

OK NET

eco feed 

Climate Friendly Farming: moving towards the production of more agroecological proteins for animal feedstuffs

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FARMING ADVISOR

SOIL ASSOCIATION

What is agroecological?

- – **Recycling biomass**, optimising and closing nutrient cycles
- – **Improving soil condition**, especially its organic matter content and biological activity
- – **Reducing dependence** on external synthetic inputs
- – **Minimising resource losses** (solar radiation, soil, water, air) by managing the micro-climate, increasing soil cover, harvesting rainwater, etc.
- – Enhancing and preserving the **genetic diversity** of crops and livestock
- – **Strengthening positive interactions** between the different elements of agro-ecosystems, by (re-)connecting crop and livestock production, designing agroforestry systems, using push-and-pull strategies for pest control
- – **Integrating biodiversity protection** as an element of food production

UK AND FEEDSTUFFS

Supply chain dominance

One size fits all approach to farming

Importing protein we can grow here-exporting GHG

Commodity cereal production at below COP

Pulse crops are seen as 'I wish crops...'

Lack of independent research



Benefits of grain legumes in UK

- reduced dependence on fossil fuels in agriculture
- Reduced greenhouse gas (GHG) emissions
- increased crop diversity in cropping systems
- increases in above and below ground biodiversity
- improved soil fertility
- Increased carbon storage
- reconnection of crop and livestock production

SPEAKERS

- UK GROWN ALTERNATIVES TO SOYA

DAVID McNAUGHTON

- ALTERNATIVE PROTEIN SOURCE – INSECTS

STEFANIE LOBNIG

- ALTERNATIVE FEEDS AND SYSTEMS- OKNET ECOFEED

LINDSAY WHISTANCE

***Climate Friendly Farming:
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animal feedstuffs***

Bartkowski

The potential for UK protein production

David McNaughton
Soya UK Ltd



Who are Soya UK?



Seed merchants based in Hampshire.

Involved in Soya, Lupins, Millet, Vetch, Triticale, & High-Protein Forage mixtures.

UK and European agents for a number of plant breeders, so commercialise lupin & soya varieties in a number of other countries.

Been involved with soya since 1998, and lupins since 2000

UK / European Protein Problem



Last year, the UK imported 3.25 million tonnes of soya, and we are utterly reliant on imported protein to run our livestock industries in the UK:-

- 67% of Supplementary protein that is fed to all types of livestock the UK is soya.
- 3.15 million tonnes was used in animal feeding – (only 100,000 t used in human food chain).
- The white meat sector, and egg production accounted for the vast majority of it (at least 2.25 Million tonnes)
- The dairy sector is also highly reliant (but less-so than the white meat & egg industries).
- Situation has prevailed since 2001, but between 2001 & 2007 no-one cared because it was cheap to buy soya – until the Chinese entered the soya market in 2007, and soya became progressively more expensive.
- The Soil Association Report in 2003 highlighted this problem – but no effect.

UK / European Protein Problem



How did we get here?

- 1988 Ban on the feeding of meat & bone meal in the UK – increased reliance on vegetable protein sources for animal feed
- 1992 Blair House agreement – restricted EU support for oilseeds (including soya – bizarrely classified as an oilseed). Made soya impossible in Europe until 2006.
- 1992 McSharry Reforms - the EU moved across from price support to area payments, and the pea & bean processing subsidy ended (replaced with an area payment to the farmer). No more direct support for legumes industry & the last time we had a proteins policy of any kind.
- 2001 – As a result of the “BSE in Europe” scare, an EU ban on all meat & bone meal and fish meal meant all proteins had to be vegetable derived (ruminants).
- Since the 1960’s – Livestock in the UK and beyond have much higher genetic potential with rapid deposition of muscle or much higher yields. All well & good, but it also increases the need for a diet which is higher in protein, and proteins which are higher in Sulphur Amino-Acids. This has created a genetic dependency on such high-protein feedstuffs.

UK / European Protein Problem



The political problem....

- 1992 – Today – despite the dire and increasing need to stimulate domestic protein production, the UK (unlike other EU countries) has chosen to give no support whatsoever to legumes and the production of domestic protein.
- UK Politicians have, instead chosen to give support to jingoistic policies on biofuels which have been detrimental in a number of ways - nitrogenous “protein rich” by-products of the biofuels industry are sold in UK protein markets, depressing the price of UK legumes and thus restricting their production. Allowing substitution with imported palm oil for biofuels has given the perverse scenario where people are chainsawing the rainforests to grow palm oil so it can be used in biofuel on the premise that it is saving the rainforest!!
- One sickening irony is that the energy balance from one Ha of UK legumes is actually better than the energy balance from these so-called energy crops. The energy balance from one Ha of Peas / Beans / Lupins / Soya grown in the UK, is a positive with the diesel equivalent of around +90 litres per Ha. UK Biofuels have at best a neutral energy balance, and yet all the money goes to energy crops, whilst legumes get nothing. We have a huge problem, but politicians aren't listening and continue to back the wrong policies. Energy balance / Carbon Balance should be the metric for all support going forward.

Options for increasing UK production



- Grow lupins & soya as combinable crops for high-end proteins
- Also - grow peas & beans for the mid-range requirement.
- Use forage lupins / peas / vetch in the north & west where combining isn't an option.
- Make good use of foliar proteins like clovers / lucerne / vetches.

But we need to remember that;

- Last year, the UK imported 3.25 million tonnes of soya
- Replacing that is not easy – It would require 1.25 million Ha in soya / lupins / peas / beans.
- Alternatives like insect / algae? What potential tonnage? Amino-acid profile?
- Limited scope for more peas & beans due to prices / lack of market, loss of chemistry rotational restrictions
- Without a political wake-up, nothing will change.

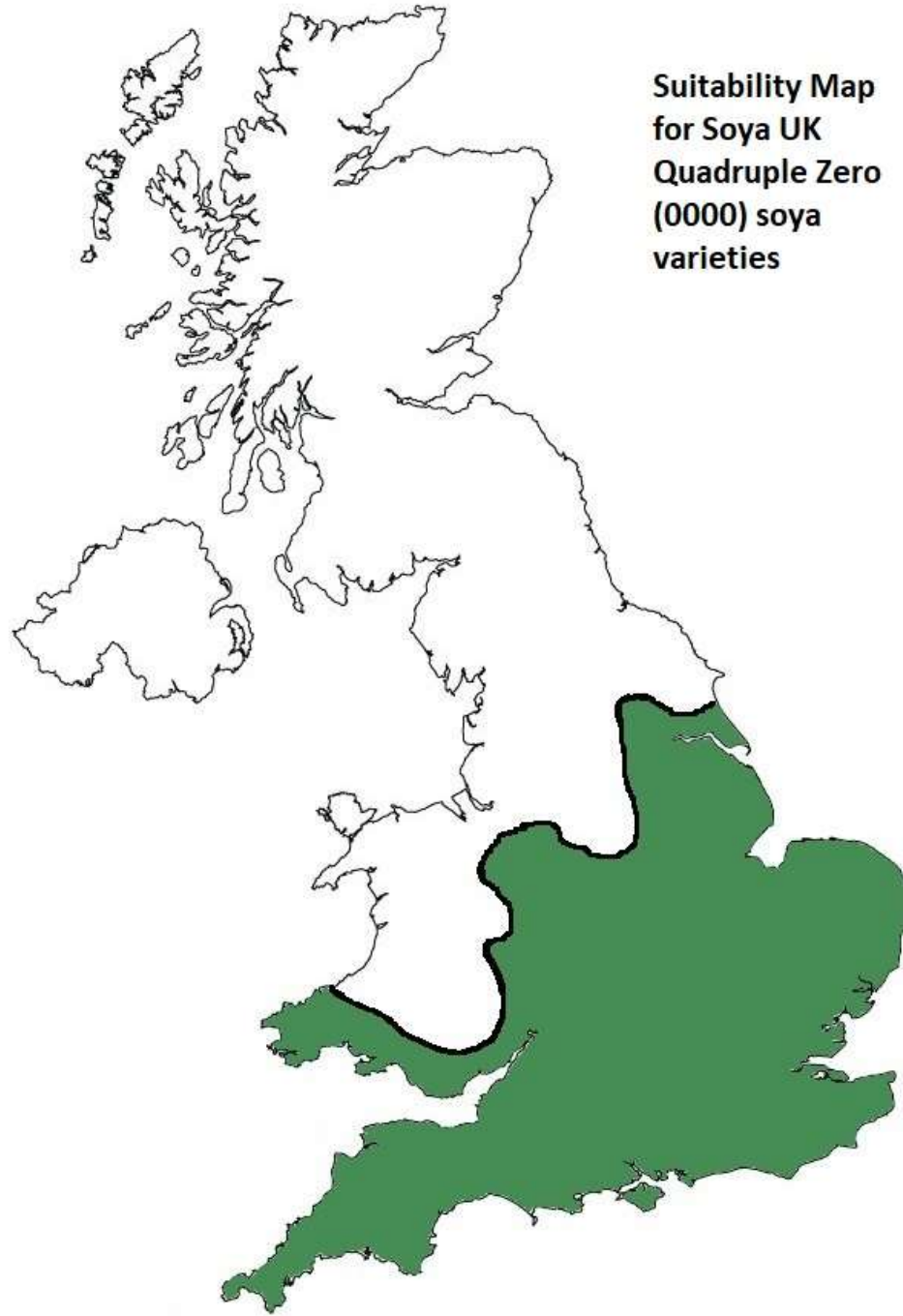
Increase in UK soya area



Why now?

- Varieties
- Agronomy
- Increase in soya values
- Blackgrass
- Flea Beetles
- Need for new break crops

Suitability Map
for Soya UK
Quadruple Zero
(0000) soya
varieties



Kent Harvest 2019 – 1.4 t per acre



Kent Summer 2018 – Yielded 1.15 tonnes per acre at harvest



Close-up of Siverka. Notice hairs – stops all disease & pests.





David McNaughton



Thank you

Lindsay Whistance
Organic Research Centre



100 % Organic, Regional Feed



OK-NET EcoFeed Objectives

- Sharing and creating knowledge
- To work with industry
- To identify the conditions under which IGs are currently operating
- To identify current challenges to feeding regional, organic feed to monogastrics
- To identify and test possible solutions
- To produce videos and Practice Abstracts/ fact sheets





Thematic Groups in 8 countries

Pink = pigs (6)

Blue = layers (5)

Yellow = broilers (5)

Innovation Groups I

- 6-19 members per IG
- 72 farmers, 10 advisors and 18 feed companies
- Farmers: 50 male, 22 female
- Average age 47



Innovation Groups II

- Farm sizes: 1.4 – 1400 ha
 - Sows 10 – 168
 - Layers 250 – 171,000
 - Broilers 1,000 – 57,600
- Land ownership: 30-100%
- Fully Certified Organic: 1-40 years
- Advisors offering advice: 4-20 years
- Feed Companies selling organic feed: 3-22 years



Innovation Group Trials I

France Foraging pigs in rotational protein fodder

Serbia Small scale processing of locally grown soya

Sweden Growing and feeding forage turnips for pigs

Assessing different ways of feeding silage to pigs

Spain Silage containing beer yeast and roughage source



Innovation Group Trials II

France Using 100% organic feedstuff to feed layers

Replacing soy in broilers finishing feed

UK Potential for sprouted seeds

Feed value of grain cleanings

Italy Growing and feeding Camelina

Germany Nettle cultivation

Nettle feeding

Feeding preferences red/white clover, alfalfa

Denmark Effect of lactic acid bacteria on broilers

Foraging and use of out-door area by broilers

Bio-refining - quality of clover grass protein



Knowledge Exchange



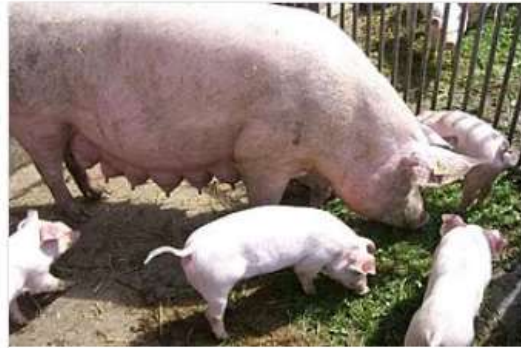
News



December 20, 2019

Foraging of broilers in outdoor areas – new practice abstract

Establishing attractive areas is necessary to increase the number of broilers going outside. A...



December 19, 2019

Relevance of roughage feeding to pigs – new practice abstract

A species-appropriate pig diet consists of different feed components with different structures...



November 14, 2019

Silage feeding for laying hens – new practice abstract

Feeding silage to organic laying hens is practised on a daily basis by many egg producers. Since...

<https://ok-net-ecofeed.eu/>

<https://organic-farmknowledge.org/>



<http://www.organicresearchcentre.com>



Questions

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