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Frames used for agricultural and forestry surveys in New Zealand

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Agriculture and forestry are significant industries in New Zealand with official statistics having been produced for 150 years. The agriculture and forestry sector is a highly developed part of the formal economy, with all significant production being carried out by businesses, not households.

New Zealand has a well developed coordinated system of official statistics involving several government agencies. The majority of official statistics on agriculture, horticulture and forestry production are produced by the Ministry of Agriculture and Forestry, the Ministry for the Environment, and Statistics New Zealand. In addition, Meat & Wool NZ, a producer organisation, has produced statistics on livestock farming for over fifty years. More recently GIS technology has been used to produce land use statistics, especially plantation forest area.

Several population frames have been used over time for the collection and production of census and survey statistics on agriculture, horticulture and forestry production. These include land based registers, administrative (tax based) registers, farmer and grower lists, and combinations of these. Most statistics are collected by postal questionnaire, not enumerators or interviewers. Collections are a mix of full-coverage censuses and sample surveys.

The current Agricultural Production Census and Survey programme is undertaken by Statistics New Zealand. These censuses and surveys use the same business frame that is used for all business and economic statistics produced by Statistics New Zealand. Prior to this a separate land-based frame was used. The Ministry of Agriculture and Forestry carry out a range of forestry trade and production surveys using frames established and maintained specifically for these surveys. Meat & Wool NZ also use their own population and survey frame.

This paper will discuss the frames used and associated challenges, including: the transition from land based to administrative frames; coverage issues which may lead to double counting or undercounting production activity; frame updating and maintenance; and, issues arising when comparing statistics based on different frames.

Also discussed will be initiatives undertaken to check and improve frame quality. These include reconciliation and frame matching exercises involving those government agencies producing these statistics; and, the updating of Meat & Wool sample frames with Statistics New Zealand data from consenting farmers.