Large Language Models for Improving on-farm poultry welfare decision-making: Opportunities and Challenges

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UKRI Biotechnology and Biological Sciences Research Council

AWRN ANIMAL WELFARE RESEARCH NETWORK

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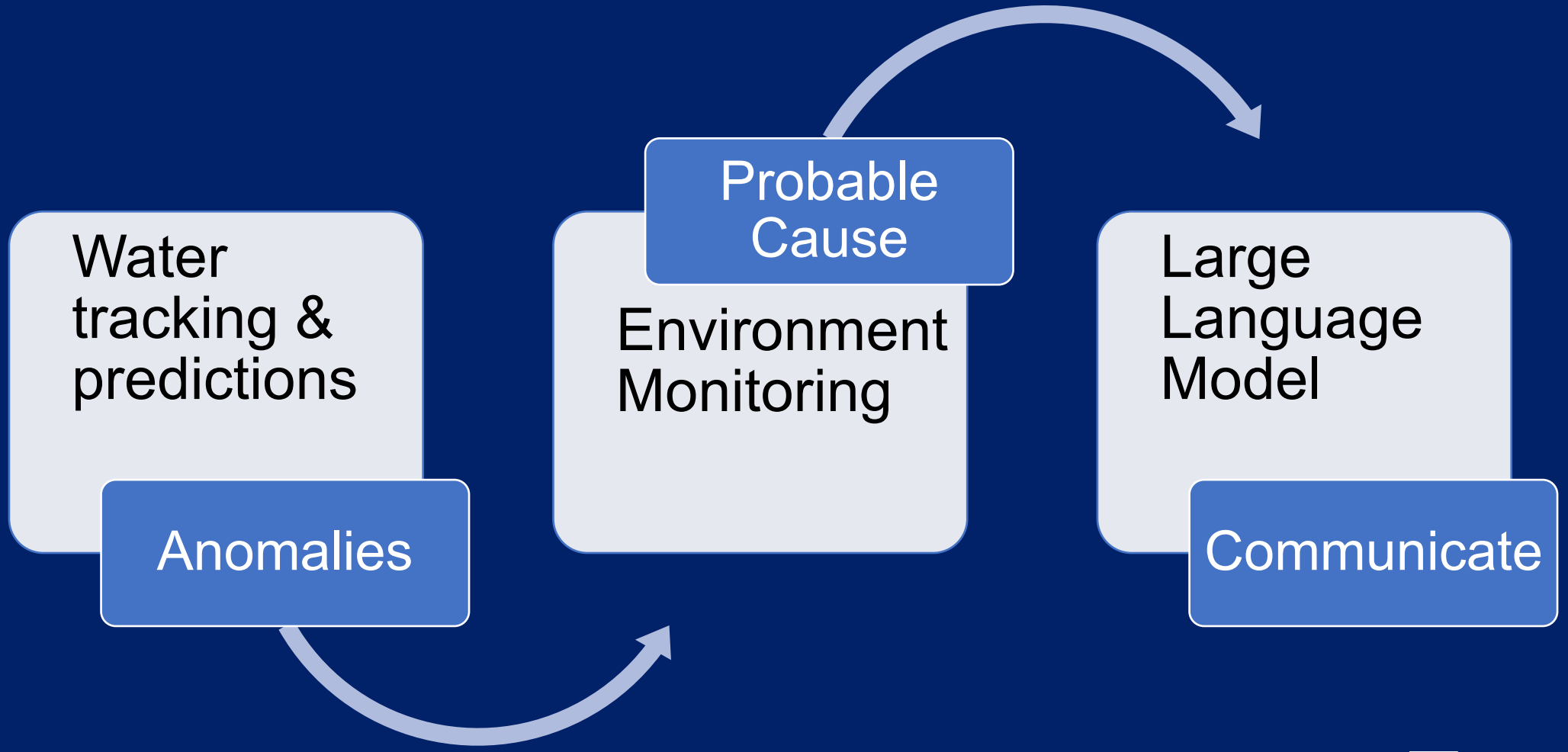
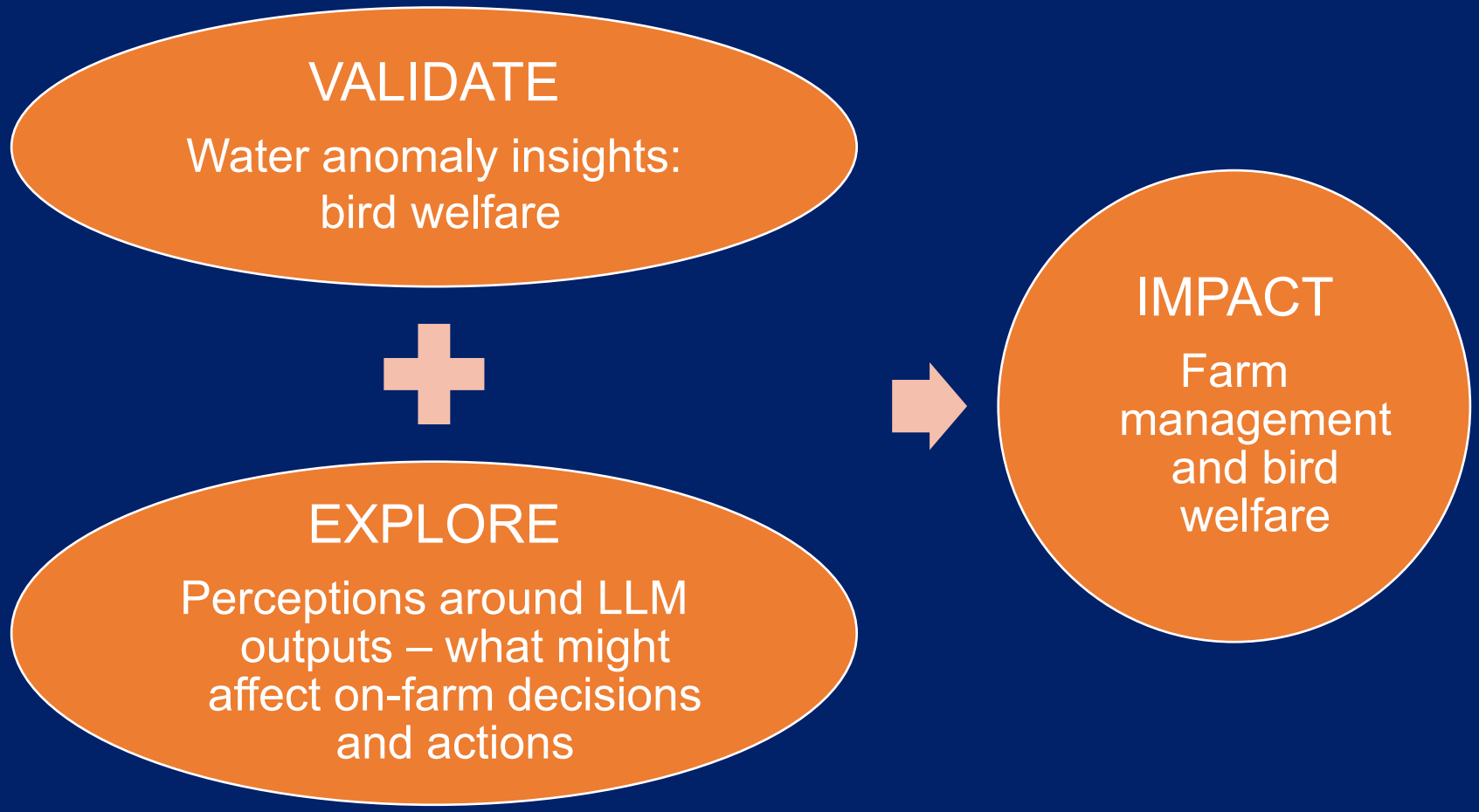
Optifarm in Poultry systems



Example LLM Priority statement

House 3 has the most factors negatively affecting trends in activity. Concerns most commonly occur during the time range of 1200-1400. The most common contributing factor is a reduction in internal humidity levels. Adjust the ventilation system

Project Aims



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Water anomaly data

Welfare outcomes at slaughter

Correlations with Hock Burn

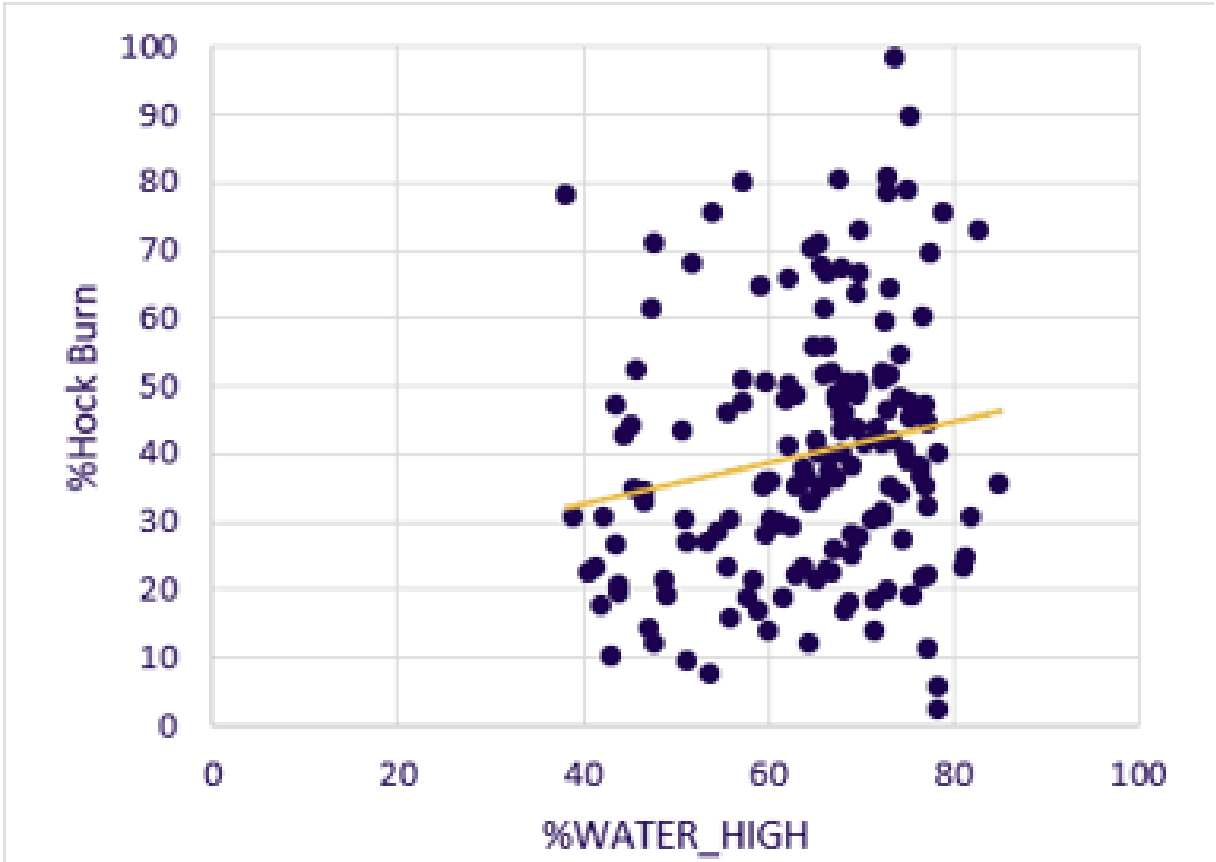

Figure1. Hock Burn vs %Water High - without outliers

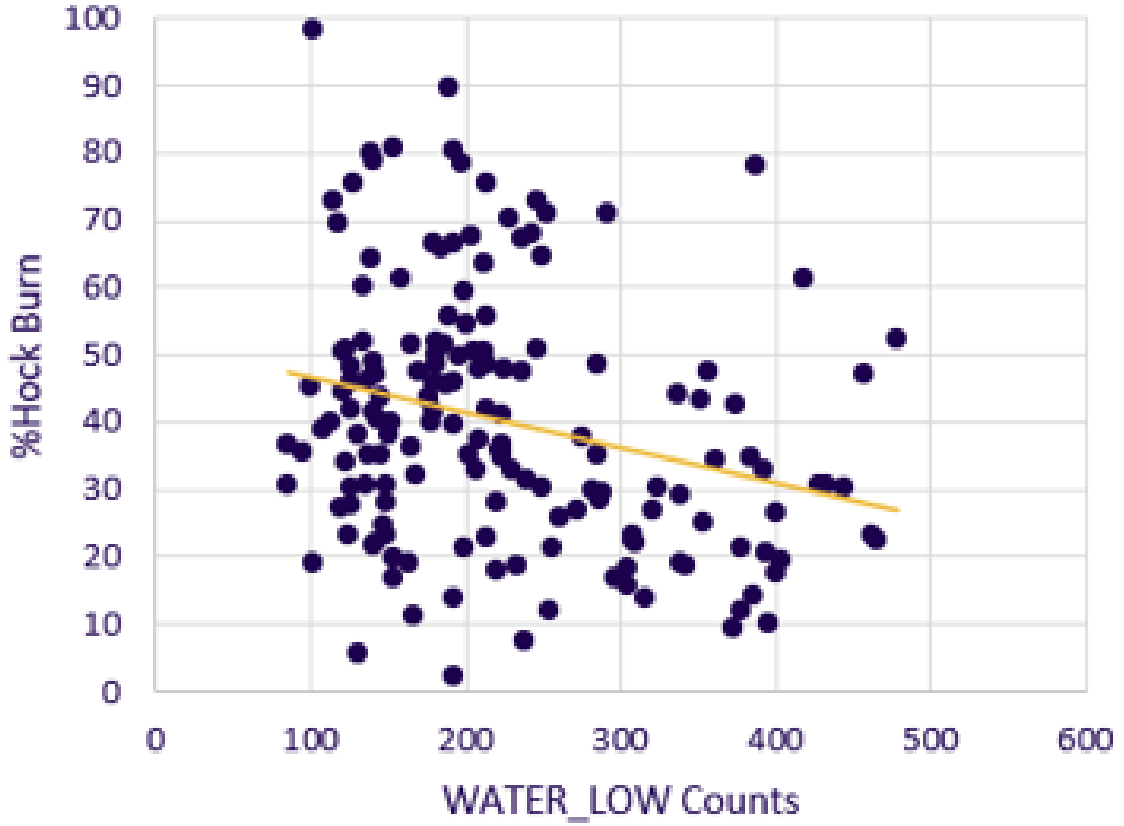

Figure 2. Hock Burn vs Water Low COUNTS - without outliers

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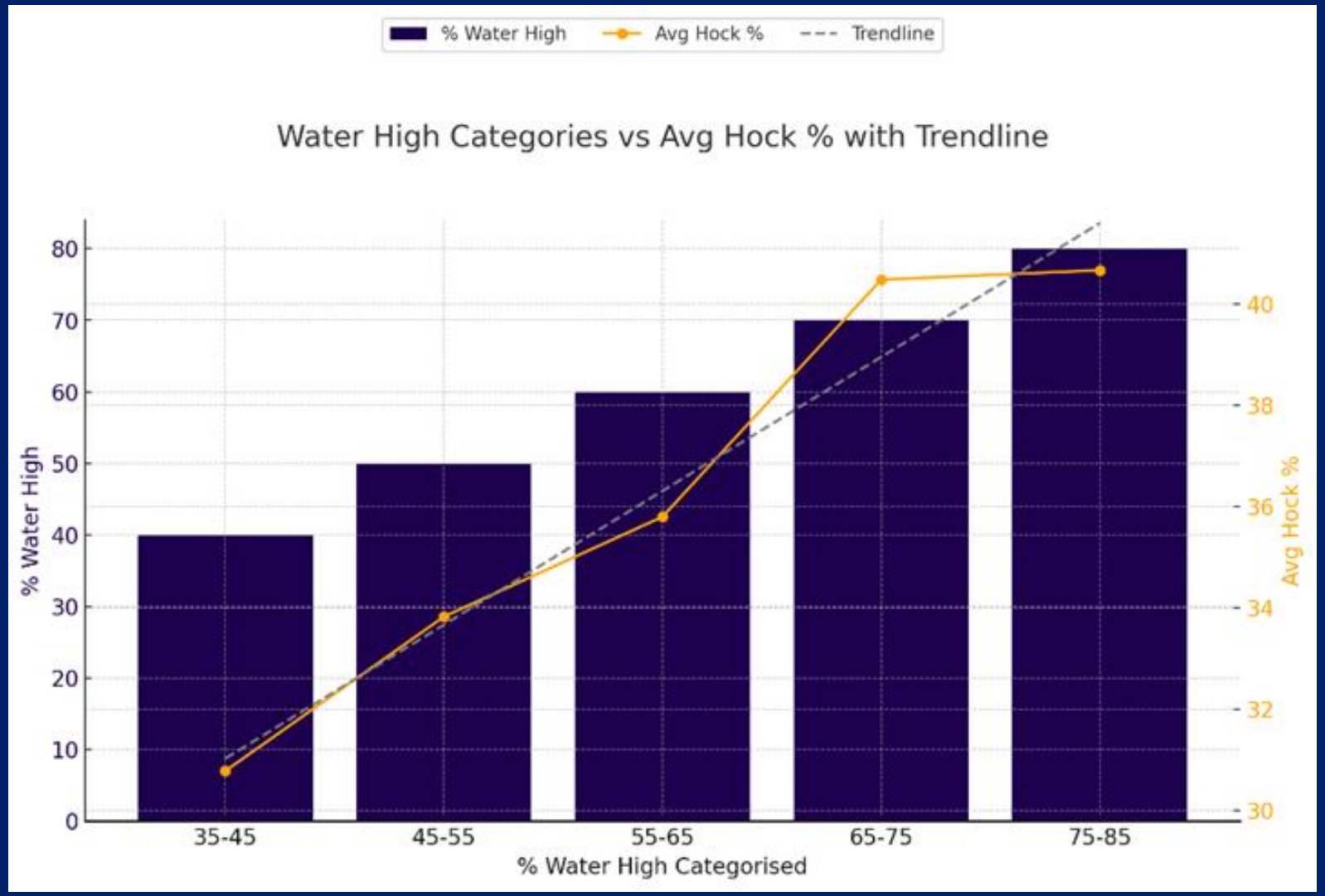
Corelations with Hock Burn



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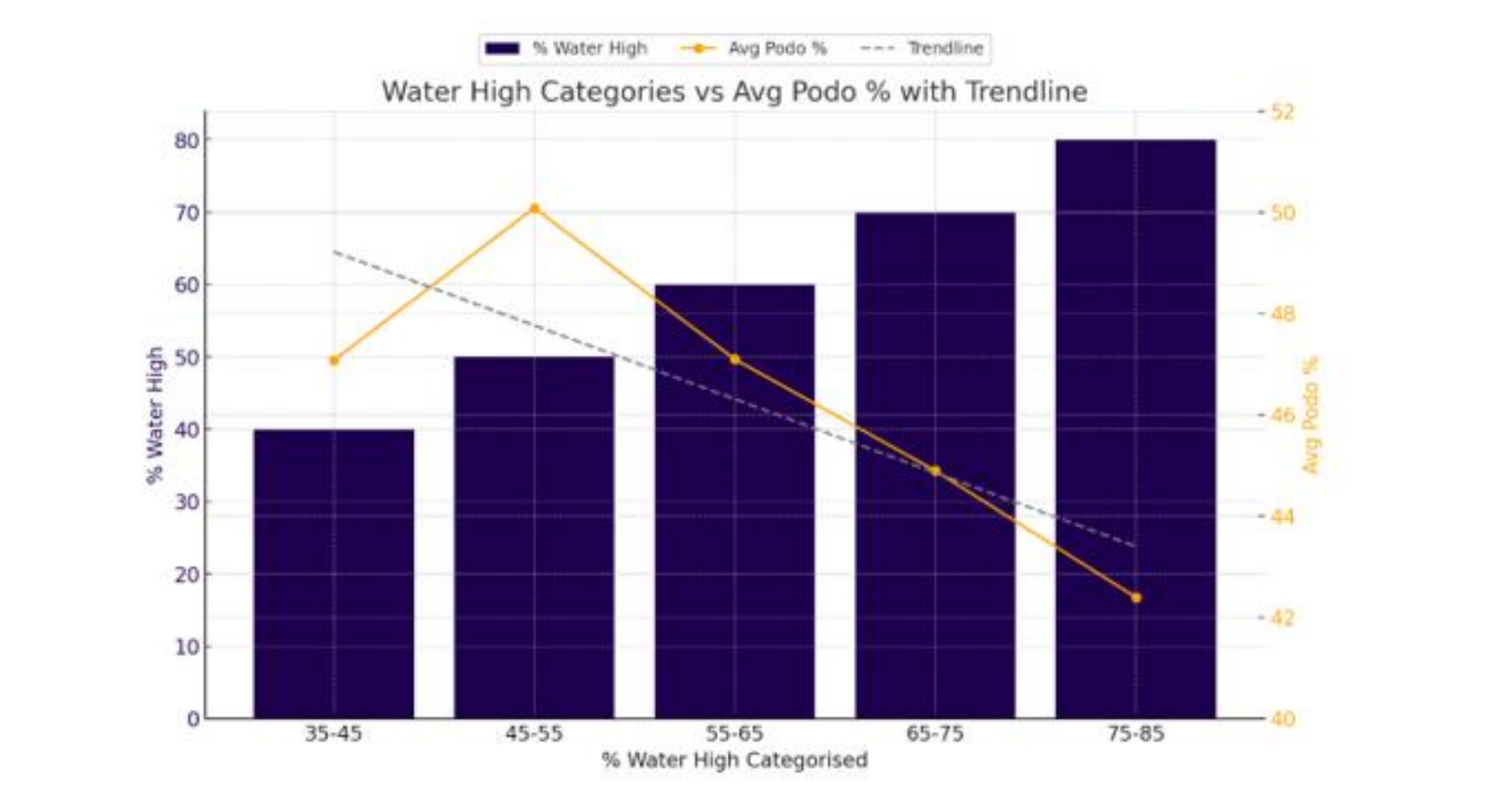
Correlations with Pododermatitis



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Large Language Models

LLM-informed management actions

LLM Challenges and Opportunities

Simplicity	Avoiding *'information overload'* Refining prompts for '*clear and concise'* outputs
Assist stockpersons	*'It's hard to get genuine feedback from the farm hands'* Focus efforts
Animal welfare	Human surveillance Incentives and penalties for action
User preferences and needs	*'People want to see the data the way they can absorb it better'* *'One of the biggest risks would be misinterpretation'*
Data as entertainment	*'With the language models … you're going to feel entertained by your own data in a way that makes you engage with it'*

Generative AI ‘Podcast’ based on farm data

Thank You

I welcome any questions

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