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Tēnā koe Dr Loomis

Official Information Act (OIA) request: Clarification of synthetic fertiliser (nitrogen) use in New Zealand

Thank you for your email dated 28 March 2022 requesting under the Official Information Act 1982 (the Act) clarification on Stats NZ's [Indicator for Fertilisers – nitrogen and phosphorus](#).

Before addressing your questions, I would like to provide some explanation of the data:

- Graph 1 (*Nitrogen in fertiliser sold in New Zealand, 1991-2019*) and Graph 2 (*Urea fertiliser applied by dominant farm type, 2002-2019*) are derived from separate data, each with their own strengths and limitations, that do not fully reconcile.
- Data in Graph 1 is from the Fertiliser Association of New Zealand and is derived from sales records. It is likely to capture additional fertiliser use not shown in Graph 2, and also provides a close estimate of the nitrogen and phosphorous content in fertilisers sold (not provided in Graph 2). But as we cannot be certain that all fertiliser sold in a given year is used in that year (or at all), the figures provided in Graph 1 could lead to yearly totals of fertiliser use on land being overestimated.
- Data in Graph 2 is sourced from the Agricultural Production Survey and provides information about fertiliser actually applied to the land. The limitation with this data is that it does not include all agricultural land, because only farms that are GST registered and earn more than \$60,000 were included in the survey (and not all farms will complete the survey). This means that while Graph 2 may provide a more accurate annual figure for total fertiliser applied to the land than Graph 1, it will undercount the true New Zealand total.
- In addition, the data in Graph 2 does not allow us to calculate all nitrogen and phosphorus levels (as these are not captured separately in the survey).

Question 1: How much fertiliser of all types was applied to agricultural land in 2019?

Adding together all four fertilisers applied to agricultural land (urea, diammonium phosphate, ammonium sulphate and superphosphate) gives a total of 1,699,040 tonnes.

Looking at Graph 2 (Urea fertiliser applied by farm type, 2002-2019) you can view this figure by selecting compare 'over time' and then selecting 'all farm types' (under 'dominant farm type').

You can then switch between the different fertilisers (in the drop-down list under 'Fertiliser name') and hover over the 2019 data point. Adding the results together gives you the overall total.

Question 2: How much nitrogen (urea) fertiliser was applied to all agricultural land in 2019?

Graph 2 shows (under the view compare 'over time' and 'for all farm types') that 606,951 tonnes of urea fertiliser, and 279,197.5 tonnes of nitrogen from urea fertiliser, were applied to all agricultural land in 2019.

The total amount of nitrogen across all fertiliser types, applied to all agricultural land adds up to 334,992 tonnes. This figure can be reached by adding up the nitrogen totals for each fertiliser (urea, diammonium phosphate, ammonium sulphate) under Graph 2, using the drop-down list under 'Fertiliser name'.

Question 3: How much nitrogen (urea) fertiliser was applied to predominantly dairy land in 2019?

For context, the statistics in Graph 2 use an economic measure of farm type – farms that are “dominantly dairy” as shown in Graph 2 make their income predominantly from dairying, but this won't necessarily mean they are “predominantly dairy land”.

Graph 2 shows that 427,325 tonnes of urea fertiliser, and 196,569 tonnes of nitrogen from urea fertiliser, were applied to dominantly dairy farms in 2019.

The total amount of nitrogen across all fertiliser types applied to dominantly dairy farms (from urea, diammonium phosphate, ammonium sulphate) was 223,000 tonnes. (Note that adding up totals from individual farm types gives a slightly different total of 225, 591 tonnes – this is due to techniques used to maintain confidentiality).

If you are not satisfied with this response, you have the right to seek an investigation and review by the Ombudsman. Information about how to make a complaint is available at www.ombudsman.parliament.nz or 0800 802 602.

It is our policy to proactively release our responses to official information requests where possible. This letter, with your personal details removed, will be published on the Stats NZ website. Publishing responses creates greater openness and transparency of government decision-making, and helps better inform public understanding of the reasons for decisions.

Ngā mihi nui



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