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FARM SYSTEM OPTIMISATION INSIGHTS

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Fonterra farmers currently receive reporting that provides key metrics and benchmarking along with access to services delivering Farm Environment Plans. This provides information of current state and knowledge about actions on farm to mitigate risk. What next? Fonterra will be providing additional insights to identify potential opportunity to improve efficiency on farm. The insights will provide data-based guidance as a tool to identify farms that would benefit from an on-farm visit to validate data then investigate actions, tools or support required to achieve improved efficiency.

There are 3 key components to the poster presented; Analysis, Insight and Support

1. Analysis

A unique benchmark will be developed for each farm that uses a geographical radius around the farm to provide local benchmarking. The number of surrounding farms will dictate the radius with 20km being the default. This can be extended to ensure a viable minimum number of farms to benchmark with is lower density areas.

The data used to benchmark is peer performance therefore influenced by a mixture of factors both under direct management control and fixed factors. Fixed variables such as soil type will be accounted for during the on-farm validation and assessment in the support phase. By doing this after the calculation it removes any assumption that the fixed variables are the limiting factor when they may not be.

The farm system has been simplified down to two processes: how efficiently pasture is produced and how efficiently total diet is converted to milk.

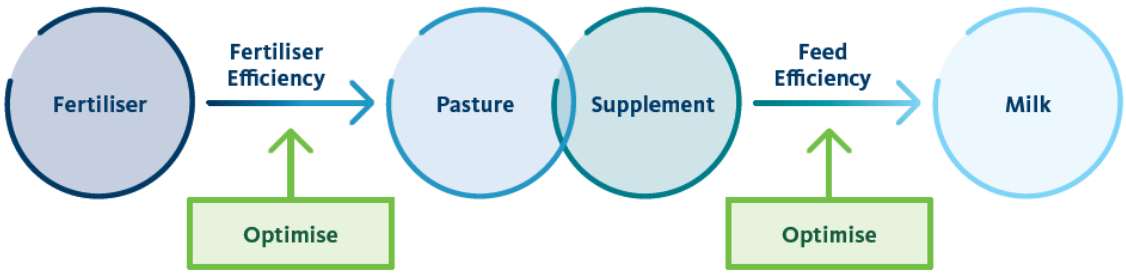

Diagram 1: Simplified farm system highlighting 2 key efficiency metrics to optimise

2. Insights

The first optimisation insight being reported is how efficiently pasture is produced as illustrated as "Fertiliser efficiency" in *Diagram 1*. By benchmarking purchased nitrogen fertiliser against pasture grown in a local region (default 20km radius) there is the opportunity to identify where more fertiliser is being applied per pasture dry matter grown. The reported insights are intended to be an indicator of potential opportunity with further on-farm analysis required to validate data and determine specific actions required case by case.

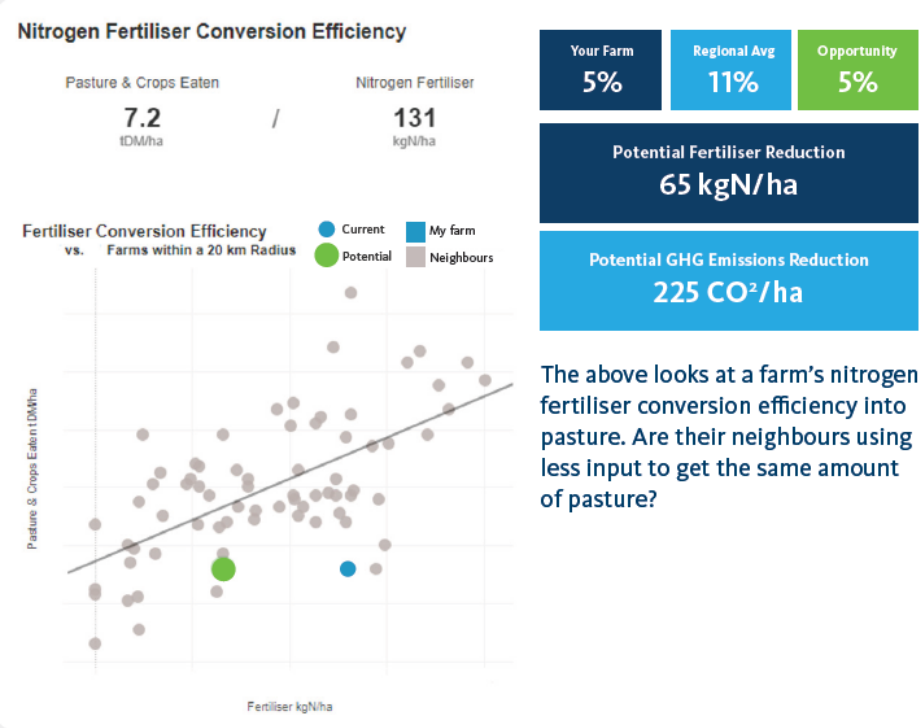

Diagram 2: Example of the fertiliser efficiency insight concept

3. Support

This is where the complex interactions between factors influencing pasture growth can be investigated by a suitably experienced person on farm. It is critical that a visual assessment and discussion on decision making accompanies the data and theory.

The support element requires a broad understanding of the farm systems and management decision making to provide the farmer with 2 or 3 key actions that could improve their efficiency. These actions may include referral to subject experts. The agriculture industry has

a vast amount of experience, tools and services that can be utilised when an opportunity to improve exists.

As an example, it may be that the pasture appears to be lacking clover therefore the advice is to get specialist advice for longer term planning allowing reduced use of purchased nitrogen. Is investment required in soil fertility to ensure the success of such a programme? What tools are available to ensure the plan is followed? There may be several subject matter experts contributing to the end goal of producing pasture more efficiently.

The inital support visit therefore requires a broad understanding and experience to prioritise the focus areas then utilise a collaborative approach of the wider industry to deliver solutions that will improve efficiency while also assessing any impact on production, financials, emissions and nitrogen surplus.

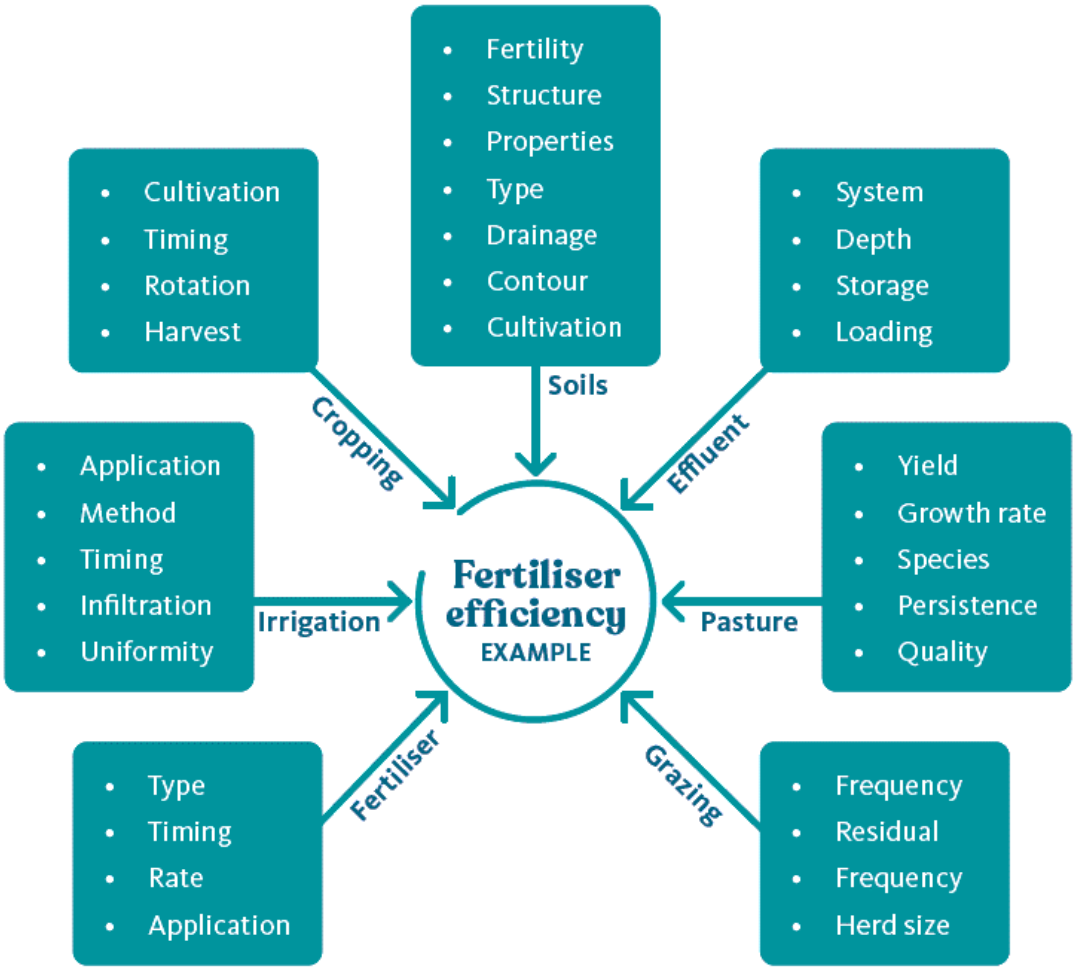

Diagram 3 : Example of some factors that might be influencing how efficiently pasture is grown.