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DISCUSSION NOTES

How do we encourage a dynamic, cutting edge food and farming sector, building on existing innovation, creating high quality jobs and contributing to the recovery?

Research is key and innovation needs to be working better in the Agricultural industry

Many research councils such as the BBSRC (Biotechnology & Biological Sciences Research Council) have plenty of money to invest in world leading research, but need competitive bids from the agricultural industry. The money is available but often the research requests are too narrow such that only, say Harper Adams could deliver it: Councils want to fund research in this area but are unable to fund applied research, so to allow agriculture greater access to research capital, broader research briefs are needed from the agricultural industry.

A good example of this would be based around the scenario of a sensor needed to detect a component of soil. If a narrow bid was submitted, such as a tractor mounted soil detection sensor, then the applied nature of it would make it an unattractive option for Research Councils. If instead the bid was simply research to create a sensor needed to find component X, then that bid is a much wider concept, useful across multiple disciplines (e.g. pharmaceuticals, engineering) and would have a much better chance.

The key is to **get the industry to tailor bids so they are multi-discipline and can utilise cross sector research**: so how can we scope these briefs to match the research councils' criteria?

Help and advice should be given to agricultural organisations when it comes to tailoring their briefs to ensure that they are as competitive as possible. Policy-makers can provide help and guide people when it comes to accessing & optimising research bids.

It's also important to **foster greater collaboration with different sectors, which more open briefs achieve**. Agriculture stretches across multiple sectors and getting all of the brains throughout various industries collaborating and working together is important and will bring in radical solutions.

Another key aspect is **widening the agricultural remit and utilising ideas that are already present in other industries**. Data transfer between machinery on farms is a key area of research but has largely been cracked in other industries. By widening agriculture's view to other disciplines and collaborating with these sectors then there can be mutual benefit.

It's also important to increase awareness of all the opportunities out there. For example, it would be great to make sure that innovators are aware that the Technology Strategy Board can help secure match funding, not just from British companies, but companies that have a manufacturing subsidiary in Britain.

Another aspect of the future of food and farming is that **innovation is key, it doesn't all have to be new research**.

There needs to be a shift away from the obsession with bigger and bigger machinery. Bigger isn't always better and 30 ton tractors will not be the best solution for every farmer. Instead the industry needs to move towards smarter, more innovative technology and not only that, **help is needed to take technological breakthroughs and turn them into practical solutions**.

It's all well and good having cutting-edge research but it won't do any good unless the technology is able to be used by our farmers in the agricultural industries. SMEs provide a vital tool and can be utilised to transfer research into brilliant solutions.

What skills do we need for future success, investing in research and technology and exporting our knowledge to new markets?

People are key to innovation and we must push the notion that farming is looking for the brightest and the most capable through challenging pre-conceived notions regarding the agricultural industry.

We could provide IT scholarships or other prizes tailored around agriculture to ensure that the best computer experts come into an industry that is increasingly reliant on information technology.

The difficulties faced by agriculture is exemplified by Christine's experience with the Science Museum and their lack of commitment when it came to pushing farming as a cutting-edge technological industry (as opposed to their current display based in the 1960s). The ideas behind agriculture must be changed towards an industry built on cleverer technologies and skills and **policy-makers must attract the right people into the industry**.

Education is so important when it comes to explaining to all brains out there they're what farming needs. It's not about getting farmer's sons into the industry, it's about inspiring people to see what farming should be.

Moving onto exports, it's important to be pragmatic with our exporting technology. Don't bother with a BRIC such as Brazil which has already developed its own farming methods and farms much larger areas than in the UK: go to Africa and target our exports to them, in particular focussing around the exporting of knowledge and smaller scale farming.

How can we promote food security, increasing the food we produce and modernising our industry whilst enhancing the natural ecosystems we rely on?

Data & education is at the heart of agriculture and it's important that we greater understand how to farm more effectively through greater utilising the data we already collect.

It's important to note that the top 10% of farms are full of good practice and policymakers need to ensure that what the top 10% do so well, is passed onto the other 90%. Collaboration between farmers provides the means to bring all farmers up to the standards of the best

An area that is ripe for knowledge transfer is that of precision farming, an area often seen as only applying to cutting edge farmers, but in fact, precision is in everything. By utilising greater technologies and sharing knowledge then all farmers can be much more precise with how they use their fertilisers, their pesticides and their treatments (e.g. precision spraying of pesticides onto selective crops, only treating animals with an unacceptable level of ticks, or the understanding and knowledge behind the importance of soils)

Knowledge transfer can be facilitated through utilising existing connections in the farming community: from local NFU groups to YFC clubs.

Policy makers **should utilise these networks to take the best of what the industry has and pass it down to all farmers.**

Collaboration and co-operation within the industry would also aid farmers. Farmers can achieve much more working together than they can apart and on larger farms the horsepower per acre is much less than you'll see on a smaller holding. Machinery is often a huge cost to farmers and this cost can be reduced by sharing machinery. The government could provide incentives

to share machinery: perhaps help with contracts or even tax breaks for shared machinery to change the culture.

Greater education within the industry is needed regarding farming's effect on wildlife and ecosystems and whilst we can scientifically work about how to increase production, we can also work about how to increase environmental friendliness.

The precision mentioned above could also translate over to how farmers support the environment. It's time that farmers realised that they aren't farming in spite of the environment, they're farming for the environment. The ELS scheme is quite a blunt scheme and precision needs to be ingrained into our stewardship programmes. It would help to be providing policy saying that a % of land is farmed for the environment and farmers need to be encouraged to farm for the environment. An applied example of this: given the greater environmental benefits of spring cropping, requiring spring cropping would be a way of working with the environment for both farmer's gain and the countryside's gain. Current incentives are not sufficient for farmers to take the risk of spring cropping, but it could become a mandatory part of the mix, in preference to set aside.

How do we balance public interest and advancing technology, for example of GM food crops and debates on intensification of production?

As stated before: farming for the environment is integral to how we tackle these issues and **crops that work for both wildlife and the public interest are the way forward when it comes to intensification.**

The way to make the case for GM is leave the usual argument regarding greater yields and gains, instead approaching from another angle may be the way forward. Farmers can't make the case for GM, so get other organisations to do so instead.

Spring Cropping is again a good example: generally spring crops are much better for birds and local wildlife, however are often much more susceptible to drought, so there is a need for GM drought resistant spring crops. The argument could then be made for research into this type of GM not just through the agricultural case, but through the ecological case. This could then provide support for GM from other sectors (e.g. the RSPB would certainly want more spring crops!)

The concept of GM to help wildlife would be a great way to get the case across to the public. It's also key to focus on a type of GM which is a natural extension of what could have been achieved naturally through crossbreeding, not unnatural GM (such as putting a gene from a spider into a potato)

Furthermore if farmers were to work with, not against the environment regarding crop development, then there could be beneficial solutions to be gleaned. Many fields suffer from flooding and lose crops. Perhaps we should be actually trying to breed crops that are brilliant in standing water and preemptively flooding certain fields? Through working in unity with the environment, a better solution is created for the farmer.

How do we increase British food exports and support businesses developing new markets?

Exporting food should not be the focus of our Agricultural policy: instead self sufficiency should be our main goal given the size of our internal market. Instead combine an increase with our own internal efficiency to ensure a greater level of self sufficiency with supporting our businesses who are exporting knowledge. **Focus exporting our knowledge and knowhow** to developing nations such as those within the African continent.

How can government use procurement and leadership to increase the number of apprenticeships in the food sector?

There's already a lot being done by the Government already to stimulate apprentices but little is being done to **increase interest in seasonal work which could itself lead to apprenticeships.**

We have many seasonal workers enter the UK from the EU and there's no reason why British people can't take these jobs, however they are often seen as unattractive. By making these jobs more attractive by ensuring that there's training and support within these roles, we can ensure that people want to work in agriculture.

It's key to incentive employer to take on unemployed and for the unemployed to take this work.. This needs more reseach , but maybe by providing support and ensuring that education or training is in partnership with work, we could motivate young unemployed people. It is a huge step for people going from unemployed to long hours of repetitive work, but if it were combined with training, or learning a related skill (say tractor maintenance or programming) then we might interest them. We need a

system that people are considerably better off working and don't see unemployment as preferable to doing this. Once they have started to feel valued, they will improve.

There may be some fine tuning that can be done to ensure that the government are as agri-business friendly as possible: regarding, for example, regulations relating to the minimum wage and how they relate to the Quota based working system that underpins many seasonal jobs. Prior to the minimum wage, people who couldn't achieve the right rates of work were able to make up the extra in their own time. The minimum wage now prevents this so people are moved on. Local workers rarely achieve the pace of the Eastern Europeans, hence employers not wanting them!

Moving onto procurement: it is an issue with a clear light at the end of the tunnel, but it's getting both the Government and producers through the tunnel that's the problem. Everyone wants Government to buy British but they generally buy through wholesalers..

However British farmers largely ignore wholesale markets, except to shift unwanted volume, and focus retail: leaving Government unable to buy British and British farmers losing out on Government procurement. Dedicated businesses like the Greenery, an EU sourced distribution business based in Holland, treat the wholesalers as the British do retailers, and offer all year round, consistent supply. We **need to tackle the ignorance of wholesale by the industry and help broker a compromise**: Farmers need to sell to wholesale, and Government need to buy British wholesale. This is a big project, already identified by the Fruit and Vegetable Taskforce, but progress is slow

With both sides working together then Government procurement can help to once again strengthen British farming.

How can we strengthen and increase the effectiveness and resilience across the supply chain?

Strengthening and increasing the effectiveness of the supply chain will ultimately come about as a product of pro-active policy changes in each area of the supply chain. By improving each individual element of the supply chain, then those improvements will add to the overall effectiveness and efficiency of the chain itself. Shortage of supply will help this!

It's also important to remember that trust is essential to the supply chain.

How can we reduce food waste?

Simply, all waste needs to be accounted for. Often larger companies will only account for waste that happens on their patch, which distorts food waste figures upstream and potentially downstream as well. Mandating that food waste must be tracked all across the supply chain would certainly make the large companies take control of their food waste and ensure that all waste has an element of responsibility attached to it.