THE BARRIERS TO THE COMMERCIALISATION OF LUPINS IN EUROPE

An update on our ongoing search for a market

David McNaughton
Soya UK Ltd

Who are Soya UK?

Seed merchants based in Hampshire, UK, specialising in niche crops

Involved in Lupins, Soya, Vetch, Triticale, Forage mixtures & Millet for bird seed.

Been producing lupins for 18 years since 2001.

Supply 96% of the lupin seed sown in the UK, and supply other European countries as well.

We deal in the three main species of lupin (Or should it be 4?)

Also experimenting with perennial Polyphyllus lupin (should it be 5?)

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The potential for Lupins in the UK / Europe

- The UK currently imports 3.4 million tonnes of soya and soya products per annum with most of it (3.2 million tonnes) being used directly in the animal feed industry.
- Soya accounts for 67% of all the supplemental protein fed to all classes of livestock in the UK.
- It is exactly the same across Europe, with soya accounting for around two-thirds of the supplemental protein fed to all livestock in the European Union.
- The modern pig, poultry & dairy industries in Europe would grind to a halt within 3 months if the supply of soya stopped – the 513 Million people in Europe would have a major food crisis.
- It all comes from Brazil, Argentina or the USA.
- Is this total dependance on soya not a strategic/economic weakness?
- The theoretical opportunity for another source of quality protein is huge.

The potential v reality for Lupins in the UK / Europe

On paper, European-grown lupins could theoretically replace much of this imported soya tonnage. Theoretically, we could have a market in Europe for up to 25 million tonnes of lupins, and a market for 3 million tonnes just in the UK.

– and yet the annual area in the UK is stuck between 1000 - 2000Ha.

- 80% of this area is cut for forage - Most forage is grown as lupin/cereal mixtures, rather than crops of pure lupin.
- Of the remaining 20% which is dry harvested, nearly all is kept as feed on the same farm.
- So - Almost the entire national production of lupins is used in livestock systems as a home-grown alternative to soya meal, which is fine for those farmers using them
- Almost no lupins are traded as a cash crop….

Harvest 2001 – Young, Enthusiastic….

2001 – 2019 a story of unfulfilled promise

Despite huge potential demand, there almost no lupin tonnage being traded in the UK.

We have tried for years to introduce lupins as a mainstream protein source.

Various seed companies across Europe, have also tried, but the area of lupins grown in Europe remains relatively small, and broad uptake of the crop remains as elusive as ever.....

We have failed miserably….

Why?

2001 – 2019 a story of unfulfilled promise

Well – It is not because of low productivity

	Yield /Ha	Protein Content	Protein / Ha
Peas	5	25%	1250kg
Faba Bean	5	25%	1250kg
Soya Bean	3	36%	1080kg
White Lupin	4	38%	**1520kg**

In the UK we can get up to 5 tonnes/Ha of white Lupin and the protein production / Ha is not only greater, but the amino-acids are better than any of the others – including soya.

2001 – 2019 a story of unfulfilled promise

…and its not due to a lack of Profitability….

	Yield /Ha	Value per tonne £	Gross Output £/Ha	Variable costs £/Ha	Gross Margin £/Ha
Peas	5	£175 (feed)	£875	£310	£565
Faba Bean	5	£175 (feed)	£875	£250	£625
Soya Bean	3	£375 (feed)	£1125	£300	£825
White Lupin	4	£275 (feed)	£1100	£260	**£840**

White Lupin margins will beat that of Peas & Beans, and rival that of soya.

We have a good agronomy package, and they are the best entry for wheat bar none.

So why can't we get people to grow them????

2001 – 2019 a story of unfulfilled promise

No reliable volume markets

- We need the feed sector to embrace lupins.
- Lack of uptake from the feed sector has meant there is no volume market for lupins in the UK and has restricted lupins to relatively low volume niche markets.
- You cannot go for premium markets without having a market for outgrades, and so without widespread acceptance from the feed sector, you cannot operate a buy-back contract. No contract production means low acreages for home-feeding only.
- Last Year, Soya UK had 165 farmers growing Soya on contract, and 3 farmers growing lupins on contract – because we cannot offer the growers a reliable market.

The Lupin Enigma – Why is trade so low?

Why are the feed sector relectant to adopt lupins?

- Confusion over the true feed value of lupins, and their feeding performance in comparison to established protein sources like soya.
- Threshold tonnages not available, so classic chicken & egg scenario with companies needing 2000 tonnes to run an ingredients bin for 1 winter feeding season.
- Concerns over allergenicity (perhaps our biggest problem), so premises and haulage companies reluctant to handle them.
- Fear of alkaloids / bitter incidence.

The Lupin Enigma – Why is trade so low?

Why are farmers relectant to adopt lupins?

- Confusion over the best type of lupin to grow, which are the best varieties to grow, and which geographic areas are most suitable for each type.
- Agronomic questions, including a perceived lack of effective herbicides making weed control difficult.
- Fear of anthracnose.
- Inconsistent yields and quality, which undermine confidence in the crop among both growers and potential end-users.
- **Lack of market**

What Happens Now ?

Should just give up and grow more soya?

World consumption of protein will continue to rise.

Proteins will continue to rise in comparative values (Soya production is beginning to plateau off, whilst population and per capita protein consumption continues to rise).

At some point, governments will need to address the dependency on soya.

At some point, lupins will be recognised as a potential solution, and the expansion will be rapid when the dam breaks.

What should we do to crack Europe?

1. De-bunk or try to contextualise the allergenicity story.

2. Do more work on agronomy – especially weed control.

3. Campaign for legumes to be recognised for their environmental contribution. 3kg of N-Fixation has an energy equivalent of 2kg of hydrocarbon fuel. Why are so-called “energy crops” getting all the money?

4. Contribution to soil health.

5. Keep working on the feed sector (We approached 4 feed companies & held company feed trials in the last 12 months).

6. Develop premium and niche markets where we can.

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Thank you