

## Performance Measure Methodology

This section describes the methodology of each performance measure, including the calculation method, data source, data quality and review processes, and data limitations.

### Performance Measures 1.a and 1.b

- a Alberta's agri-food exports by market (\$ million) (United States; China; India; CETA member countries; TPP member countries, excluding U.S.; and the Rest of the World)
- b Alberta's agri-food exports by sector (\$ million) (Primary commodities; and Processed/manufactured products)

The results for these measures are derived from the monetary value of Alberta's agri-food products leaving the province through customs for a foreign destination market.

Measure 1.a reports the total value of Alberta's agri-food exports categorized by country or region of destination, where the country of destination is the last known destination of the agri-food products at the time of export.

Measure 1.b reports the total value of Alberta's agri-food exports categorized into primary commodities and processed or manufactured products.

Agri-food exports refers to domestic exports, which exclude re-exports and include primary commodities and processed or manufactured products. Primary commodities refer to all crops grown and livestock raised in Alberta that have not been materially transformed. Processed or manufactured products refer to processed crops and livestock products under broad groupings of food, beverages, animal feed, and inedible crude animal and plant products.

The ministry purchases export statistics related to agri-food from the International Trade Division of Statistics Canada. This data set provides detailed breakdown of agri-food exports originating from Alberta and valued at "Free on Board" port of exit from Canada. Canadian international export statistics are developed from administrative files of Canada

Border Services Agency and U.S. Border Protection. Information on Alberta's agri-food exports is compiled by the Statistics and Data Development Branch of Agriculture and Forestry.

Statistics developed from administrative records of Customs may understate or incorrectly portray the destination of exports or the province of origin. Inaccuracies of exports data often result from the attribution of exports on a province of lading basis rather than by province of origin. Export statistics are subject to revisions, with revisions being conducted by Statistics Canada on a monthly basis. In this report, revisions are made only in the case when the difference in annual value of exports is greater than 5 per cent.

CETA member countries include: Austria; Belgium; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Republic of Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Romania; Slovakia; Slovenia; Spain; Sweden; and United Kingdom.

TPP member countries (excluding the United States) include: Australia; Brunei Darussalam; Chile; Japan; Malaysia; Mexico; New Zealand; Peru; Singapore; and Vietnam. The "Rest of the World" represents all countries, excluding the United States, China, India, and member countries of CETA and TPP.



## Performance Measure 2.a

Percentage of wildfires contained before 10 a.m. the day following assessment

The number of wildfires contained by 10 a.m. the day following assessment is expressed as a percentage of all wildfires that occur during the fire season (April 1, 2015, to October 31, 2015). Wildfires in the province are thoroughly tracked for detection, assessment, control and containment logging time, and resources used. Early detection, assessment, and containment minimizes fire loss and reduces suppression costs.

Targets reflect the average of actual results from the five preceding years, including the current year (2015). Future targets are not listed in the ministry business plan because results for the current year are not available when the business plan is being prepared. In lieu of actual targets, the target setting procedure is disclosed.

## Performance Measure 2.b

Percentage of active provincial licensed abattoirs that provincial food safety slaughter requirements

The result for this measure is derived by dividing the number of active Alberta-licensed abattoir facilities that are compliant with the Meat Inspection Regulation by a base value of total number of active Alberta-licensed abattoir facilities.

All Alberta-licensed abattoir facilities (poultry, red meat abattoirs) receive animal slaughter inspections as part of facility and operating standards under the slaughter inspection program. Each active Alberta-licensed abattoir facility receives inspections at all scheduled slaughter days over the course of the year.

The animal slaughter requirements target food safety risk factors associated with: adequate hand washing, demonstration of knowledge, personnel hygiene practices, protection from contamination; slaughter equipment; cool time and temperature; and sanitation practices. The animal slaughter inspections are used to determine if an abattoir facility has met provincial animal slaughter requirements for the reporting calendar year.

This measure only reports compliance to inspections related to animal slaughter requirements under the Meat Inspection Regulation. Each active Alberta-licensed abattoir facility receives a compliance designation for each food safety risk factor: Compliant, Requires Improvement, or Non-Compliant. Requires Improvement indicates low food-safety risk.

Non-Compliant indicates that slaughter practices and/or operating procedures (such as repetitive occurrences of low-risk food-safety incidences) create a high food-safety risk or a poor food-safety culture. A corrective action request is issued for all non-compliant ratings; abattoirs are expected to address areas of non-compliance.

An active abattoir facility that receives either Compliant or Requires Improvement for all components of all slaughter inspections is deemed compliant for the inspection period. An active facility that complies with the *Meat Inspection Regulation* at all slaughter inspections is deemed to have met provincial food safety slaughter standards for the entire reporting calendar year.

An active abattoir facility that receives one or more corrective action requests for any slaughter day inspection is deemed not to have met the *Meat Inspection Regulation* for the entire reporting calendar year. Active facilities that comply with the *Meat Inspection Regulation* for some (but not all) slaughter day inspections are not counted as having met provincial food safety animal slaughter requirements. As a result, the performance result likely understates the level of compliance among active Alberta-licensed abattoir facilities.

Data for this measure is collated from the ministry's Meat Inspection Program.

### Performance Measure 3.a

Average percentage of improved environmentally sustainable agriculture practices adopted by producers (biennial survey)

The result for this measure is derived from 40 environmentally sustainable agriculture (ESA) practices that could be used to address soil conservation, water management, wildlife habitat conservation, energy management, climate change adaptation, agricultural waste management, and grazing and manure management.

An eligible ESA practice (or group) for the base calculation is based on farm type, farm site characteristics, and operation practices. The percentage of eligible environmentally sustainable agricultural practices adopted by each respondent is multiplied by a weighting factor to generate a weighted adoption score for each respondent. The result of this measure is the average weighted adoption score of all respondents expressed as a percentage.

The target population for this survey is based on a list of commercial farmers in Alberta maintained by Ipsos Reid Corporation. The random and representative sample size was 500, providing a margin of error in provincial results of  $\pm 4.4$  per cent at a 95 per cent confidence level. The response rate was 14.2 per cent.

Data limitations include: producers that are not included in Ipsos Reid Corporation's database (the source of the survey list); non-contactable subscribers (due to privacy legislation compliance); unreachable samples (due to wrong telephone numbers, answering machine, busy, no answer, etc.) and non-response; and disqualification due to failure to answer a required screening question.

Additional information can be found in Agriculture and Forestry's 2016 Environmentally Sustainable Agriculture Tracking Survey.

### Performance Measure 3.b

Sustainable timber harvest by:

- Annual allowable cut (million cubic metres)
- Harvest (million cubic metres)

Results reflect Alberta's ability to manage forests on Crown land in a sustainable manner. Annual allowable cut (AAC) is the amount of timber that can be harvested on a sustainable basis (in accordance with the policy of sustained yield) within a defined planning area. Recreation areas, wildlife reserves, and stream buffers are excluded from the AAC calculation.

The AAC is determined on either an individual forest management unit basis or a specific forest management agreement area basis. Information is stored in a database and summed to determine the total AAC for the province.

AACs are developed by forest management agreement (FMA) or FMA holders as part of their detailed forest management plans. An FMA is an area-based tenure

agreement between a forest company and the Government of Alberta that gives a forestry company the right to establish, grow, and harvest timber. The ministry approves the company-recommended AAC following a technical review; ministry staff develop AACs for other forest management units.

Data from the Timber Production and Revenue System is used to determine the provincial harvest level (actual timber harvest). Certain volumes are not included in the harvest level for the purpose of comparability to the AAC. For example, fire salvage is not included in harvest levels if it does not contribute to the AAC. A five-year rolling average is used to report provincial AAC and actual timber harvest levels and results lag by one year.

### Performance Measure 3.c

Percentage of forest regrowth as a result of reforestation

The rate of forest regrowth is the percentage of targeted regrowth achieved on harvested areas at the time of last mandated assessment. This measure ensures reforestation continues to sustain Alberta's public forests and forest lands following industrial harvesting. Monitoring reforestation in relation to regeneration standards is an essential part of continued forest sustainability and demonstrates efforts that Agriculture and Forestry staff perform to sustain Alberta's forest resources.

The current forest regeneration assessment system utilizes detailed data and assesses sufficiency of the harvested areas' reforestation status. Two approaches are used either by assessing the measure's status relative to a fixed point-in-time standard, or by forecasting the growth rate of the reforested trees relative to the growth rate assumed for that forest type in the Forest Management Plan for the area. The regrowth rate measure reports a single metric combining both systems of assessing regeneration performance.

### Performance Measure 4.a

Number of value-added products developed and successfully introduced into market with assistance from Agriculture and Forestry

The result for this measure is derived from the total number of written confirmations provided by industry clients for products that were developed with assistance from the ministry and successfully introduced to market.

Value-added products include value-added food, beverage, and bio-industrial products and new crop varieties. Introduced to market refers to a product that has obtained a listing at retail or food service, domestically or internationally, as well as

products that have been sold as ingredients for further manufacturing. Ministry staff assist industry clients in one or more of the following areas: product formulation, shelf-life, packaging, sensory evaluation, marketing and commercialization.

The number of new products confirmed by industry clients are aggregated and reported for this measure. The data is collated from program areas within the ministry that are engaged in project development and commercialization.

## Performance Measure 4.b

Research and development investment by collaborators leveraged through ministry resources

The result for this measure is the sum of expended dollars from outside sources leveraged through ministry investment in research and development in four priority areas: value-added processing; livestock development; crop diversification; and environmental stewardship. Outside sources or collaborators include: industry organizations; private companies; universities; government departments; and agencies.

Research and development is creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge and to use this knowledge in new applications. The central characteristic of research and development is an appreciable element of novelty and it involves scientific investigations resulting in new knowledge, products, or processes.

The reported result was collated from data supplied by ministry program areas that are involved in research and development activities. A standardized questionnaire collects information on a division's fiscal year research and development expenditures and expended amounts received from outside sources. An expended amount is an aggregate amount of revenue that has been used to offset part or all of project expenses.

Data on in-kind contributions from collaborators is not included in the calculation of this measure. As a result, the performance result likely understates the true amount of leveraged resources invested by collaborators. Measures of in-kind contributions are less reliable, as they are based on estimates that can be subjective.

## Performance Measure 5.a

Total investment leveraged in rural businesses facilitated through AFSC lending services

Farms and commercial business investments in rural areas are added together and reported as total dollar investment (all sources are included whether it is direct from AFSC, other sources of debt, business owner's equity, or investment by a third party). This amount excludes all loans that were approved in the 2015-16 fiscal year and subsequently cancelled or withdrawn on or before March 31, 2016.

Dollar investment is any fund (i.e., debt, equity, investment) that would be used to support the growth of farming and commercial activities. Total leveraged

investment is a proxy for the total dollar investment as a result of AFSC's involvement with the facilitation of capital investment in agri-business and farm loans for farming and/or commercial activities outside Calgary and Edmonton.

Total dollar investment in rural businesses is a proxy value for investment based on loans approved. Values reported are affected by timing differences between approval and disbursement of loans approved. As well, not all approved loans are disbursed. The data is collated from AFSC's lending activities.

## Performance Measure 5.b

Percentage of eligible seeded acres for major crop categories insured under Production Insurance:

- Annual Crops
- Perennial Crops

Annual crops are seeded every year. The annual crops included in this measure are: wheat (winter wheat, spring wheat, and durum wheat); oats; barley; fall rye; mixed grain; flaxseed; canola; corn for grain; dry peas; triticale; dry coloured beans; lentils; mustard seed; chick peas; sugar beets; and fodder corn.

Perennial crops do not need to be seeded every year and last for several years. Perennial crops are made up of seeded pasture, native/natural pasture, and tame hay.

The total eligible seeded acres for the annual crops insured under the crop insurance program is divided by the corresponding total seeded acres for annual crops, as reported in Statistics Canada's November 2015 Field Crop Reporting Series (released on December 4, 2015). The result is then expressed as a percentage. The corresponding eligible seeded acres of annual crops insured under the crop insurance program is supplied by Agriculture Financial Services Corporation.

The total eligible seeded acres for the perennial crops insured under the crop insurance program is divided by the corresponding total for seeded and native pastures (Census of Agriculture 2011, Statistics Canada) and tame hay pasture (November 2015 Field Crop Reporting Series, Statistics Canada, released on December 4, 2015). The result is then expressed as a percentage. The corresponding eligible acres of perennial crops insured under the crop insurance program is obtained from Agriculture Financial Services Corporation.

Estimate for land (in acres) seeded to annual crops in Alberta is taken from Statistics Canada's November 2015 Field Crop Reporting Series. This Statistics Canada publication also provides a detailed methodology to the field crop data. The November estimate provides the most recent information available on seeded acreage in Alberta.

The Census of Agriculture is collected every five years, so acres may change during that time.

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