comprehensive R&D programmes. For AIC members the investment is estimated at over £45 million a year. Professional advisers have a key role in translating R&D from the science-base in a practical way that farmers understand to encourage uptake of new technology and practices on farms. AIC, AICC and CAAV are all committed to maintaining the quality of advice delivered to farmers. This is achieved by accredited schemes (BASIS and FACTS) and other CPD activities, professional qualifying examinations and in-house training. In May 2013 AIC will launch the Feed Adviser Register to demonstrate competence in animal feed management and show that the industry has the ability to balance production and environmental goals, especially when addressing the challenge of climate change and GHG emissions.

In terms of the scale of advice, the collective efforts of advisers represented by AIC, AICC and CAAV supports around 95% of arable farms on a regular basis. On more intensive, larger dairy/livestock/pig/poultry units, the drive to increase production efficiencies, and where relevant to comply with environmental legislation, tends to act as triggers whereby farmers actively seek advice on livestock feeding and health. On lower input, smaller units, farmers are more likely to receive advice from a combination of sources including vets and levy bodies. By building on the existing advisory networks, the reach of advice can be extended even further by developing competencies and integrating advice, particularly in the livestock sector.

In conclusion, indications from the Government review of advice estimate that Defra currently spend around £20 million a year on providing environmental advice to farmers. By moving towards a more streamlined approach they anticipate savings of at least 25%. To achieve such an improvement in efficiency this report recommends that the delivery of advice through professional, trusted advisers within the inner ring of confidence is essential for effective knowledge exchange, to avoid duplication. Any future framework developed by Government should seek to capitalise on the existing capacity and expertise within the commercial sector to help meet policy objectives. This approach has the potential to contribute to meeting the on-going CAP requirement for a Farm Advisory Service.

**April 2013**

## **I. Introduction**

### **I.1 Defra Review of Advice and Incentives**

A review has recently been undertaken by Defra exploring how government and partner organisations use advice and incentives to influence changes in management to deliver environmental outcomes on farms across England. The aim of this review is to create a more integrated, streamlined and efficient approach to advice provision that is clearer for farmers to understand and implement therefore yielding improved environmental results as a consequence. Defra will publish the framework for the provision of government advice and incentives at the end of March 2013.

This drive to streamline the delivery of advice to farmers derives from a number of high-level work streams including the Natural Environment White Paper (June 2011), the Defra Business Plan (May 2012) and recommendations from the Farming Regulation Task Force (May 2011). The Foresight report on the 'Future of Food and Farming' (UK Government, 2011) also identifies the top priority action as improvement in advisory services to farmers for tackling the challenge of food security. This work on reviewing advice is also being carried forward in the context of working more effectively with industry partners, meeting EU CAP obligations to provide effective advice and incentives, and delivering the Green Food Project's agenda of knowledge exchange and advice delivery (Defra, 2012).

### **I.2 Review of the role of professional advisers**

A review of the role of the commercial sector in the delivery of technical advice to farmers has been undertaken by AIC to compliment the Defra review of advice but also to highlight the ways in which this advice balances production and environmental goals against the backdrop of policy drivers and industry-led activities (including the Campaign for the Farmed Environment, Greenhouse Gas Action Plan, Tried & Tested and the Voluntary Initiative).

In order to gain a full understanding of the existing framework for advice provision and delivery to farmers, it is important that the role of the commercial sector and professional advisers is considered. This represents a significant part of the wider advisory landscape and direct web of influencers on farmers' decision making, which is demonstrated by the initial findings of the Review of Advice and Incentives (Defra, 2012a). The importance of professional advisers in delivering useful and targeted information has been further demonstrated in relation to the CFE where a recent survey of farmers showed that advice was highly valued (Defra, 2012b).

### **I.3 Project aims and context**

Across a range of farming activities in the UK professional advisers, ranging from agronomists and vets and from feed advisers to seed representatives, play a vital role in delivering practical advice to farmers. Against the backdrop of sustainable intensification, this advice is focused on improving agricultural production and resource efficiency, as well as individual business competitiveness and resilience, whilst delivering environmental objectives. The 'Value of Advice' project was initiated in September 2012 to focus on the role of professional technical advisers within the commercial sector with specific objectives to:

- Demonstrate the role of the commercial sector, including the agri-supply industry, in providing technical advice to farmers
- Identify how advice is provided by a range of different sources and is used by farmers
- Establish how professional advisers facilitate knowledge exchange and contribute to the delivery of policy to farmers through R&D programmes, technical support and on-going training and development

The UK food chain stretches from farm inputs to food retail and catering. The Agricultural Industries Confederation (AIC) represents companies delivering some £6.5 billion of farm inputs (including fertilisers, crop protection products, seeds and feed). AIC Members service the farmers they supply through a significant labour force of professional advisers and representatives, with a cost of around £200 million annually. These advisers are supported by comprehensive R&D programmes, an extensive range

of technical tools and on-going training to equip them to effectively transfer up-to-date knowledge and recent developments in policy to farmers. Working with the AICC and the CAAV, as part of this project, has allowed the role of professional advisers within the wider advisory landscape to be mapped, in addition to R&D capacity and on-going training and development. Further information about AIC, AICC and CAAV is provided in Annex 1.

## 2. The position of professional advisers

### 2.1 Contribution to the delivery of government advice

Figure 1 demonstrates the relative position of professional advisers within the wider advisory landscape and the range of roles that these advisers occupy. Members of AIC, AICC and CAAV are already involved in the effective delivery of third sector government advice.

In 2008 the Environmental Stewardship (ES) Review of Progress recommended that the environmental performance of Entry Level Stewardship (ELS) could be improved by a significantly enhanced, geographically differentiated programme of advice. In response Natural England developed the Environmental Stewardship Training and Information Programme (ETIP). All ETIP delivery is commissioned via the Farm Advice Training and Information (FATI) programme, whereby delivery agents including commercial advisers (such as AIC, AICC and CAAV member advisers) are sub-contracted, based on their qualification and specialist knowledge, to deliver advice to farmers about ELS agreements and Catchment Sensitive Farming (CSF). With regards to ELS, ETIP contractors review the environmental features and potential of holdings, and recommend which options may be best suited to the site's requirements. They also review the performance of existing agreements and make recommendations to enhance delivery.

In July 2012 the Farming Advice Service (FAS) replaced the former Cross Compliance Advice Programme to help improve the environmental and economic performance of farming in England. This service delivers advice to farmers on Cross Compliance, climate change adaptation and mitigation, nutrient management and farming competitiveness. Advice from FAS is delivered in active partnership with industry-related bodies and the commercial sector including AIC and AICC member advisers.

Early indications from the Defra Review of Advice and Incentives has highlighted that the approach, for the delivery of ETIP for ELS, as well as CSF, has worked well and brought capacity to the advice market. It has also been effective in providing an avenue for interaction and cross pollination between government funded and private sector advice provision (Defra, 2012). This highlights how government has used the private/commercial sector as the most effective portal to deliver advice, making use of the expertise already available and therefore avoiding duplication. Adopting this approach seems to be an efficient approach to the effective provision of advice to farmers, maximising use of the existing wealth of knowledge and expertise within the advisory sector.



Figure 1. Professional technical advice and its position within the advisory landscape

### 3. Value of advice

#### 3.1 Sources of advice to farmers

In order to map out the sources of advice available to farmers and explore the non-financial value that they place on this advice, one-to-one interviews were conducted with 12 farmers in England, across different farming types and sizes (as detailed in Table 1). Interviews took place between October and December 2012 and they followed a semi-structured format.

Research studies demonstrate that farmers are a very heterogeneous group, so a 'one size fits all' approach to advice does not suit all farmers (Garforth et al., 2003). As a result farmer-adviser relationships tend to be unique but do share some commonalities. Whilst Defra has considered a farmer segmentation model (Pike, 2008) when exploring farmer's receptiveness to and the uptake of advice, this may be built upon by considering a model developed as a result of the findings of the Value of Advice project. This model takes account of the wide range of possible advice influences on farmer decision-making that are also dependent on factors that impact a farmer's capacity to change management on their farm. These factors include farm type (arable/mixed/grassland) and size, geographical location, topography, climate and soil composition, as well as individual farmer characteristics.

Farm type	Size (ha)	Location
Mainly arable with pig unit	328	Bedfordshire
Mainly arable with winter wheat and break crops, some sheep	222	Buckinghamshire
Lowland arable and upland livestock	70	East Yorkshire
Mainly arable	363	Hertfordshire
Arable (combinable crops)	164	Leicestershire
Mainly arable, field vegetables	197	Lincolnshire
Arable (combinable crops)	950	Norfolk
Arable (winter OSR, winter wheat and winter barley)	292	Nottinghamshire
Mainly arable (winter OSR, winter wheat and maize), poultry unit and compost facility	330	North Yorkshire
Mixed farm with winter wheat, break crops, some sheep	202	Staffordshire
Mixed farm with some cattle	125	Wiltshire
Dairy farm with forage maize and grass silage	61	Wiltshire

Table 1. Farmers interviewed as part of the project

### 3.2 AIC Ring of Confidence model

The Value of Advice project proposes a 'Ring of Confidence' model (Figure 2) which demonstrates the relationship between farmers and a range of different advisers. It is acknowledged that this model is a general representation of the relationship between farmers and advisers which can vary on an individual farmer basis dependent on the key drivers of their business, the factors that impact their capacity to change and in some cases the issue they are receiving advice on.

The AIC Ring of Confidence model developed as a result of interaction with farmers as part of the Value of Advice project and is based on research findings from a range of independent studies looking at advisers' influence on farmers (Wilson et al., 2012; Blackstock et al., 2007; Dwyer et al., 2007).

**Evidence suggests that farmers' value obtaining information from specialist advisers, as well as the farming press and electronic media, to gain information about new developments in the farming industry (Wilson et al., 2012). Every farm business is different and in the UK farmers receive field, and even sub-field level advice. Generalist advice therefore is not sufficient, as a specialist adviser can synthesise all of the relevant information and make the best recommendations tailored for an individual farm enterprise. Farmers that took part in the Value of Advice project did highlight that there are a multitude of different advice sources that they can access. Whilst this diversity in advice sources can be helpful, as each farming business is different, it can be confusing for farmers especially from a government advice perspective where there is a duplication of messages, the messages are not consistent or there are conflicts in the advice given.**

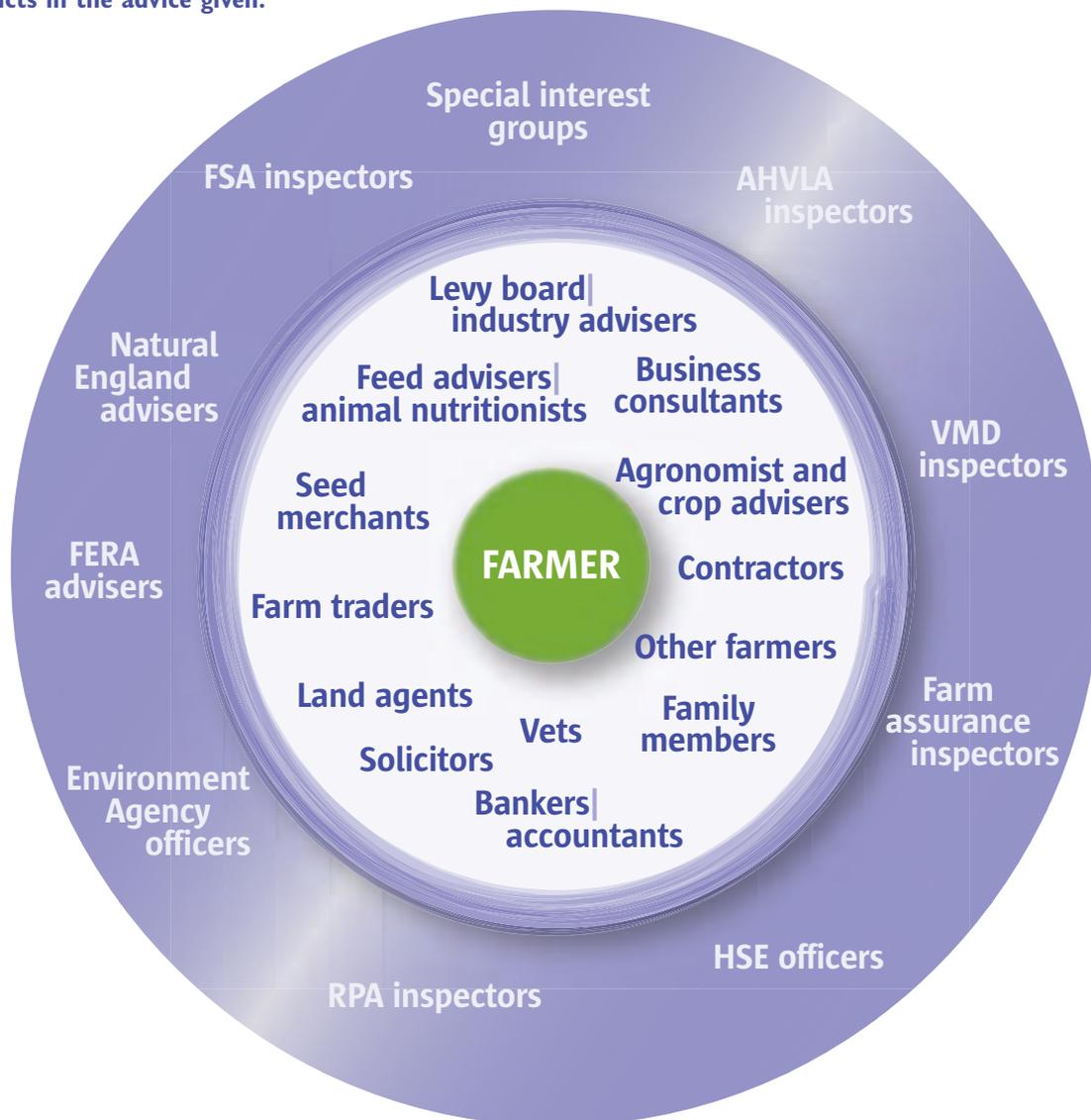


Figure 2. AIC Ring of Confidence

In broad terms a farmer's receptiveness to advice depends on the level of confidence they have in the advice source and reliability of the advisory recommendations they are given. This model proposes that advisers in the inner ring of confidence, largely comprised of professional advisers (Figure 2), are considered as effectively part of an individual farmer's business management team.

### 3.3 Inner ring of confidence

As demonstrated by Oreszcyn et al. (2010) farmers' learning about new technologies and new practices occurs in a complex social learning system including interaction with a large number of advice sources, both fellow farmers in a broad network of practice and other advisers that exist in a web of influencers. Research by Wilson et al. (2012) highlights that across all farming types the decision making process is identified as largely undertaken by the farmer in conjunction with other family members. Many farmers draw upon outside advice, and for some the responsibility for decision-making is clearly identified as belonging to the individual farmer, often with input from members of the family. Therefore, family members are considered to be within the inner ring of confidence. To a lesser extent other farmers are also in this inner ring as farmers often take a close interest in the activities of their neighbours and react to visible management change (Dwyer et al., 2007).

When farmers talk about having confidence in advice from sources within the inner circle, they highlight a reliance on professional advice sources, including agronomists and crop advisers, feed representatives, land agents and vets. These trusted advisers are viewed as being locally known and credible, and farmers place a high premium on personally relevant advice. The importance of contact from a trusted source of 'quality' advice is identified in several studies as key to influencing farmer behaviour (Ingram, 2008; Lobley and Butler, 2007). The higher the credibility of a source of advice the more confident and persuaded a farmer is likely to feel (Dwyer et al., 2007). High credibility sources are important when messages are complex, there is little available experience and/or the message carries potentially high personal risk for the farmer.

Farming is a complicated business to advise on and the risk of farming is considered as being relatively high (up to £1000/ha in some cases for arable farms). Therefore professional advisers cannot afford to get their advice wrong, in addition to the reputational risk that this poses and the impacts this can have on sustaining and building up a client base. The right advice is vital both from a production and resource efficiency perspective but also in terms of compliance and best practice.

One-to-one advice from a professional adviser is valued by farmers as these sources provide advice in the context of individual farm businesses and often present an opportunity for the farmer's local knowledge to be validated against professional and accredited judgements. Advice from sources in the inner ring of confidence is specific and targeted, as well as being flexible and able to manage and account for short and long-term change. The advice delivered from sources in the inner ring tends to consider the business as a whole in an integrated manner when looking at addressing a specific issue. Farmers value the fact that advisers in the inner circle focus on improving farm business performance and resource efficiency and there is evidence of this recognition, as they pay for the benefit of receiving this service.

As highlighted in recent studies (Dwyer et al., 2007; Blackstock et al., 2007), due to the very nature of many farmers preferring to spend time in the field many value walking the farm with an adviser, where they are most likely to feel relaxed and more inclined to engage in two-way communication. Such farm walks also provide a practical context to the advice given, making it more tangible to the farmer. This approach contributes to the development of strong personal relationships which develop over periods of time between professional advisers and farmers. At peak times, vets, land agents and agronomists, for example, effectively have an 'on call' relationship with farmers, with visits to farms taking place several times a week and daily telephone conversations being a regular occurrence. As a result of this close interaction, professional advisers then become part of a farmer's integral social network.

In line with previous studies (Blackstock et al., 2007; Dwyer et al., 2007) advisers in the inner ring of confidence tend to be more familiar with farming practices, as well as having knowledge of environmental issues, and they are able to present a more balanced and informed view of situations. These advisers tend to work in partnership with farmers to develop solutions or

propose changes in practices, which is likely to be as a result of a long-term process where 'seeing is believing'. For advice to resonate with farmers it has to be seen as relevant to their specific situation and the most important factor tends to be the provision of a financial/business advantage as well as the provision of solutions to problems. With regard to the latter, farmers are more receptive to time-saving techniques or an innovation in business management (Dwyer et al., 2007; Blackstock et al., 2007) where it helps them address legislative issues and enables the uptake of new opportunities such as grants.

Studies (Blackstock et al., 2007; Dwyer et al., 2007) suggest that farmers are more receptive to advice where they perceive the process to be one of mutual respect and negotiation, rather than being told what to do by an external, faceless representative. At the point where the latter occurs these advisers may find themselves in the outer ring of confidence, who are considered by farmers as generally being less influential.

### 3.4 Outer ring of confidence

Advisers in the outer ring of confidence are generally considered by farmers as being outside the farm management team as they are largely focused on a generic approach to meeting legislative and/or policy objectives. Figure 2 highlights the number of inspection authorities that make farm visits who farmers suggest sit within the outer ring. Bodies carrying out inspections on farms in England include the Environment Agency, FERA, the RPA, the AHVLA, and the VMD. Local authorities also visit farms to enforce aspects of animal health and welfare, as well as food hygiene legislation. The inspectors from the various departments often collect the same information during each of their farm visits and farmers that took part in the Value of Advice project questioned the level of duplication and multiple visits for inspections, and the administrative burden this places on their businesses. Streamlining for the efficient use of resources in the area of farm inspections has recently been recommended as a way forward for inspections by the National Audit Office (2012).

In general, advisers in the outer ring of confidence tend to offer partial solutions to problems on farm as the advice can be biased towards particular legislation and/or policy objectives, and does not tend to consider the individual farm business as a whole. Farmers can also be sceptical of some of this advice, particularly where it results in conflicts in management. For example, conflicts in advice targeted towards animal health versus resource protection. Advice from sources in the outer circle tends to seek to change farm businesses to meet external policy objectives and requirements around environmental and food safety issues, and therefore does not tend to focus on balancing that with improving farm profitability. As a result these advisers are often less successful in influencing change at the farm-level as the farmer is ultimately trying to run a successful business. However, it was reported by some farmers, who participated in this research that advisers in the outer ring can move into the inner circle, especially if these advisers work closely with agronomists for example, to solve a particular issue or where grants for capital works are provided through schemes like Catchment Sensitive Farming (CSF).

## 4. The breadth of advice

One to one semi-structured interviews were also undertaken with 15 different professional advisers during the period September 2012 to January 2013, in order to map out the breadth of advice delivered to farmers across the UK. These advisers provide technical advice, from a production, resource efficiency and environmental perspective, to farmers across a wide range of topics/areas. The following section will focus on the breadth of advice delivered to farmers from a range of professional advisers represented by AIC, AICC and CAAV:

- crop advisers/agronomists (BASIS/FACTS qualified)
- feed advisers, representatives and on-farm nutritionists
- seed representatives and grain traders
- land agents

### 4.1 Crop advisers/agronomists (BASIS/FACTS qualified)

Agronomists and crop advisers are professionally accredited through BASIS and/or FACTS (as detailed in Section 7). They have a client base of farmers that they visit on a regular basis who they advise on the best way for them to grow crops and manage their soils, whilst also delivering environmental benefits.

Agronomists and crop advisers can specialise in providing advice tailored to farming systems including arable, mixed and grassland, fruit and horticulture and vegetable production. For example, those advisers that specialise in grassland systems advise farmers about forage crop agronomy on livestock and mixed farms. This involves the evaluation of grazing and forage conservation requirements, grassland and forage management plans and conservation systems in order to provide optimum yield and quality.

In general agronomists and crop advisers provide advice to farmers in areas such as crop rotation, irrigation and drainage, plant breeding plant physiology, soil classification and fertility, weed control, insect and pest control, nutrient management and pesticide management, in line with Cross Compliance requirements. They also advise on all aspects of environmental schemes including Environmental Stewardship (ELS/HLS) and the CFE, and other issues surrounding crop production. They are ultimately responsible for developing a programme of cropping/recommendations to best suit individual farm needs.

#### 4.1.1 Core activities

Table 2 details the core activities undertaken by an agronomist/crop adviser and the average time that this occupies within a working year. Their input however varies according to the needs of individual farmers and the size of their holdings. There tends to be two levels to the advice provided by these advisers; technical advice which is provided regularly and strategic advice which is provided 2-3 times a year. Regular and detailed field walking is the core of agronomy, enabling the provision of the most appropriate and cost-effective recommendations for crops. For professional advisers, crop walking develops their knowledge of soil types and cropping/grazing systems. Timings of the visits to farms to crop walk are focused on key times for important planning decisions and decisions on crop management, December to February tends to be a key period for discussing rotation and strategy which includes the establishment/management of ES options or other environmental measures.

Activities	Average time (days)*	Approx % split
Face-to-face contact with farmers	65	30
Field/crop walking	73	34
Producing recommendations, gross margin analysis and management plans (including ES)	36	16
Training days (in-house/CPD)	44	20

\*out of working days in a year; excludes 33 days holiday from 252 working days

Table 2. Agronomist/crop adviser core activities

The time that these professional advisers spend on farms crop-walking leads to detailed advice on growing protocols, nutrient plans and crop protection recommendations delivered through well-known systems such as Muddy Boots and Crop Walker. Systems like these (including bespoke interactive systems) provide recording solutions that manage all aspects of crop production in line with regulatory compliance and best practice.

Crop advisers and agronomists are central in providing recommendations to manage the application of fertilisers and manures to crops and grassland, as effective nutrient management provides sufficient nutrients whilst managing environmental impact. Where advice is delivered to farmers regarding the use of fertilisers, this encompasses the recommended fertiliser type to use, application rates, timings and alternative methods of nutrition, as well as manure management, that are in line with current legislation and best practice.

Across the AIC and AICC membership a number of services and advisory support tools (such as comprehensive interactive software) have been created to aid in the development of tailored fertiliser/manure plans including nutrient planning and recording tools, tools to assess crop/grass performance and cross compliance requirements for nutrient management, soil analysis (P, K, Mg and lime status) and crop assessment of sulphur status. For example, bespoke nutrient planning and management tools based on the Fertiliser Manual (RB209) have been developed to produce accurate fertiliser recommendations.

#### 4.1.2 Use of agronomists/crop advisers and their impact

The importance of agronomists to growers is highlighted in a recent survey with 92% of survey respondents stating that they used one on their farm (AIC Member survey, 2012). Agronomists were a main influence when choosing seed varieties (35% of respondents), when deciding the farm's P,K and Mg fertiliser programme (44.5% of respondents) and nearly 56% of respondents said that their agronomist was a main influence in deciding Nitrogen fertiliser programmes (Figure 3). Crop protection advice is also valued, with 86% of respondents stating that their agronomist always meets their requirements for advice on herbicides, pesticides and fungicides. Other data sources also show that agronomists do the bulk of field walking and almost 70% of growers follow the recommendations provided by these professionals (HGCA, 2012).

A recent Defra survey (FPS, 2012) demonstrates that over 80% of farmers seek advice from their crop adviser or agronomist in nutrient management planning. The same survey reports that the majority of these plans are updated on an annual basis and that 75% of the survey sample also has a manure management plan for their farm. Previous studies have demonstrated the value of agronomists in assisting policy makers in the implementation of policies and in changing farmer behaviour (Ingram, 2008). There is also evidence, as summarised in Figure 3, of improvements in nitrogen use efficiencies as a result of the full agronomy package from seed to crop protection and fertiliser programmes.

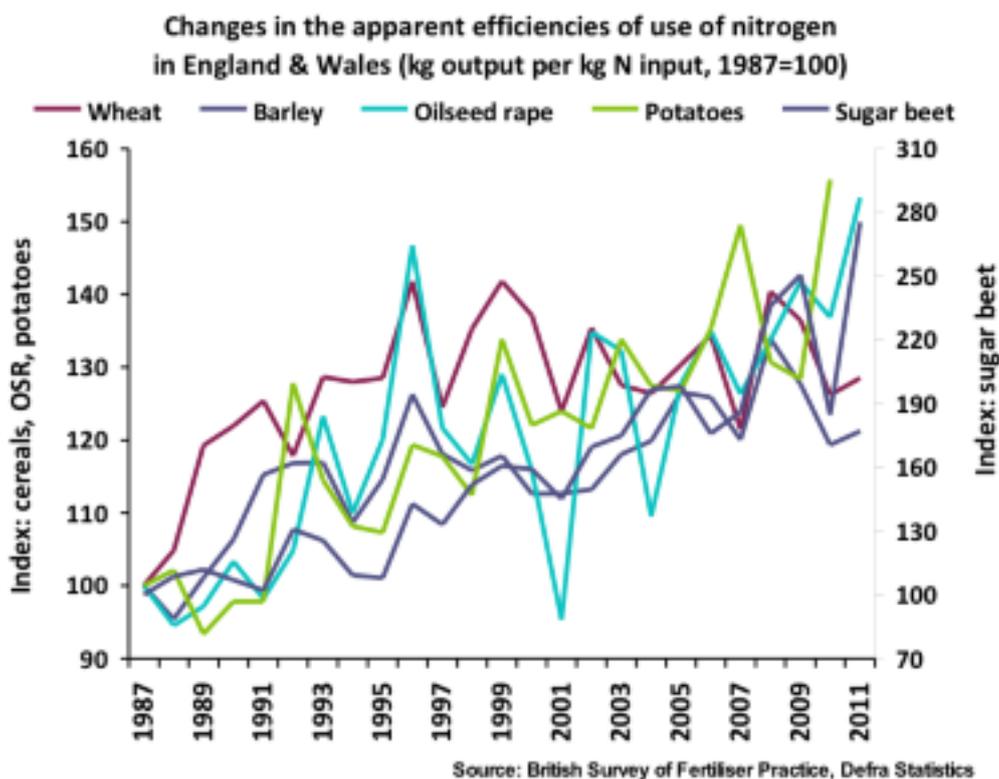


Figure 3. Efficiency of nitrogen use for key major crops

## 4.2 Seed and end-market advisers

AIC and AICC members provide comprehensive seed advice services and end market advice to farmers. As an estimate, around 25-30% of seed advice is supplied by agronomists but seed and end market advice is mainly provided by seed representatives and farm traders. AIC members have contracts with millers, maltsters, feed companies, as well as supplying more specific end-users and farm consumers.

Farm traders and seed merchants provide commercial advice to farmers including up to date information on crop gross margins and potential grain markets, which gives farmers confidence in marketing their crop. But seed merchants in particular, also provide agronomic advice covering the following areas:

- Factors involved in crop establishment and management (including crop rotations)
- Seed quality, variety and seed rates
- Major weeds, pests and diseases affecting seed/young plants and options for control
- Safety and legislation
- Environmental and biodiversity considerations including Integrated Farm Management to improve environmental conditions, Cross Compliance and Environmental Stewardship

In essence farm traders and seed sellers are focused on providing advice on the right varieties to grow based on the market and technical requirements.

AIC and AICC members provide seed advice services across areas including cereals, OSR, agricultural grass mixtures and environmental mixes for conservation crops and game covers. The latter includes:

- **Conservation crops** as part of Environmental Stewardship and voluntary schemes (including the CFE) that require specialist advice and products
- **Game cover** to supply feed and cover for game and farmland birds under ES and voluntary schemes
- **Agricultural grass mixtures** with a wide variety of applications for livestock farmers

The provision of feed and grass seed to farmers' presents an opportunity for the delivery of technical advice to livestock farmers to deliver environmental outcomes.

## 4.3 Feed advisers/representatives and on-farm nutritionists

Members of the animal feed sector at AIC manufacture in excess of 95% of the compound feed used by livestock farmers in the UK. Therefore, feed advisers/representatives and also on-farm nutritionists are a key channel to deliver advice to farmers to increase feeding efficiency. Animal nutrition particularly, provides a key tool to improve the environmental performance of livestock production (FEFAC, 2012; FOE, 2011) by reducing the loss of nutrients and GHG emissions.

Feed advisers and nutritionists use their skills and knowledge to improve feed conversion efficiency and animal performance. They develop tailored feed plans, with support from technical teams back in the office, designed to meet specific livestock requirements based on feed and forage analysis (where appropriate) to ensure that rations are accurately balanced for energy, protein, fibre, vitamins and minerals. The main aim of this advice is to balance home-produced feed and forage, with bought-in feeds. Detailed forage analysis allows greater accuracy in ration planning and up to date rationing software ensures the nutrient requirements are met to the latest standards.

On-farm nutritionists and feed advisers can be on more intensive units up to every 10-14 days providing assessments of herd health and feed management strategies (nutrient management, grazing systems, feed/forage plans). Feed advisers on more intensive units have seen an increase in the demand for advice in the area of environmental compliance as a result of Environmental Permitting Regulations in the pig and poultry sector and NVZs in the dairy sector. With regards to animal health, some AIC members have Suitably Qualified Persons (SQP) within their advice teams who have undertaken comprehensive training and examinations to be able to advise farmers on the most cost-effective way of treating their animals.

Recent evidence shows that animal nutritionists are used as a source of professional advice on livestock nutrition, mainly by ruminant livestock farmers (Defra, 2010). Feed advisers and nutritionists apply their nutrient knowledge to determine the appropriate combination of ingredients to achieve a sustainable diet for animals in terms of resource efficiency and reducing the loss of nutrients. This in turn enables farmers to increase their business resilience and competitiveness, whilst reducing environmental impacts. The Professional Nutrient Management Group (Tried & Tested) is currently developing a feed plan for cattle and sheep on behalf of the industry to provide basic-level support and/or clarification on feed planning to these sectors.

There is also evidence of nutritional improvements for Nitrogen and Phosphorus in supplied animal feeds (AIC, 2006).

#### 4.4 Land Agents and Rural Professional advice

Land agents/rural professional advisers have a varied client base of farmers who include owner/occupiers, tenants, graziers, contractors, with whom they interact regularly. They provide clients with professional advice and valuation expertise on a wide range of issues affecting the countryside. With regard to technical advice offered by rural professional advisers relating to production and environmental issues that may include:-

- **Scheme applications and advice** – Single Payment Scheme, Environmental Stewardship, other Rural Development Programme schemes, woodland schemes, SSSIs, NVZs industry-led voluntary initiatives (including CFE)
- **Rural planning and development** – advice, applications and appeals
- **Rural diversification** – advice, grant applications and appeals
- **Renewable energy** – wind, biofuels, biomass, water
- **Ecosystem Services** – advice to farmers about the potential use of this relatively new area of work and assisting with setting up schemes
- **Resource protection** – water, soil, waste management
- **Landscape scale working** – Rural professional advisers can work as intermediaries between several farmers to bring them together and deliver increased environmental benefits within a 'catchment'

### 5. Delivery of policy and knowledge exchange

#### 5.1 Contribution to policy delivery

Professional advisers mediate multiple objectives so that when advice is delivered to individual farms it takes account of Defra policy areas (including farming competitiveness and performance, air quality, biodiversity, climate change mitigation and adaptation, nutrient management, soil quality and water quality) and government priorities, particularly where recommendations are part of Cross Compliance, government programmes/schemes such as Nitrate Vulnerable Zones and Environmental Stewardship, and industry-led voluntary initiatives.

On-going training and development (as detailed in section 6) communicates up to date government priorities to professional advisers, as well as interaction between industry and government advisers. For example, AIC members regularly involve government and key industry representatives in technical meetings, workshops and annual conferences to communicate the latest government policy objectives as part of legislation, cross compliance, best practice and industry-led initiatives. AIC, AICC and CAAV also attend adviser training events organised by FAS, Natural England, CFE and CSF.

Professional advisers have the unique ability to consider how best to meet Defra policy objectives to the benefit of individual farm businesses. This approach considers farms as a whole, rather than focusing on achieving a single policy objective. The recommendations from professional advisers offer practical solutions to issues on farm which deliver multiple outcomes for farm businesses, as well as for the environment.

## 5.2 Model for effective knowledge exchange

Effective knowledge exchange ensures that an adviser is best placed with the most up to date knowledge which they can a) exchange with farmers, and b) share with other professions so enable the delivery of comprehensive and more consistent advice to farmers.

An approach has been developed to support professional advisers in the delivery of technical advice to ensure that the advice given to farmers is of a high quality, based on the best available information. This ensures that the delivery of advice to farmers is relevant and up to date, based on robust scientific evidence and contributes to the delivery of government priorities and policy objectives on farms.

**As shown in Figure 4 professional advisers have technical support in the form of R&D (section 4) and communications in various formats regarding the latest developments in products, technologies, policy, legislation and best practice. Technical information is provided to professional advisers through a variety of channels including regular email bulletins/briefings, regular meetings and technical updates and annual conferences.**

On-going CPD and in-house training is also a way in which knowledge is refreshed and updated, as detailed in Section 7. A professional adviser also develops their advisory skills as a result of their own experience and knowledge of what does and does not work at the farm level. This ensures that advice is locally relevant, targeted and farm specific. Whilst one-to-one advice is the main conduit for the delivery of advice, farmers also have access to this information at demonstration site open days, trial/farm site meetings/trials clubs, discussion groups, e-newsletters, websites and stands at events such as LAMMA, Cereals and various livestock events.

Professional advisers have to be highly aware of the boundaries of their expertise. This ensures the quality of their advice is not compromised and also acts as an indicator as to when other professionals may need to be involved. This is when inter-professional working becomes important, as professional advisers utilise their network of other professional contacts including Natural England advisers for advice on stewardship schemes, the Environment Agency for advice on CSF/capital grants or legislation, solicitors regarding legal issues and farm accountants regarding financial issues. This process enables the identification of a suitable practitioner where necessary to give advice that sits outside the professional adviser's expertise. This may simply involve signposting farmers to the existence of this other source of advice. Alternatively, the various advisers may work together, feeding in their specific areas of expertise, to reach a complete solution with the farmer. Inter-professional working has been utilised by professional advisers for many years to great benefit. Landbridge<sup>1</sup>, an experimental project, is currently carrying out some focused research which highlights the value of inter-professional working across a range of advisers (Klerkx and Proctor, 2013).

Professional advisers are able to work across different professions due to the contacts that they establish in their day to day activities but also as a result of pro-active engagement with other advice sources. For example, annual conferences provide opportunities for advisers to establish contacts with other specialist advice sources and more specifically, AIC members organise regular meetings where government and industry advisers are invited to attend.

## 5.3 Vehicles for effective knowledge exchange

Section 5.1 highlights the way in which professional advisers contribute to the delivery of policy objectives, as part of an integrated package of advice to farmers. These advisers also communicate technical guidance coming out of the AHDB sector divisions. For example, professional advisers use the HGCA Recommended Lists for Cereals and Oilseeds and the Recommended Grass and Clover List (EBLEX and DairyCo) when advising farmers on variety choice. Professional advisers are also key in delivering one-to-one advice on voluntary industry-led initiatives, particularly the CFE where specific training has been undertaken as part of Continuing Professional Development and in-house training/events programmes.

<sup>1</sup>[www.relu.ac.uk/landbridge/about/project-aims.html](http://www.relu.ac.uk/landbridge/about/project-aims.html)



Figure 4. Knowledge exchange model (adapted from Relu, 2011)

## 6. Research and Development

There is a drive to ensure that farmers have access to adequate advice to help them in their transition to more sustainable production systems and that new research needs to be translated into practical advice at the farm-level. The importance of developing agricultural systems that are productive and competitive, and deliver environmental benefits is recognised by the farming industry. Therefore, applied R&D plays a key role in developing and transferring innovative technologies and practices and in adapting basic science into practice on farm.

### 6.1 Investment in R&D

AIC members are significant contributors to the agricultural R&D field, investing at least £45 million annually in on-going applied research (AIC, 2009) which has the potential to reach a large number of farms through advice networks. By the very nature of the businesses that AIC represent, the bulk of that figure is directed towards a near market strategy and involves the complex marrying of wider R&D and regulatory drivers with the delivery of on-farm economic improvements. Accompanying that very significant financial commitment is a comprehensive on-farm capability utilising agronomists and crop advisers, feed advisers/representatives and animal nutritionists, seed representatives and grain traders. AICC also provides comprehensive regional trials for members giving them access to results pertaining to the efficacy of new molecules ahead of market launch, insight into varieties and other agronomy factors. Professional advisers have a key role in translating R&D from the science-base in a practical way that farmers understand to encourage the uptake of new technology and practices on farms, as demonstrated by recent research (Relu, 2011).

AIC and AICC members view investment in R&D as vital in supporting technical advice provided to farmer customers. This R&D activity acts as a central technical resource providing a comprehensive R&D capability which professionally generates intelligence data concerning all aspects of crop production and animal nutrition. The results from trial programmes are used to devise cost effective production solutions tailored to meet local circumstances which lead to significant developments in management systems to produce improved yields, and reduce environmental impacts. The broad R&D areas represented by AIC members, for example, are shown in Table 3. When looking at specific trials, the breadth of agronomy trials undertaken by AIC members examines the interaction between all agronomy activities (cultivation method, seed and variety choice, nutrition, crop protection, spray application) and how these can be combined to best effect. Trials are replicated and all crops and regions across the country are fairly represented by AIC member research. Where trials are undertaken to demonstrate the efficacy of Plant Protection Products R&D staff are qualified to the UK CRD's ORETO (Official Recognition of Efficacy Testing Organisations) standards.

R&D area	Activity
<b>Agronomy</b>	<b>Cultivation method, seed and variety choice, nutrition, crop choice, spray application, pest and disease management</b>
<b>Feed</b>	<b>Feed efficiencies – feed alternatives, nitrogen and phosphorus utilisation, and genomics</b>
<b>Fertilisers</b>	<b>Crop nutrition and fertiliser efficiency – fertiliser rates and trace element work</b>
<b>Seed</b>	<b>Seed trials – development/trialling of new varieties and mixtures</b>

*Table 3. R&D areas and activities*

AIC members involved in the distribution of fertiliser focus on small plot trials on a wide variety of aspects of crop nutrition, including nitrogen response and trace element work. A need for an increase in grassland R&D is currently being addressed by the development of research priorities around reducing leaching losses and quantifying the role of grassland as a carbon sink.

In the feed sector, nutritional advice is backed up by the latest research which ensures that advisers communicate the latest developments in animal nutrition to farmer. AIC members perform animal feeding trial experiments to investigate the comparative effects on growth of different diets, with a view to develop improved feed regimes and reducing environmental impact. Farms also take part in a range of pilot studies in this area. Technical experts then use this extensive trial data to improve existing products and develop new ingredients that deliver optimal performance.

AIC members with agronomy centres, trial varieties and offer farmers access to seed from a range of varieties, some time prior to HGCA recommendation. Therefore they can take new material to processors at the earliest possible stage to prime the market which means that farmers benefit from the early knowledge of how best to grow new varieties and the security that these selections are appropriate for local/national markets. Otherwise most R&D in the seed sector is undertaken collaboratively and AIC members have established close relationships with plant breeders and levy boards alike to tap into to the latest R&D. Extensive trial sites enable the observation and evaluation of different products and mixtures so that the best varieties and mixtures can be selected for use. New and innovative varieties are continually developed and produced, such as varieties that are resistant to pests and disease to avoid crop losses and with a greater resistance to drought and water logging.

## 6.2 Collaborative R&D

Collaborative relationships have developed over time through AIC member R&D programmes. Members work with Government, Research Councils, levy bodies, leading universities, veterinary schools and Centres of Excellence to develop practical, cost effective solutions for farmers.

For example, AIC members from the feed sector are engaged in a number of government funded collaborative R&D projects. These include the Green Pig project, developed to assess the potential for greater inclusion of home grown legumes (peas and beans) as an environmentally friendly alternative to soybean meal and to identify whether specific varieties have a closer match to the requirements of the UK pig feeding industry than others. There are other projects involving AIC members looking into the domestic supply of protein for animals to reduce reliance on imports including the use of triticale as a substitute for wheat feed, the yield and protein content of peas and beans and the optimisation of protein from home-grown oil seed rape. In addition, feed-related projects coming out of the Sustainable Agriculture and Food initiative (2008), also involve AIC members and are focused on alternative protein production technology for animal feed, improving the sustainability and quality of Dried Distillers Grains with Solubles (DDGS) and an integrated programme for the development of Lupins as a sustainable protein source for UK agriculture and aquaculture (FOE, 2011). It is hoped that these projects and others independently funded by AIC members will help provide some of the answers that farmers are seeking development in feeds and feeding systems.

From the fertiliser sector collaborative research between AIC members and institutes including Rothamsted Research focuses on improving the sustainability of phosphorus use in arable farming, forage grasses and white clover to increase phosphorous efficiency and reduce losses to water from UK grasslands, sulphur responses on grassland and nitrogen fertiliser patterns and response on new grass/clover swards. From the crop protection/agronomy sector there are collaborative research projects to determine the components of yield and their response to disease control.

There is an appetite for greater interaction between AIC members and the research community to ensure that research priorities are aligned and resources are focused in areas where there is a need or gaps in research. There are various work-streams looking at this issue including the Feeding the Future Consultation - Innovation Requirements for Primary Food Production in the UK to 2030, the UK Agri-Tech Strategy and the work of the Sustainable Agriculture Taskforce (NERC).

## 7. Quality of advice

The commitment by AIC, AICC and CAAV members to the quality assurance of advice is driven by an ever changing legislative and policy landscape; a farmer's demand for the most up to date advice for their own business needs; and a professional adviser's personal commitment to up-skill and deliver effective advice, without risking their own or their employer's reputation.

The quality of advice delivered is achieved using a variety of different means including recognised accreditation schemes, bespoke CPD training programmes and in-house training. The universally recognised method of achieving high standards of knowledge and skills is by the use of a Continuing Professional Development (CPD) scheme, therefore this is how many professional advisers are kept up to date. AIC, AICC and CAAV members have to ensure that the advice given is of a high quality otherwise they may open themselves up to a professional negligence claim from their farmer clients/customers. It is also imperative that firms and individuals providing advice retain a good professional reputation, particularly considering the close-knit local geographical nature of such advice provision.

The commitment made by AIC, AICC and CAAV members to up-skilling should not be under-estimated as it represents a significant investment. For example, it is estimated that AIC Members annually invest at least £5 million in their advisers through FACTS membership and membership of the BASIS Professional Register alone, with as much as two months of the working year being dedicated to training.

## 7.1 Accredited schemes

Professional advisers who participate in accredited schemes generally possess a qualifying degree in the area that they advise in or some enter the industry via other routes such as farm management or farm sales. Accreditation schemes have been developed by the industry where they are recognised by government, its agencies and the wider industry. The structure and content of these schemes ensures that current and future developments can be translated into on-farm advice.

There are at least 2000 active on-farm FACTS Qualified Advisers (FQAs) and around 70% of these advisers are on the BASIS Professional Register (i.e. these advisers are both FACTS and BASIS qualified). Out of the over 4000 members on the BASIS Professional Register, it is estimated that around 2500 are active on-farm advisers, with around 1000 of these advisers being AIC and AICC members. BASIS PR members that are not active on-farm advisers are technical office staff, managers and farmers. According to a recent survey almost 20% of people working full-time on a farm have a BASIS qualification (HGCA, 2012).

### 7.1.1 BASIS (for crop protection)

The BASIS Professional Register (PR) was set up in 1992 to demonstrate the professionalism of advisers within the pesticide and allied industries. BASIS was developed as an independent standard setting and auditing organisation. There are 4000 members on the BASIS PR. The availability of crop protection products and associated advice by BASIS registered professionals helps to protect around 50% of current crop yields.

The BASIS PR now consists of advisers qualified to deliver advice on pesticides and plant nutrition and they hold the legal qualifications of a BASIS Certificate (in Crop Protection) and/or a FACTS certificate in Crop Nutrition. They have agreed to abide by a Code of Professional Ethics and can provide evidence that their technical knowledge is up to date. The Register is updated annually and to remain on the professional register members must demonstrate that they have participated in relevant activities throughout the previous year. Members need to demonstrate that they have achieved a minimum number of CPD points each year (i.e. 50 CPD points, depending on the category of membership). Many members achieve in excess of 100 points. CPD points can be gained in various ways for a range of activities including in-house training/meetings and conferences; external training and conferences; technical updates and seminars; reading of relevant technical publications/websites; attending exhibitions; online/distance learning; and health and safety, and personal development. Obtaining a BASIS certificate involves a written examination, an identification test, a project, a practical test and viva to provide a robust guide to advisers' competencies.

### BASIS Diploma in Agronomy

**To cover the range of factors involved in the delivery of agronomic advice the new BASIS Diploma in Agronomy (Figure 5) provides a comprehensive training and qualification framework for those involved in on-farm advice and sales and a proportion of professional advisers have achieved or are now working towards this qualification.**

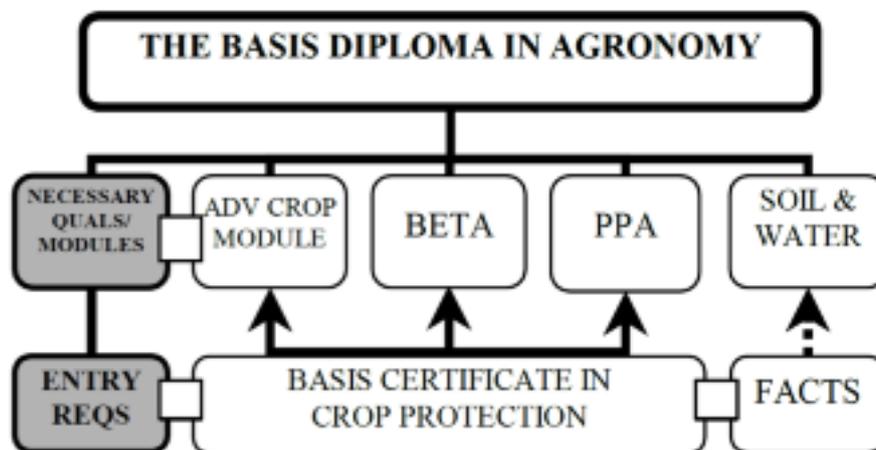


Figure 5. The BASIS and FACTS framework

As shown in Figure 5 the modules that form part of the FACTS certificate, BASIS Certificate in Crop Protection, and the BASIS diploma include an advanced crop module (ADV CROP MODULE), biodiversity and environment training award (BETA), plant protection award (PPA), and soil and water. Table 4 details the topics within the modules.

Module	Topics
<b>Advanced Crop Module</b>	Weeds, disease and pest control, crop protection marketing, food industries, crop assurance and nutrient management
<b>BETA/Conservation Management</b>	Environment, biodiversity, crop protection management plans, integrated crop management and climate change
<b>PPA</b>	Systems and society, formulation and mode of action, applications and health & safety
<b>Soil and Water</b>	Cultivation types and properties, cropping systems, water quality, drainage, pollution/waste and plant nutrition

*Table 4. Modules within BASIS*

The BASIS Certificate in Crop Protection is available as a general certificate in agriculture. However, advisers can specialise in their expert advice area including commercial horticulture, grassland, seed and seed treatments, vegetables and combinable crops. For example, the BASIS Seed Sellers/Seed Treatment Certificate is designed for those who sell treated seed to farmers. The course covers the knowledge required for those who interface with farmers to be competent and confident in advising which seed treatment should be applied to which seed variety. Modules as part of this course include seed and seed quality, major weeds, pests and diseases affecting seed/young plants, options for control, safety and legislation, agronomic aspects and environmental and biodiversity considerations.

By undertaking these modules advisers and agronomists demonstrate an understanding of the following:

- the factors involved in crop establishment
- the influence of variety choice and seed rates
- the establishment of suitable seed treatments and the limitations of seed treatment use
- Integrated Farm Management to improve environmental conditions
- the influence of cross compliance and Environmental Stewardship on cropping/farm practice
- the influence of changes to cropping practices on species conservation

Many professional advisers undertake the BETA/Conservation Management module to maintain their status on the BASIS Professional Register. This course covers all that is required and covered by Cross Compliance, Statutory Management Requirements, Good Agricultural Environmental Conditions, Environmental Stewardship and voluntary-led initiatives such as the CFE. Topics included in this module are soil and air protection, the protection of surface and ground-water, biodiversity (conservation and improvement) and care of the environment. The syllabus for this module is currently under revision to reflect developments in legislation and best practice. An approach is also being developed to allow for a modular syllabus, whereby, for example, a land agent can undertake a module on biodiversity to meet their professional development needs in that area.

### 7.1.2 FACTS (for crop nutrition)

All advisers providing advice to farmers on the use of fertiliser in the UK are required by trade associations and assurance schemes to be a qualified adviser by complying with the requirements of the FACTS scheme. The scheme was established in 1993 and is responsible for setting the standards of training and certifying competence of those engaged in advising on nutrient management in the UK. The overall aim of FACTS is to ensure high standards of crop and grassland nutrition advice are delivered by qualified people, known as FACTS Qualified Advisers (FQAs). To become a FQA it is necessary for participants to undertake a five day training programme which culminates in a FACTS examination. The syllabus includes field work and the following modules:

- Soil management in relation to plant nutrition
- Organic nutrient sources
- The nature and properties of fertilisers
- Crop nutrients in plants
- Factors influencing the amount of fertiliser on main crop types
- The transport, storage and handling of fertilisers
- Application of fertilisers
- Codes of Practice and legal, as well as other requirements to protect the environment.

In response to increasing interest in Nutrient Management Planning (NMP), the FACTS scheme introduced a series of six NMP modules in 2010. All FQAs are required to have passed these modules including an assessment by 2014 in order to maintain their FACTS qualification.

### 7.2 Feed Adviser Register

AIC is currently leading an initiative on behalf of the industry to launch a Feed Adviser Register which will recognise individual member capabilities through demonstrating competence in animal feeding management. This is an important contribution towards providing the confidence that the industry has the ability to balance production and environmental goals, especially when addressing the challenge of climate change and GHG emissions. It is considered important for established advisers with a track record of good animal feed and feed management advice to become members. The Register will be a structured scheme providing a CPD framework for the professional development of advisers to enhance their knowledge and skills that will form part of their career development and provide motivation that their chosen career has recognised standards which are widely accepted and credible. The scheme will be launched officially in May 2013.

### 7.3 BSAS

AIC members within the feed sector have a proportion of technical advisers (including on farm animal nutritionists but predominantly office-based nutritionists), who are accredited by the British Society of Animal Science (BSAS). These individuals are on the Register of Certified Animal Scientists & Animal Technologists which is run together with the Society of Biology and was launched in 2012. Being a member of this Register accredits these professionals to practice competently as a Certified Animal Scientist and Certified Animal Technologist within the chosen designation as given on the Register. The Register is updated annually and members must re-register every three years, and in so doing present their credentials demonstrating CPD, and the maintenance of skills and knowledge, and the upholding of the professional conduct, standards and repute of the profession. As part of their commitment to CPD advisers must present their credentials demonstrating their skills and knowledge in the sustainability and production of livestock. This can be achieved by keeping up-to-date with the latest developments in animal science and agriculture through BSAS animal briefings and journal publications, the annual conference and regular workshops. These communication vehicles provide a balanced view of the major issues in animal science and agriculture including the need for sustainable production systems, the housing of dairy cows, methane mitigation and the use of genomics to improve dairy cattle.

## 7.4 Other CPD schemes

### 7.4.1 Dairy Pro

Dairy Pro is a CPD scheme established in August 2012 to recognise and promote professionalism within the dairy industry. Members must demonstrate maintenance of competence by achieving the points required (20 CPD points over 2 years) from a breadth of activity. Activities must relate to changes in legislation, safety and environmental awareness, production, business management, the environment, grassland management, health and welfare and nutrition. This scheme is more targeted at farm workers but professional advisers, particularly those that advise on dairy farms, are also members of Dairy Pro.

### 7.4.2 PIPR

The Pig Industry Professional Register (PIPR) is a CPD scheme established in 2007 to recognise professionalism in the pig industry and encourage on-going learning by its members. Members are required to collect 60 or more CPD points in a three year period and a wide range of events and courses are approved as CPD activities. These activities are focused on improving productivity and profitability and developing positive responses to animal welfare, environmental management and bio-security issues. There are over 370 active members of this scheme that are mainly producers. However, professional advisers are also on the Register.

### 7.4.3 Entry and on-going training for land agents/rural professional advisers

To become a professionally qualified member of the CAAV, the individual will have undertaken a qualifying degree (either three years or four years with a placement year). This is usually followed by at least a further two years of on-the-job training with a professional firm before attempting the CAAV professional examinations. The examinations comprise practical on-farm, written and oral elements covering a wide breadth of subjects (the full examination syllabus is provided in Annex 1) and are held annually over two days. Where someone passes these examinations, they may use the initials FAAV to reflect they are a professionally qualified Fellow of the CAAV. There are currently approximately 1500 Fellows out of a total membership, including Student and Probationer members, of in excess of 2500 throughout England, Wales and Scotland. Many CAAV Fellows are also members of other professional bodies such as RICS (Royal Institution of Chartered Surveyors) and IRRV (The Institute of Rating and Revenue Valuations). It is, however, their CAAV membership that confirms their specialism in advising upon agricultural and rural matters.

Once qualified, the CAAV Fellow has to ensure they maintain an up-to-date base of knowledge via on-going CPD. This is usually done by attending briefings, conferences, training days, farm walks and other sources of professional update. This of course brings benefit to the professional adviser as they have the most up-to-date information on issues impacting farms businesses including emerging policy issues, changes in legislation, agri-environment schemes, CAP reform, Single Payment Scheme, and taxation.

## 7.5 Additional in-house training

AIC members provide regular technical training outside of formal CPD for advisers to ensure that their knowledge of the latest developments and technologies is as up to date as possible. As shown in Table 2 it is estimated that an agronomist/crop adviser, for example, spends 44 days out of a working year undertaking training in developing areas such as precision farming. This can involve bringing in third parties to deliver workshops such as anaerobic digestion delivered by WRAP. CAAV carries out an annual round of one-day Spring Briefings around the country for their members to update them on matters of professional interest and this is coupled with almost daily professional updates on the Members' Area of the CAAV website and their quarterly professional update newsletter. AICC also arrange similar in-house training sessions for their members and an annual conference.

## 8. Scale of advice

### 8.1 Potential reach

The Value of Advice project demonstrates the scale of advice delivered by a large network of professional advisers across the UK. The collective efforts of professional advisers represented by AIC, AICC and CAAV supports around 95% of arable farms in some form on a regular basis. On more intensive, larger dairy/livestock/pig/poultry units, the drive to increase production efficiencies, and where relevant to comply with environmental legislation, tends to act as triggers whereby farmers actively seek advice on livestock feeding and health. On lower input, smaller units, farmers are more likely to receive information and advice from a combination of sources including feed advisers, vets and levy bodies. By building on the existing advisory networks that exist, it is possible to extend the reach of advice even further by developing competencies and integrating advice, in the livestock sector particularly.

By building up a picture of the scale of advice it becomes apparent that professional advisers in the commercial sector act as a 'route in' to a significant proportion of the farming population. This is in contrast to some government approaches which attempt to communicate with each farmer separately or in isolation, rather than making use of existing advice networks. The advisory channels highlighted in this report effectively cascade highly influential and high quality advisory messages on production and environmental issues (including legislation, best practice and industry-led voluntary initiatives such as the CFE, T&T, the VI and the GHGAP), which cover the government priorities of farming competitiveness and performance, air quality, biodiversity, climate change mitigation and adaptation, nutrient management, soil quality and water quality.

## 9. Conclusions and recommendations

This report demonstrates that there are a multitude of government advice sources on offer which sometimes deliver duplicated and conflicting advisory message based on policy objectives and tend not to take an integrated whole farm approach to making on-farm recommendations. The AIC Ring of Confidence model developed as part of the Value of Advice project demonstrates that farmers have an inner ring of advice sources consisting of professional advisers, which are effectively part of their management team. It is these advice sources that deliver more palatable and focused messaging around farming competitiveness and resilience including production, resource efficiency and environmental advice, which contributes to meeting Defra policy objectives.

Comprehensive R&D and training programmes, particularly to support the advice delivered by crop advisers and agronomists, have been developed to inform and enhance effective knowledge exchange. Although a less coordinated and structured approach is being taken in the feed sector, knowledge exchange underpinned by R&D programmes, the development of the Feed Adviser Register and the Tried & Tested Feed Plan for cattle and sheep will develop this sector further and improve the transparency of advice that is being delivered to farmers. This project and recent studies (Scott, 2011; PNMG, 2010) highlight some knowledge exchange issues behind advice being delivered to livestock farmers linked to R&D levels, training and actual numbers of advisers on the ground.

In conclusion, early indications from the Government review of advice estimate that Defra currently spend around £20 million a year on providing environmental advice to farmers and, by moving towards a more streamlined approach they expect to make savings of at least 25 per cent. In order to achieve this improvement in efficiency this report recommends that the delivery of advice through professional trusted networks of advisers is essential for effective knowledge exchange that also avoids unnecessary duplication. Any future framework developed by Government should seek to capitalise on the existing capacity and expertise within the commercial sector to help Government meet their policy objectives. This would also meet the requirement under CAP to have a Farm Advisory Service which delivers advice on government policy areas using an effective model of delivery.

This report demonstrates there is an effective knowledge exchange system in place to deliver advice on-farm which is valued by farmers for its quality, credibility and flexibility. Through their interactions with multiple farmers, professional advisers have the capacity to engage effectively with a significant proportion of the farming population. This approach is efficient and the existing conduits of advice to farmers, as highlighted in this report, could be utilised to avoid duplication and inefficiency in the use of resources.

This report recommends that the delivery of effective advice through professional, trusted networks of advisers is seen to be essential for effective advice delivery and any future framework developed by government should seek to capitalise on this capacity. Professional advisers, within the 'inner ring of confidence', are ideally positioned to influence farmer behaviour. Greater coordination, opportunities and resources for these advisory channels from government would be an efficient way of providing advice, as the capacity and expertise is already in existence, in addition to established trusted relationships with farmers.

Finally, the Value of Advice project highlights that there are gaps with investment in R&D and training and skills, in the livestock sector overall. Whilst there are animal feed and grassland specialists, as well as land agents supporting farmers with technical advice, a need has been identified to further develop competencies and the integration of advice in the livestock sector. One of the first steps to addressing these barriers can be addressed by taking a 'bottom up' approach by working with farmers to explore how best this advice can be packaged and presented. A more strategic approach is required to tackle the R&D priorities in agriculture to ensure that livestock farmers particularly, are well provided for in terms of skills and technical support.

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## Annex I. Information about AIC, AICC and CAAV

### Agricultural Industries Confederation (AIC)

AIC is the leading trade association in the agri-supply industry which promotes the benefits of modern, commercial, sustainable agriculture in the UK, and supports collaboration throughout the food chain. Formed in October 2003 between the merger of three existing trade associations, AIC has some 300 members in the agri-supply trade; represents £6.5 billion turnover at the farm gate and members (directly/indirectly) and employs 229 000 individuals. The sectors represented by AIC include animal feed, crop protection and agronomy, fertilisers, grain and oil seeds and seed. The range of professional advisers who interact directly with farmers within AIC member companies includes crop advisers/agronomists (BASIS/FACTS qualified), farm traders, seed merchants, feed advisers and nutritionists.

### Association of Independent Crop Consultants (AICC)

AICC was founded in 1981 and is now the largest group of independent crop consultants (BASIS/FACTS qualified) in Europe. The Association sets a minimum standard of technical expertise for all its members. Members of AICC advise across a range of specialist areas such as crop rotation, irrigation and drainage, plant breeding, plant physiology, soil classification and fertility, nutrient management, weed control, insect and pest control.

### Central Association of Agricultural Valuers (CAAV)

Formed in 1910, the CAAV is a national specialist professional body representing over 2500 members in England, Wales and Scotland. The CAAV qualifies its members via stringent professional examinations, coupled with on-going CPD requirements once a member is qualified. CAAV members are agricultural and rural valuers who provide a broad spectrum of professional advice and valuation expertise on issues affecting the countryside from tenancy matters to sales and the purchase of farms and land, from taxation to SPS and CAP issues, compulsory purchase to auctioneering, from conservation issues to farming structures.

## Annex 2. BASIS Syllabus Content

### General Information

Introduction

The BASIS Diploma in Agronomy

Examination Guidelines

The Exam

BASIS Guidelines for FSTS Crop Protection Project

Your Questions Answered

### BASIS Certificate in Crop Protection Objective Syllabus

Modules

1. Integrated Crop Management, Growth and Development of Crops and Commercial Production
2. Recognition and Causes of Crop Disorders
3. Recognition, Biology and Control of Weeds
4. Recognition, Biology and Control of Pests
5. Recognition, Biology and Control of Diseases
6. Composition, Activity and Persistence of Crop Protection Chemicals and Biological Agents
7. Application of Crop Protection Chemicals
8. Safe Use, Handling, Transport and Storage of Crop Protection Chemicals

FSTS – sample multi-choice questions for the examination

Useful website and publications

BASIS Approved Trainers

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## Annex 3. FACTS Syllabus Content

### General Information

Introduction

FACTS Scheme – Objectives

Composition of the FACTS Management Committee

Terminology and definitions relating to the scheme

The Certificate of Competence in Fertiliser and Nutrient Management

Advice for Field Sales and Advisory Staff

Your Questions Answered

Exam Structure

FACTS Pre-Training

The National Training Syllabus

Modules

%TOTAL TIME

- |   |     |
|---|-----|
| 1. The soil in relation to plant nutrition  | 15% |
| 2. Organic nutrient sources   | 15% |
| 3. The nature and properties of fertilisers   | 5%  |
| 4. Crop nutrients in plants and the factors influencing nutrient management planning              | 20% |
| 5. Use of fertilisers on the main crop groups in the UK   | 15% |
| 6. The transport, storage and handling of fertilisers   | 10% |
| 7. Application of fertilisers   | 5%  |
| 8. Code of Good Agricultural Practice and legal and other requirements to protect the environment | 15% |

Sample multi-choice questions for the FACTS Examination

Sample Scenario question for the FACTS Examination

Reference materials

Useful website and publications

The BASIS Diploma in Agronomy

BASIS/FACTS Approved Trainers

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## Annex 4. CAAV Examination Syllabus

### Syllabus for the Examinations held after 1st July 2011

Candidates are expected to have a working knowledge of all matters relevant to the valuation of and related professional work with rural property and business, rights and obligations, assets, livestock, dead stock and other goods including but not restricted to the following:

#### Farming, the CAP, other relevant policy regimes and business structures

- Agricultural practice, including systems and methods of farming
- Business planning and structures for rural landowners and farmers including sole trading, partnerships and companies
- The Single Payment System and other aspects of the Common Agricultural Policy
- Diversification within agriculture
- Preparation and use of farm budgets, cash flows, management accounts and analysis of audited farm accounts
- Regulations bearing on rural land and businesses, including health and safety

#### Identification, Law, Valuation and Marketing of Rural Property and Chattels

- Freehold, leasehold and rental valuations of agricultural and rural property for all purposes, whether in the market place or under statute, with an understanding of the law of real property, the practical application of economic principles, valuation standards, and the appraisal of both the subject property in its context and other relevant information
- Marketing, selling and letting rural property
- The identification, appraisal and valuation of growing and harvested crops, agricultural live and dead stock, produce, commodities, consumable stores, plant and machines
- Landlord and tenant matters, including:
  - the drafting and interpretation of agreements for tenancies, licences and other contracts
  - the law and valuations relevant to the commencement, the operation and the termination of tenancies under agricultural, commercial and residential statutes and the common law including rent, tenant's fixtures and improvements, dilapidations, other rights, claims and obligations of landlords and tenants
- Compulsory purchase and compensation as applied to agricultural and other rural property, businesses, assets and chattels
- Wayleaves, easements (servitudes in Scotland), profits, other rights in or over property and licences
- Taxation - framework of, valuations for and relevant impact of Income Tax, Corporation Tax, Capital Gains Tax, Inheritance Tax, Stamp Duty Land Tax, Value Added Tax, business rates and other national and local taxation together with relevant reliefs and exemptions
- The financing of rural property transactions and businesses, considerations for investment and other relevant matters

## **Non-agricultural Uses of Rural Property**

- Rural planning and development control
- Diversification into non-agricultural uses
- Telecommunications masts and similar facilities
- Renewable energy projects
- Forestry and woodlands
- Re-use and conversion of rural buildings with an appreciation of practicality, cost, viability and procedures
- Residential and other development in the countryside
- Minerals
- Agreements for development including options

## **Environmental matters**

- Relevant law, policy and practice on energy, environment and resource protection
- Environmental schemes, grants, subsidies and management agreements
- Resource protection, pollution controls and management
- Conservation
- Environmental Impact Assessments

## **Dispute Resolution**

- Dispute resolution, including arbitration, under statute and under contract
- Mediation
- The management of a case and the preparation of evidence and the role of the expert witness

## **Professional Practice**

- Inspection and appraisal with written and oral structured reporting and communication
- The law and operation of professional practice and business, including agency and auctioneering
- Office systems, procedures and efficiency
  
- Professional conduct, standards, ethics, regulation and Professional Indemnity Insurance

## **General Knowledge of the Countryside**

## Annex 5. Acronyms and abbreviations list

AHVLA	Animal Health and Veterinary Laboratories Agency
AIC	Agricultural Industries Confederation
AICC	Association of Independent Crop Consultants
BETA	Biodiversity and Environment Training for Advisers
BIAC	The British Institute of Agricultural Consultants
BSAS	British Society of Animal Science
CAAV	Central Association of Agricultural Valuers
CFE	Campaign for the Farmed Environment
CAP	Common Agricultural Policy
CPD	Continuing Professional Development
CSF	Catchment Sensitive Farming
EA	Environment Agency
ELS	Entry Level Stewardship
ES	Environmental Stewardship
ETIP	ELS Training and Information Programme
EU	European Union
FACTS	Fertiliser Adviser Certification and Training Scheme
FATI	Farm Advice Training and Information programme
FSA	Food Standards Agency
GHGAP	Greenhouse Gas Action Plan
GHG	Greenhouse Gas
HSE	Health and Safety Executive
IAgSA	Institute of Agricultural Secretaries and Administrators
NE	Natural England
NEWP	Natural Environment White Paper
ORETO	Official Recognition of Efficacy Testing Organisations
R&D	Research and development
RDPE	Rural Development Programme for England
RELU	Rural Economy and Land-use Programme
RPA	Rural Payments Agency
SPS	Single Payment Scheme
T&T	Tried & Tested
VI	The Voluntary Initiative
VMD	Veterinary Medicines Directorate
WFD	Water Framework Directive



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