

Update

Ministry

Agriculture and Irrigation

Describe: Basic Job Details
Position

Position ID

~~88000003~~

Position Name (30 characters)

Crop Statistician

Current Class

Agrologist Level 2

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

~~6488~~

Cost Centre

~~00000~~

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

TIFS, TEDA, Statistics and Data Development

~~X Crop Statistics and Data Development~~

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Director

Supervisor's Current Class

Senior Manager (Zone 1)

Design: Identify Job Duties and Value
Changes Since Last Reviewed

Date yyyy-mm-dd

2022-12-01

Responsibilities Added:

Very minor changes due to organizational structure.

Responsibilities Removed:

n/a

Job Purpose and Organizational Context

Why the job exists:

Reporting to the Director of Statistics and Data Development Section in the Intergovernmental and Trade Relations Branch, the Crop Statistician is responsible for the areas of crop/environmental statistics and related statistical programs for Agriculture and Irrigation (AGI). The crop statistician provides various products and services to a wide spectrum of industry stakeholders, including agricultural producers and their organizations, national and international grain/products merchandisers/brokers, financial institutions, agri-food processors and many others in the primary and secondary

industries. Other clients include AGI Minister and staff, MLAs, Statistics Canada, Agriculture and Agri-Food Canada and many other government agencies and organizations. Some products are also used extensively by the media for public awareness (e.g. Alberta Crop Report).

The crop statistician provides statistical expertise/support to national and provincial statistical programs related to crops and environmental statistics. With a wide latitude for working independently and under minimum supervision, the crop statistician performs a key role in the department in identifying/addressing data/information needs, development/ designing and implementing new statistical initiatives, and generating/compiling statistical measures/indicators for major crops, fruits/vegetables, forages/forage seeds and environmental indicators/data. In liaison with Statistics Canada/other stakeholders, the crop statistician reviews survey methodology, statistical indicators/parameters and provides input to national statistical programs, such as Statistics Canada's Field Crop Reporting Series and Agriculture and Agri-Food Canada's national forecast of farm income. The crop statistician is responsible for generating forecasts of statistical data/information related to crop area, yield and production (often in a complex and uncertain environment). The crop statistician also provides analytical reports/briefings for the Minister and Executive/Senior Managers for major Statistics Canada releases of crop statistics.

Responsibilities

1. Develops, leads and manages initiatives of statistical programs/projects to address emerging high priority statistical and information needs for crops.

Activities

- Plays a key leadership role in evaluating and managing the operation of AGI's Crop Report Program, in cooperation with AFSC and Alberta Association of Agricultural Fieldmen. Media and government/industry stakeholders use the crop report information extensively for public awareness, business/program planning and development and drought monitoring.
- Develops/designs and implements new initiatives to target information gaps on crop use and development, i.e., estimates of Alberta greenfeed and silage production. These initiatives provide the needed information for industry/government stakeholders to address issues and develop strategies. This information is not available from Statistics Canada/other sources.
- Conduct appropriate surveys to address data gaps as needed (e.g. Custom Rates).

2. Establishes methodology, generates statistical estimates and conducts econometric analysis to provide clients with essential and timely statistical reports/measures/indicators on crops, used for business and program planning and development.

Activities

- Generates projections/forecast of farm income, in cooperation with Agriculture Canada. These are also used by AFSC to develop provincial forecasts of program/insurance payments.
- In partnership with other AGI staff, prepares the forecasting of Alberta exports of primary grains/oilseeds for Alberta Treasury Board and Finance in developing budget and business plans.
- Provides econometric or detailed statistical analysis of economic factors to help measure and evaluate effectiveness of government programs, such as crop insurance.

3. As a representative of AGI, provides input/recommendation to national statistical/information programs, in cooperation with Statistics Canada, Agriculture and Agri-Food Canada and other government/industry stakeholders.

Activities

- Reviews methodology and statistical indicators/parameters, and provides input and recommendations on estimates to be published in Statistics Canada's national Field Crop Reporting Series (April, June, August, October and December) and Fruit and Vegetable Production (January and June).
- Reviews methodology and statistical information, and provides input and recommendations on national forecast of farm income, in cooperation with Agriculture and Agri-Food Canada, Statistics Canada and other stakeholders.
- Reviews/validates data and provides comments and recommendations for the national Farm Environmental Management survey, in cooperation with Statistics Canada, Agriculture and Agri-Food Canada, and AGI.
- Reviews methodology and provides input and recommendations to Statistics Canada on inter-censal revisions of major/specialty crops, vegetables and fruits, based on benchmark data from the Census of Agriculture.
- Liaises with AFSC, producer organizations, commodity marketing boards, processors, grain companies and other industry/government stakeholders, and gathers data and information for grains and oilseeds grown.

- Collaborates with industry in the development of benchmark statistics for Alberta potato industry for use by Statistics Canada and Agriculture and Agri-Food Canada.
 - Develops estimates of yield, grade and quality, etc., for major crops in Alberta, which serves as a validation tool for Statistics Canada.
- 4. Prepares analytical reports and briefings for the Minister and Executive/Senior Managers to develop appropriate government policy/programs, in cooperation with other AGI staff.**
- Activities
- Prepares advice and Implications of grains/oilseed production and inventory statistics, in cooperation with Competitiveness and Market Analysis Section, for the Minister and Executive/Senior Managers. This provides the latest statistics and its implications for commodity prices, farm cash receipts/farm income, marketing and international trade as well as analysis of impact on industries beyond farm gate, such as grain handling, transportation and processing.
 - Prepares analytical reports on issues as needed (e.g. US Farm Bill), in cooperation with other AGI staff, for the Minister and Executive/Senior Managers. These reports provide background information, interpretation, and analysis of potential impact on agricultural industry in Alberta in both short and long-terms, and recommendations for actions and strategies.
 - Prepare analytical reports as needed on issues impacting the crop industry in Alberta, in partnership with Competitiveness and Market Analysis Section, for the Minister and Executive/Senior Managers. This provides background information, current status, projection for the future and recommendations for actions and strategies.
- 5. Compiles surveys/statistical reports related to crops and environmental sustainability to provide essential data/information for planning/development of policy/programs and research initiatives/strategies, market analysis, economic research and fostering improvement of environmental stewardship.**
- Activities
- Prepares Agri-Food Statistics Update of crops area/yield/production on a need basis. The update provides the latest crop statistics available and an analysis of potential impact on commodity prices, farm cash receipts and farm income in Alberta.
 - Compiles survey data regarding greenfeed and silage production in Alberta, analyzes and develops provincial estimates for publication.
 - Compiles statistical reports related to environment to foster improvement of environmental stewardship, based on results of Statistics Canada's national Farm Environmental Management Survey and Alberta's efforts to generate/improve environmental statistics.
 - Performs analysis and provision of crop related statistics to Section publications such as the Agriculture Statistics Yearbook, Agriculture Statistics Factsheet and Agriculture Facts.
- 6. Manages/leads projects and provides management support to Section as needed.**
- Activities
- Manages/leads, with the assistance of partners, department projects/programs, where required.
 - Supervises project/program staff and provides technical mentoring/coaching.
 - Acts as Section Director as needed, managing daily operation and high priority data or information requests.
- 7. Provides an advisory role on statistical expertise/skills and participates actively in initiatives and projects of industry and government.**
- Activities
- Participates actively in and provides statistical expertise to a cross industry/government initiatives to address existing and emerging issues related to crops and environmental statistics through generating/compiling statistical measures/indicators or by conducting surveys/analysis/research.
 - Participates actively in and provides statistical expertise in support of AGI's crop initiatives to meet increased needs for data/information (e.g. drought scenarios).
 - Provides statistical expertise and contributes to national and provincial statistical programs, in cooperation with Statistics Canada, Agriculture and Agri-Food Canada and other stakeholders.
 - Provides statistical information to Ministry/Cross-Ministry initiatives such as State of Industry, Alberta Official Statistics, Land Use Framework, etc., on a need basis.

8. Responds to client requests for data/information in areas of crops and environmental stewardship, including those from the public media.

Activities

- Provides input to media through Communications and Public Engagement, as needed, during the crop season as another communication tool related to the Alberta Crop Reporting Program.
- Responds in a timely and accurate manner to numerous requests for data/information in areas of crops and environmental statistics.

9. Special projects and duties assigned, including provision of cover-off for Section Statisticians.

Activities

- Provide cover-off for section statisticians, including responding to data requests from clients in a timely manner (e.g. livestock, farm income, manufacturing sales, employment, GDP, etc.).
- Under direction of Senior Statistician, assist with the collection and validation of government expenditures for Ministry submissions to Federal Government in support of Alberta's agri-food industry.
- Contribute data and information to support Section/Branch/Ministry projects and initiatives (e.g. State of the Industry; Office of Statistics and Information; etc).
- Attend training courses, workshops and seminars for continued professional development.
- Member of SADD Section Survey Services Team (e.g. assists in questionnaire review/design, determining sample size; identifying data gaps; etc.).
- Other duties as assigned (e.g. data entry and validation for AGDATA database).

Problem Solving

Typical problems solved:

- Provides leadership to encourage industry and government stakeholders to work collaboratively on AGI's statistical and information programs. Examples include the cooperative Alberta Crop Report Program with AFSC and Alberta Association of Agricultural Fieldmen; and the Alberta Custom Rates Surveys with input/contribution from AGI staff and industry stakeholders.
- Designs and leads/manages implementation of new statistical initiatives to address emerging high priority data/information needs from industry and government stakeholders. The latest initiatives include generating (1) estimates of greenfeed and silage production in light of dry conditions experienced in Alberta and (2) grade or quality estimates of major crops in Alberta.
- Coordinates and manages statistical programs related to crops and environmental statistics, supervises program/project staff and provides technical coaching/mentoring.
- Applies statistical theory and techniques to national/provincial programs, and provides statistical expertise, reviews statistical parameters/indicators and makes recommendation to national/provincial statistical and information programs, in cooperation with Statistics Canada, Agriculture and Agri-Food Canada and other stakeholders.
- Links crop production and grain inventory levels with commodity prices, farm cash receipts/farm income, marketing/trade and processing incorporates economic/market analysis into statistical reports for the Minister, Executive/Senior Managers to assist department policy and program planning and development.
- Uses econometric modeling as a tool to provide correlation/regression analysis of economic factors to measure and evaluate effectiveness of government policy and programs.
- Uses statistical skills/expertise to produce statistical/survey reports.
- Responds to requests and provides data and information to clients from Alberta, other provinces, US and other parts of the world.
- Maintains ongoing dialogue with industry and government stakeholders, especially commodity/producer organizations, to be aware of issues and concerns in the agricultural industry, especially in terms of data and information needs.

Types of guidance available for problem solving:

The Crop Statistician is routinely confronted with difficult problems, questions and requests from staff and clients which require strong expertise and knowledge of statistical theory, survey and research methods, and/or data and information sources, their uses and limitations. While the position is supervised by the Section Director, the Senior Statistician position routinely provides oversight, guidance, coaching and mentoring to the incumbent. Section leadership continually provides guidance and expertise surrounding confidentiality, ministry direction, and review of reports, briefings, etc.

Direct or indirect impacts of decisions:

The Section provides its statistical services to a broad range of clients, including the office of the Minister, Executive Team, other Ministry staff, other Governments (Federal/Provincial/Municipal), producers, private industry, educational and financial institutions and the public at large. The Section is also the official source of agri-food industry statistics for the Minister and Ministry staff. The statistics collected, collated and reported in the form of outputs, products and services (expertise/data interpretation) affect the entire department, as they are used in day-to-day work, decision-

making and strategic planning.

The job provides interpretive, advisory and other important support services for use by others (internal/external clients), in achieving results. In this regard, there is a need for a high degree of accuracy, timeliness, reliability and accessibility to data and information. As well, industry, service providers, other departments and other governments and the general public use the data and information to aid in their decision-making. Jointly with Statistics Canada and Agriculture and Agri-Food Canada, there is a responsibility to collect and use data under the auspices and requirements of the Statistics Act of Canada and FOIP. Inaccurate data and information could result in the misrepresentation of facts, resulting in inappropriate decision making by clients, both internal and external to the Ministry. This inadvertently negatively impacts the Ministry's relationship with its stakeholders, including industry, and a loss of the Ministry's credibility.

Key Relationships

Major stakeholders and purpose of interactions:

Internal:

Statistics and Data Development Section: Position provides assistance to Section Director as required; provides responses to satisfy technical questions relating to crops from staff, and provides guidance towards branch crop surveys. Provides analysis, recommendations and briefings to the Director as needed.

Trade, Economics and Data Analytics Branch: Position provides statistical expertise and shares crops information to assist staff to deliver quality products and services to clients. Provides analysis, recommendations and briefings to the Branch Executive Director and other Section Directors as required.

Communications and Public Engagement: Interactions are continuous in the provision of crop data and analysis for use in speeches and in responding to requests from the Minister's Office, media and other stakeholders.

Minister and AGI Executive Team: Position ensures that Minister and Ministry Executive Team is informed of relevant crop statistics through briefings, Ministerial Action Requests, etc.

Other AGI staff: Position provides expertise and services in crop statistics and contributes data and information to Ministry initiatives and projects.

AFSC/Alberta Association of Agricultural Fieldmen: Joint partnership in the delivery of the Alberta Crop Reporting Program.

External:

Government of Alberta (GOA) Office of Statistics and Information: Position provides crop data and information, as needed, to support initiatives, and provides support to the Section Director with duties relating to the Office of Statistics and Information.

Statistics Canada: Position collaborates with Statistics Canada, under the guidance of the Director, regarding the development of Alberta crop statistics. This includes Work-in-progress consultations, methodology discussions and generation of provincial estimates.

Agriculture and Agri-Food Canada: Joint work on farm income forecasts (summer and winter).

All Canadian provinces: Collaboration, where necessary, for the purpose of ensuring common approaches, and sharing unique data and information such as the Alberta Crop Report.

Potato Growers of Alberta: Joint partnership in the development of potato stock estimates for Alberta, for posting on Agriculture and Agri-Food Canada InfoHort database, for the benefit of industry and other stakeholders.

Private Sector/Industry: Position provides accurate and timely crops statistical data and information, including reports and specific information (data tables, charts, explanatory notes and text, etc.), to meet client's needs.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Other	Science	

If other, specify:

Agriculture, agriculture economics, statistics, data science, statistics, or any other related field.

Job-specific experience, technical competencies, certification and/or training:

- Minimum BSc in agriculture, preferably a major in agricultural economics. MSc is desirable.
- Eligible for or a member of the Alberta Institute of Agrologists (AIA).
- An excellent understanding/knowledge of statistical theory and techniques, which may include survey design, sampling techniques, interpretation of statistical parameters, assessment of quality/reliability of statistical indicators and making recommendations for provincial/national programs/publications.
- A strong knowledge of statistical analysis, regression/correlation analysis and econometric modeling.
- Strong background in agricultural economics, including production economics, marketing/international trade.
- A good understanding of Statistics Canada's national survey operation and information/data collection system.
- A good knowledge of agricultural industry in Alberta and Canada, particularly structure and stakeholders in agricultural production, marketing, handling/transportation, consulting, research and information services.

- Familiar with agricultural programs and policy in Alberta, Canada and the United States.
- A good knowledge of agronomy/crop science, particularly in areas of crop growth/development, tillage, crop rotation, weeds/pests management, development/control of crop diseases and seasonality of pasture growth.
- A sound knowledge of primary agriculture practices for both dryland and irrigation production.
- Effective coordinating, leadership and supervisory skills.
- A strong background in computing and familiarity with software, database management, spreadsheets, data visualization and econometric modeling (e.g. M365, Power BI, R, Python, etc).
- Good public relations and media skills.

Behavioral Competencies

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p>Takes a long-term view towards organization's objectives and how to achieve them:</p> <ul style="list-style-type: none"> • Takes holistic long-term view of challenges and opportunities • Anticipates outcomes and potential impacts, seeks stakeholder perspectives • Works towards actions and plans aligned with APS values • Works with others to identify areas for collaboration 	Position is able to generate, forecast, project statistical data and information in a complex and uncertain environment; anticipates changing data needs and collaborates with others to meet new goals (e.g. Alberta Crop Report seasonal changes); work with colleagues in Section, Branch, etc., to develop and communicate relevant benchmark and crop industry statistics for the benefit of clients.
Creative Problem Solving	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p>Engages the community and resources at hand to address issues:</p> <ul style="list-style-type: none"> • Engages perspective to seek root causes • Finds ways to improve complex systems • Employs resources from other areas to solve problems • Engages others and encourages debate and idea generation to solve problems while addressing risks 	Applies statistical theory and techniques in provincial and national statistical programs and initiatives; effectively assess, identify data and information needs/gaps and design and implement new initiatives; collaborate with industry stakeholders in the discussion and consideration of issues and opportunities of mutual interest.
Agility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<p>Proactively incorporates change into processes:</p> <ul style="list-style-type: none"> • Creates opportunities for improvement • Is aware of and adapts to changing priorities • Remains objective under pressure and supports others to manage their emotions 	Position performs effectively and meets deadlines in a multi-task environment, often under tight time constraints; identifies opportunities to be innovative and be responsive to system changes; able to shift to emerging priorities.

		<ul style="list-style-type: none"> • Proactively explains impact of change on roles, and integrates change in existing work • Readily adapts plans and practices 	
Develop Networks	○ ○ ● ○ ○	<p>Leverages relationships to build input and perspective:</p> <ul style="list-style-type: none"> • Looks broadly to engage stakeholders • Open to perspectives towards long-term goals • Actively seeks input into change initiatives • Maintains stakeholder relationships 	<p>Coordinate, lead, or manage projects with many partners, contributors, and stakeholders involved; Gather information and manage projects through liaison with numerous government and industry stakeholders; with Director, collaborate with federal government (e.g. Statistics Canada and Agriculture and Agri-Food Canada) to achieve shared statistical outcomes and in shaping both our individual and collective agendas relating to crop statistics.</p>
Build Collaborative Environments	○ ○ ● ○ ○	<p>Collaborates across functional areas and proactively addresses conflict:</p> <ul style="list-style-type: none"> • Encourages broad thinking on projects, and works to eliminate barriers to progress • Facilitates communication and collaboration • Anticipates and reduces conflict at the outset • Credits others and gets talent recognized • Promotes collaboration and commitment 	<p>Ensures effective collaboration with internal and external stakeholders such as AFSC, federal government (e.g. Statistics Canada and Agriculture and Agri-Food Canada) and industry (e.g. Potato Growers of Alberta); provide crops expertise with an Alberta focus to a wide range of audiences (internal/external) in addressing industry challenges and opportunities.</p>
Develop Self and Others	○ ○ ● ○ ○	<p>Plans according to career goals and regular development:</p> <ul style="list-style-type: none"> • Aligns personal goals with career goals • Leverages strengths; attempts stretch goals • Provides feedback and openly discusses team performance • Values team diversity, and supports personal development 	<p>Actively identifies and attends relevant training courses, workshops and seminars for continued professional development; involved with the development of area operational business plans and their individual performance agreement; practice a culture of a positive and productive work environment.</p>

Drive for Results	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Takes and delegates responsibility for outcomes: <ul style="list-style-type: none"> • Uses variety of resources to monitor own performance standards • Acknowledges even indirect responsibility • Commits to what is good for Albertans even if not immediately accepted • Reaches goals consistent with APS direction 	Goals and priorities are clearly stated to ensure successful outcomes; understand and address challenges through problem solving and honest dialogue with supervisor and colleagues; has a strong understanding of Ministry goals and how the position is able to contribute towards high level outcomes.
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Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

Employee Name

Date yyyy-mm-dd

Employee Signature

Supervisor / Manager Name

Date yyyy-mm-dd

Supervisor / Manager Signature

Director / Executive Director Name

Date yyyy-mm-dd

Director / Executive Director Signature

Date yyyy-mm-dd

ADM Signature