



Applied Livestock Genomics Program (ALGP)
A Joint Genome Alberta and Alberta Livestock and Meat Agency
Initiative

April 15, 2010

Guidelines

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INTRODUCTION AND BACKGROUND

Genome Alberta

Genome Alberta is an independent not-for profit corporation that invests primarily in large-scale genome sciences research projects and technology platforms focused on areas of strategic importance (e.g. human health, forestry, plant and animal agriculture, energy, and environment). By working collaboratively with government, universities, and industry, Genome Alberta is the catalyst for a vibrant, life sciences cluster with far reaching social and economic benefits for Alberta and Canada. As such Genome Alberta is an important partner with Alberta Innovates, Alberta's newly realigned research and innovation system designed to strengthen the province's role as a world leader in using science to seek solutions. To date, the organization has managed a research program with approved budgets of over \$85 million. Please view www.genomealberta.ca for more information.

Alberta Livestock and Meat Agency

The Alberta Livestock and Meat Agency Ltd. (ALMA) is a catalyst organization that was developed as a result of the Alberta Livestock and Meat Strategy. This Strategy was announced in June 2008 and is a roadmap for real change. Industry, ALMA, Agriculture Financial Services Corporation and Alberta Agriculture and Rural Development share responsibility for its implementation. ALMA is rolling out a \$30-million package of programs designed to spur innovation and diversification in Alberta's livestock and meat industry. Three grant programs will be delivered by ALMA; the focus is on research and development; industry development; and commercialization. These programs and others are part of ALMA's commitment to be a catalyst for change and to help build an internationally respected, competitive, profitable livestock and meat industry. For more information on ALMA please visit www.alma.alberta.ca

Applying Genomics to the Future of Alberta

Genome sciences¹ hold great potential to address many of the critical challenges facing Albertans today, from the health of our environment and citizens to the growth of our economy. Genome Alberta is investing in several Projects and Programs that are of strategic importance to the Province to expand our existing capabilities in translating discovery science to everyday life. One such initiative is the *Applied Livestock Genomics Program (ALGP)*

Applied Livestock Genomics Program

In January 2010 the Alberta Livestock and Meat Agency (ALMA) and Genome Alberta held discussions about the potential for Genome Alberta to deliver a genomics research program to deliver the genomics research capacity to help build an internationally respected, competitive, profitable livestock and meat industry, in the form of an Applied Livestock Genomics Program (ALGP). The ALGP will support national or international applied Research Projects for up to 3 years. Genome Alberta will fund up to 100% of approved eligible costs, up to a maximum of CDN \$500k per Research Project². Research Projects are encouraged to leverage this funding

¹ Genomics (the study of the complete genome of an organism, i.e., all hereditary information encoded in the DNA), proteomics (the study of the full or partial set of proteins encoded by a genome), metabolomics (the study of the metabolite pools of an organism), and related areas of research (collectively known as "genome sciences").

² In the event Genome Canada issues a Request for Applications in the Spring of 2010, with Livestock Genomics as an eligible research area, Genome Alberta may adjust the timelines and process for the ALGP to align with the Genome Canada timelines and process to allow investigators to take full advantage of this leveraging opportunity.

with other sources of funding (not Genome Alberta or ALMA). A Research Project proposal where the investigators propose to participate in a larger (inter) national effort are strongly encouraged. Genome Alberta expects applicants to demonstrate a return on its investment in research through benefits to Alberta including the commercialization of research results for the co-benefit of Alberta and Canadian Livestock producers and the value added food sector.

Eligibility

The ALGP is open to researchers based at provincial, national or international research institutions and private industry. Proposed research projects must be led or co-led by an Alberta or Canadian Investigator. All proposed research projects must be collaborative and must clearly demonstrate support from, and benefit to end users. End users must be clearly integrated into the project and their support must take the form of one or more of the following: (i) project (co)-leader or co-applicant; (ii) funder; (iii) collaborator.

To be eligible for consideration under the ALGP funding, the project must:

- Be of strategic importance to the Alberta, Canada and/or the international community;
- Align with the Alberta Livestock and Meat Strategy (see <http://www.alms.alberta.ca/alms/app113/almspage1a.html>).
- Involve a national or international collaboration and have international prominence.

Eligible Research Areas

The eligible ALGP research areas are:

1. Genomics supported Expected Progeny Differences (EPD's) for bovine or porcine (including potential marker validation studies)
2. Genomics of livestock health
3. Genomics assisted traceability for bovine or porcine

Proposals for projects that meet the above criteria will be accepted and reviewed through a combined (inter) national peer review/due diligence process outlined in these Guidelines. The review process may be adjusted or revised by Genome Alberta.

Summary of the Time frames

- 1) Competition launch April 15, 2010
- 2) Letter of Intent due May 17, 2010
- 3) Decision on eligibility of Letters of Intent May 24 , 2010
- 4) Invitation for full proposal development May 25, 2010
- 5) Full proposals due July 15, 2010
- 6) Funding Decisions around October 1, 2010
- 7) Expected start date of the Research Projects December 15, 2010

SUBMISSION AND REVIEW PROCESS

In addition, the total ALGP contribution in a Genome Canada Project, towards ALGP eligible research areas can be larger than \$500k and up to a maximum of 25% of the total Genome Canada Project value.

There is a two-stage application process for the ALGP:

1. Initial contact with Genome Alberta and provision a Letter of Intent (LOI) to determine eligibility, assess the level of interest in the competition and recruit the appropriate reviewers for the full proposal; and;
2. Submission of a Proposal.

Letter of Intent (LOI) Submission

Applicants who are interested in submitting a proposal must contact Genome Alberta to initiate the application process. Following initial contact with Genome Alberta, potential applicants will be asked to complete an LOI. This LOI is to be a brief, focused overview of the proposed project including the project's goals, objectives, methodology and consortium participants.

Genome Alberta will invite full proposals from applicants whose LOIs meet the eligibility criteria

Applicants must submit a signed electronic copy on before **May 17, 2010** to:

algp@genomealberta.ca

The LOI will be used to (i) ascertain interest in the ALGP program; (ii) select projects for the development of proposals; (iii) provide guidance for selecting reviewers of the Proposal; (iv) identify overlaps or synergies, such that applicants of separate projects may be encouraged to explore the possibility of applying as a single collaborative project.

Letter of Intent Evaluation Criteria

The project must:

- Make effective use of genome sciences;
- Have an Alberta or Canadian lead investigator;
- Target one or more of the Eligible Research Areas (see above);
- Be of strategic priority to Alberta and align with the Alberta Livestock and Meat Strategy;
- Have end user support/commitment as described above (see Eligibility);
- Have the potential for near-term (3-5 year) impact and applicability to Alberta's economy;
- Include experts and other groups working in the area of the proposed research; and
- Demonstrate sound managerial and financial processes.

Genome Alberta, in consultation with subject experts, will evaluate the LOIs for eligibility

Outcome of LOI Review

Applicants will be notified on/before May 25, 2010 as to the decision whether or not they will be invited to submit a full proposal.

Proposal Development, Preparation and Submission

Genome Alberta staff will work closely with the applicants as they develop their ALGP proposals to provide advice on programmatic development and assist in the development of appropriate governance structures and funding models. Genome Alberta staff will in parallel, engage in

discussions with other potential other funders (if applicable) and, in some cases, collaborate with those funders in jointly developing the international peer review process. The proposal template will be made available to applicants by email, and must be used. Proposals must address the evaluation criteria described in Appendix 1 to this document.

Proposals must be received by Email (or CD if file is too large) with signatures of all applicants **on/before July 15, 2010.**

They should be sent to:

Alberta Livestock Genomics Program
Genome Alberta
#115, 3553 – 31 Street NW
Calgary AB T2L 2K7
algp@genomealberta.ca

All proposals must be clearly marked: **Applied Livestock Genomics Program**. Upon receipt, proposals will be reviewed for completeness by Genome Alberta. We will notify applicants if their proposal is incomplete and give applicants 24 hours to provide the missing information. Incomplete proposals and those not conforming to the template will not be reviewed further.

Proposal Review

The proposals will be reviewed for scientific and technical excellence, relevance and applicability to Alberta Livestock and Meat Strategy (<http://www.alms.alberta.ca/alms/app113/almspage1a.html>) in a combined peer review/due diligence process.

Proposal Evaluation Criteria

To ensure that the ALGP goals are met and that the proposed research has a significant impact on the sector, reviewers will be asked to address, and score each of the following four major criteria:

1. Scientific and technical excellence. Projects with clear national and/or international collaborations and industry participation are highly encouraged;
2. Relevance and applicability to the Alberta Livestock and Meat Strategy, including commitment from end users;
3. Investigator expertise and commitment; and
4. Management and financial feasibility.

Successful Proposals

The project titles and contact information for successful proposals may be posted on the Genome Alberta website (www.genomealberta.ca). By submitting a proposal, applicants authorize Genome Alberta to make such postings.

Financial Accountability and Reporting

For eligible costs associated with the research please refer to Appendix 2. All approved projects are required to maintain information necessary to enable Genome Alberta and possibly other funders to assess the ongoing performance of the projects and their activities. Genome Alberta will put in place mechanisms to assess the ongoing performance of all funded projects in order to determine from time to time whether funding should be continued, reduced, suspended, or cancelled:

1. All funded projects will be required to provide Genome Alberta with annual scientific reports, within 45 days of the period end, outlining project progress, issues and delays, and actual results as compared to milestones and budget.
2. Participating Institutions will be required to provide quarterly financial statements to Genome Alberta.
3. An annual review process will be established whereby project progress will be assessed by Genome Alberta.

It is the responsibility of the investigators leading the applied genomics projects to ensure that sufficient records and supporting documentation are maintained and are available for review and audit for a period of three years after the completion of the project.

Final Reports

Within three months of the completion of the work, each project will be required to submit to Genome Alberta a final report that describes, at a minimum, the accomplishments of the project, a final financial report that reconciles actual expenditures with amounts budgeted and received, the current state of any outcome developed as a result of Genome Alberta funding, and a plan that outlines the activities that could be undertaken to further develop the technology to application within a two year time frame.

Conditions for Release of Genome Alberta Funds

The Terms and Conditions of Funding will be issued subsequent to project approval by Genome Alberta. The following are the minimum requirements to allow for the disbursement of Genome Alberta's quarterly contributions:

1. Signed research agreements between Genome Alberta, the lead organizations (private, government, and academic), the researchers, and the co-funders (if applicable) that establish the resolution of major areas and the roles and responsibilities of each party, such as contributions, IP ownership and management, data protection and release, a commercialization process, project management, funding term, termination policy, accountability and reporting, progress reviews, management of funds, financial policies, etc;
2. Budget and milestones and their compliance with funding eligibility criteria, in accordance with the recommendations of the reviewers as approved by Genome Alberta;
3. Appropriate certification for research involving animals, biohazards, radioactive materials, or possible effects on the environment and ethics review for research involving human subjects; and
4. A clearly defined IP policy and plan for data protection, sharing of resources

created by the project, and publication of results. IP created or acquired as part of a funded ALGP Project will belong to the researchers by whom the work was completed and/or their Institutions, as the case may be. There will be an expectation that results from an ALGP funded project will become public through patent filings, research publications and submission of genomics data to genomics databases such as Genbank.

Project Readiness

All applicants must demonstrate that they will be in a position to receive Genome Alberta funding within two months from the Notice of Funding. *Genome Alberta reserves the right to withdraw its funding for any approved project that is not ready to receive funding, or for which signed agreements as described above, have not been secured, within two months from the Notice of Funding.*

Management of Funding

Genome Alberta will provide funding up to the approved annual contribution, at the beginning of each year in accordance with the approved budget. Subsequent annual advances will be adjusted to account for any unused funding of previous years.

GENOME ALBERTA CONTACT

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www.genomealberta.ca

APPENDIX 1. EVALUATION CRITERIA AND GUIDELINES

See the proposal template for a description of the required contents for each section.

Scientific and Technical Excellence

1. The project needs to contain a national and/or international component with demonstrated excellence and including investigators with good track records
2. The proposed research needs to demonstrate excellence, including:
 - a. Does the project challenge existing paradigms or address an innovative hypothesis or critical barrier to progress in the sector?
 - b. Methods and the proposed analyses of data, such as:
 - Are the conceptual framework, design, methods, statistical, and bioinformatic analyses adequately developed, well integrated, well reasoned, and appropriate to the aims of the project?
 - Discussion of anticipated difficulties and consideration of alternatives, including the cost-effectiveness of the genome sciences approaches being proposed (other approaches or technologies may be more cost-effective)
3. The project needs to demonstrate:
 - a. A plan for handling the scientific data (data protection, data release, publication);
 - b. That the research builds on existing strengths and expertise in genome sciences research;
 - c. The quality of the scientific environment in which the work will be done;
 - d. The appropriateness of the technology platform(s) and/or other technologies chosen to support the project; and
 - e. That this is not an infrastructure-building project
4. Are the proposed objectives, goals, milestones, and critical path feasible?
5. Research ramp up needs to be shown, including a timetable and corresponding milestones
6. The proposal needs to describe the relevance and impact of anticipated results on the success of the sector.

Strategic Relevance and Applicability to Alberta, Canada and/or the International Community

1. Does this study address Alberta, Canada or international bovine or porcine sector priority needs?
2. Is there adequate end user support of the project? End users must be clearly integrated into the project and their support must take the form of one or more of the following: (i) project (co)-leader or co-applicant; (ii) funder; (iii) collaborator (including provision of in-kind support such as collection and/or provision of samples); (iv) member of the management team
3. What will be the effect of this project on making Alberta's bovine and porcine industries more competitive?

4. Is there a feasible plan to transfer, disseminate, use, and/or apply the potential deliverables from the research within five years following the completion of the project?
 - a. Can the proposed research be translated effectively to users?
 - b. What is the probability that the deliverables will be applied within the required time frame?
 - c. How effective are the data protection (e.g., IP) strategies and plans? For example, is there an IP policy in place or in draft form, which addresses issues such as management versus ownership; the sharing of benefits with the researchers, host organizations, the expected outputs in terms of publications and patents filed; the costs of patent filing and protection
5. How could the application of research results contribute to job creation and economic growth in Alberta, Canada, and internationally and/or impact on society, quality of life, health, the environment, and public policy?

Investigator Expertise and Commitment

1. Applicants should demonstrate that the proposed project is a national and/or an international, research collaboration.
2. Applicants should demonstrate that the Project Leader, co-applicants, organizations, and other team members:
 - a. Are appropriately trained and have demonstrated leadership and scientific excellence, particularly in this type of research initiative. This could include a description of the training and/or track record of the applicant(s) for the proposed research or the importance and originality of the recent productivity of the applicant(s), especially with regards to genomics- or proteomics-related problems;
 - b. Are well integrated as a group and include both end users and academic collaborators;
 - c. Have demonstrated skills in successful collaboration; and
 - d. Have a serious commitment to the project in terms of dedicated time and the amount of resources applied to it.

APPENDIX 2. FINANCIAL GUIDELINES

Genome Alberta does not have a co-funding requirement for this Competition; however proposals that are able to leverage existing funding sources are strongly encouraged.

Eligible Costs

Eligible costs are defined as reasonable and incremental costs for items that directly support the objectives of the Genome Alberta approved project. Budgets must **NOT** include items for which funding has already been approved from other sources, unless the request for funding was specifically made to support the Genome Alberta project and meets all other eligibility criteria.

Eligible costs may include the following:

1. Salaries:
 - Salaries and benefits for researchers, trainees, technicians, management (e.g., part time research manager). Note that salaries of researchers or senior management who are currently funded by their respective organizations are not considered eligible costs)
2. Operating costs, i.e., day-to-day expenses incurred in conducting the research, such as laboratory supplies (e.g., microtitre plates, pipette tips), administrative supplies (e.g., paper, photocopying), other consumables, etc.
4. Costs for any communications and public outreach activities (to be incurred by Genome Alberta) related to the project.
5. Equipment, specimens, scientific collections, computer hardware or software, information databases, communications linkages, and intangible property used or to be used primarily for conducting the project. The opportunity cost of using existing infrastructure may not be included as an eligible cost
6. Reasonable and low administrative costs. Administrative costs, including project management salaries, must **not** exceed five percent (5%) of the total project budget (calculated as total budget less administration costs)
7. Inflation rate costs:
 - Inflation for salaries, not to exceed two percent (2%) of total salary and benefits, for salary expenditures in years 2 and 3 of the project
 - Note that inflation rate cannot be applied to consumables, equipment, general & administrative or services from S&T platforms.