

Laidlaw Scholarship Reflective Report

A reflective report is required after each summer period (by 20th September). Once submitted we will ask you to post onto the Laidlaw Network (without your supervisor comments if you wish).

This should be supplied as a Word document. Interesting photographs directly related to your research project or scholarship are encouraged and should be inserted into the body of the word document, not supplied separately.

There are six questions for you to complete. You are expected to write a detailed and thorough report; each section should be around 200-300 words.

Please note: This is NOT a technical research report. Scientific reports with a covering note cannot be accepted.

This report will need comments from your supervisor and is to be signed off by both you and your supervisor before submission.

If you have any problems or queries please contact the Laidlaw Scholarship Administrator, laidlawscholarship@leeds.ac.uk.

Scholar

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Title of Scholarship Project:	UK honey imports and effects on British beekeepers

Please describe the research you have conducted this period

My objective was to establish whether there was any relationship between UK bee colony numbers and a) the price and b) the country of origin of honey imports into the UK in the period 1970-2020.

Firstly I gathered data on UK bee colony numbers through all available sources. To clean this data I produced average and range values for each year (as some datasets overlapped) as well as three-year and five-year averages. I then tackled two problems with the data: first, that some datasets only included data from England and Wales, and second, that a data gap existed between 1993 and 2002.

To solve the former problem I increased the relevant data by both 10% and 15% as a sensitivity test.

For the latter problem I used cubic spline interpolation to fill the values between 1993 and 2002. To test sensitivity I made sure to run correlation tests without the interpolated data and with the interpolated data increased/decreased by 5%.

Secondly I gathered data on UK honey import weight, prices and country of origin from multiple sources. Again, to clean this data I produced average and range values for each year, as well as three-year and five-year averages.

When it came to country-of-origin data, I whittled down the countries I would involve in the study to those which averaged at least a 1% share of British honey exports in years in which they imported honey into the UK.

I also split these countries into the five honey exporter groups defined by Garcia (2018). I also added two new groups for analysis: European Union and Commonwealth.

I then ran correlation tests between:

- Honey import prices and bee colony numbers
- Honey import prices and percentage of annual imports by each exporter group
- Bee colony numbers and percentage of annual imports by each exporter group

- Bee colony numbers and percentage of annual imports by each country

I also sought out UK honey production figures from the Food and Agriculture Organisation database, calculated the percentage of production exported each year and ran the same correlation tests.

To contextualise these findings I added some qualitative analysis: first by analysing historical bulletins held in the Bee Farmers' Association archive, and secondly by conducting interviews with five commercial beekeepers.

How is the research work you have been undertaking impactful or important?

Firstly, this research fills a gap as (to my knowledge) no country-specific study on the effects of honey imports on domestic bee colonies has been published. My study presents an opportunity to test the hypotheses of global studies like Moritz and Erler (2016) and Garcia (2018) that low honey prices undercut local producers and depress local colony numbers. My quantitative data analysis suggests a weak positive relationship between colony numbers and import prices, and that rising Eastern exporters like China have a negative relationship with prices. This suggests higher honey prices benefit British beekeepers and bees, and imports from rising Eastern exporters tend to be cheaper. My qualitative findings indicate British beekeepers are not so much concerned with direct price competition of imports but believe there needs to be more education on the "proper" value of honey in order to keep prices sustainable for commercial beekeepers.

Secondly, my research produces a number of suggestions for potential policy. All five interviewees supported increased testing of imported honey regardless of their concern for price competition or honey adulteration as they believed it could boost demand for naturally-produced British honey. Country-of-origin labelling for honey was also a popular proposed measure, which supports previous studies like Jones Ritten et al. (2019) and Bessinger and Hermann (2021) that consumers are willing to pay a premium for certain types of honey when given more information on honey adulteration and country of origin.

Thirdly, my research suggests a number of avenues for further research. These include consumer perceptions of honey prices, hobbyist beekeeper perceptions of honey prices (as one interviewee claimed hobbyist beekeepers were often unfamiliar with honey pricing) and further testing of commercial honey by price or country of origin.

Finally, my research also has implications for a number of potential changes in the honey market. Its analysis of the effects of the 2002-2004 EU ban on Chinese honey could show the domestic effects of supply shocks are often short-lived except for prices. Meanwhile the implications of upcoming free-trade deals with New Zealand and Australia are less clear, but quantitative analysis shows imports from specialist honey producers like NZ tend to increase honey import prices – perhaps a benefit for British producers.

What impact has conducting research had on your degree course and university experience?

Conducting this research has taught me a number of important lessons which will benefit me on my course.

The first is the importance of scrutinising data, especially when it may be inaccurate or misleading. During my research I often had to deal with potentially inaccurate data, so learning the importance of things like using multi-year averages, sensitivity testing when carrying out analysis, and contextualising things whenever possible with qualitative data means I will now be prepared to deal with difficult data in any of my future assignments. This also showed me the importance of looking into the provenance of data and assessing it critically.

The second lesson I learnt is the importance of clear communication with interviewees. I found interviewees a lot more trusting and willing to talk openly when I explained to them the goals of my study and assured them about my open-mindedness about the results, as I had some negative responses to initial emails due to a perception from interviewees that I had a certain agenda in mind. This made me realise the importance of transparency in academia, as this strengthens public trust and ensures more insights can be gained in research when researchers and their interviewees are on the same page – a vital ingredient for future research projects.

What leadership skills do you believe you have gained from the research period? (please refer to the leadership attributes below)

Though I picked up many skills during the period, I will focus on three that I think will prove especially useful:

1. **Able to convey purpose and build coalitions** – as mentioned, conveying purpose was a very important part of recruiting interviewees as some beekeepers I approached felt I had a preconceived agenda. I learnt the best way to overcome this was through honest, concise explanation of my intentions, pointing out that I was carrying out the research precisely because I did not know what the results would be. I also learnt how to honestly answer questions about how the research would benefit them, pointing out that I could make no promises about direct benefits, but that the research would contribute to knowledge that could inform policy. Importantly I learnt how to adapt my answers to the different viewpoints of different interviewees as opinions often differed on topics concerned with my research.
2. **Knows own limitations and acts accordingly** – learning this skill proved useful during the data analysis stage, as I had never led a project with such complex data analysis before. The most important response I learned when I came up against my own ignorance was to consult my supervisor about the best way forward and then conduct some of my own research about methodology before making a decision.
3. **Prioritises activities and manages own time** – though I learnt a lot about time management in my first year at university, running my own research project was a step up in time management as I had to organise visits to other locations like the British Library and Borthwick Institute. Managing my project taught me the importance of keeping

track of tasks and tackling them one at a time, as well as delineating time between them to ensure I didn't get muddled.

Please talk about activities you've been involved in to disseminate your research, including but not limited to attending conferences, producing research posters, and promotion of the scholarship

As recruiting interviewees took longer than I hoped, my research results were quite delayed and unfortunately I haven't had much opportunity to disseminate it. I did have my abstract accepted for the ICUR but unfortunately had to pull out due to scheduling problems. However, I plan to submit my abstract to the BCUR conference next year, and I am also potentially planning to submit my research as an academic article – I'm discussing this with my supervisor soon.

Like all other scholars I've produced a research poster which I will promote on the Laidlaw Scholars' Network once it's approved.

What are your future career or educational plans?

I'm still split between a few potential paths that I'd like to try out during the rest of my studies at the University of Leeds, all of them environment-related. I'd either like to take up a research position in academia, an NGO or journalistic outlet specialising in ecology and the impact of ecological disturbances on ecosystems, or I'd like to go a more practical route as a ranger in the field rehabilitating disturbed and damaged ecosystems.

Supervisor

Please comment on your scholar's research period, what you consider to be your scholars' strengths and which leadership attributes (please refer to the leadership attributes below) you feel your scholar has demonstrated and is particularly skilled in. You could also identify areas which your scholar can develop further.

Signature of Scholar _____ Date: ____/____/____

Signature of Project Leader _____ Date: ____/____/____

Leadership Attributes

Able to lead without authority

Able to convey purpose and build coalitions

Cultural intelligence and capacity for empathy

Honestly assess own knowledge/leadership style/preferences

Knows own limitations and acts accordingly

Learns continually

Speaks and writes clearly and confidently

Able to listen with understanding

Uses digital connectivity

Makes effective decisions in complex environments

Seeks out and fosters innovation and creativity

Strong intellectual ability

Turns ideas into action

Builds relationships and networks

Works collaboratively and across boundaries

Uses emotional intelligence to achieve this

Capitalises on the power of diversity

Able to navigate new and foreign situations

Uses this to build relationships and networks

Has energy and impact

Makes things happen

Able to analyse data and interpret results

Able to work and think independently

Prioritises activities and manages own time

