Measurement of the quantity and value of labour services provided by operators (or, synonymously, holders) to their farms is a task beset by data deficiencies and uncertainties about the value of these services. Unlike most firms, where workers and managers are paid wages and salaries and where data on hours worked are readily available, similar data for farm operators are lacking. While labour force survey data -- where they exist -- are useful, they tend to underestimate operator labour because they are based on the ‘main job’ which, for many operators, is their off-farm employment. The most reliable source of information is therefore an agricultural census, even though census questions typically exact responses about ranges of off-farm hours, rather than actual hours worked on the farm. Wage data for operators are not collected either by labour force surveys or censuses; this means that indirect methods must be used to value estimated hours worked.

In developing the AAFC production account for Canadian agriculture, the measurement of both operator and unpaid family labour has been carefully examined, using a range of approaches. From a quantity standpoint, this involves estimating hours with census of agriculture responses and these estimates are compared with the information available from labour force surveys and a less refined measure, namely the number of operators.

Valuation of operator labour services is measured using two different approaches. The first uses information on remuneration for typical off-farm occupations to arrive at an opportunity cost estimate; this in itself has drawbacks because fewer than 50% of operators actually work off farm. The second approach, and the one used in the AAFC production account, is to estimate returns to operator labour as a residual, i.e. as the difference between the value of gross output less the cost of all other inputs. This effectively measures the supply price, or ‘shadow value’ of operator labour. The two approaches offer quite different valuations of operator labour. The empirical importance of different approaches to measuring the quantity and value of operator labour are examined in the context of the AAFC production account. Preliminary results indicate that the reduction in labour hours using census data is more pronounced than the reduction in number of operators, with the implication that the latter measure leads to lower estimates of TFP growth. Results with alternative valuations show that, for the account to clear, operators must be accepting an ‘shadow’ wage for their farm work that is far lower than that received for off-farm labour. Since the adjusted off-farm wage and the shadow wage are similar, the residual and opportunity cost approach to valuing farm labour lead to similar TFP growth estimates.

This research indicates that quantification of operator labour for TFP measurement, while challenging, leads to insights that also have applications outside of the narrower issue of input measurement. This information can also be used when making decisions about social investments in farm-level programs, in infrastructure programs and in agricultural R&D.