**ANNEX 1 – Agriculture and Agri-food Research Themes and Policy Questions**

Proposed research projects should fall under at least one of the following themes:

1. Structure and Performance
2. Markets and Trade
3. Innovation
4. Environmental Sustainability
5. Consumer Demands

1. ***Structure and Performance:***

*Analyzing the impacts of organization and structure of agri-food supply chains on farm and firm level structure, performance and competitiveness of the agriculture and agri-food sector.*

*Key words: Value Chains, Supply chains, Food and Beverage Processing, Risk Management, Supply Management, Indigenous Agriculture, Labour Issues, Investment in Agriculture & Food Processing, Value Added, Sector Resilience, Consolidation*

*Examples of related policy questions of interest:*

* What are the barriers in Canada to adding value or increasing competitiveness/productivity and how can the barriers be addressed? How can we accelerate growth in the agriculture and agri-food sector?
* How can we increase investments, including foreign investments, in the Canadian food processing sector and enhance the industry’s competitiveness as a whole?
* What are some effective policy options for indigenous food production in Canada?

1. ***Markets and Trade:***

*Address a wide range of issues related to domestic and international markets, such as regulations, market access, technical barriers to trade, free and regional trade agreements, foreign direct investment, and their impacts on the Canadian agriculture and agri-food sector.*

*Keywords: Trade Agreements/Negotiations, Value Chains, Supply Chains, Market Access, Price Discovery, Transportation, Investments, Subsidies, Interprovincial Trade*

*Examples of related policy questions of interest:*

* What are the potential impacts of increased protectionism or regional versus bilateral trade agreements on the Canadian agriculture and agri-food markets and on trade?
* How do we measure and what is the effect of non-tariff trade barriers on Canadian agri-food exports to priority markets?
* What are the existing interprovincial trade barriers and what are their effects on the performance of the agriculture and agri-food sector?
* What are the factors enabling/limiting Canadian companies’ decisions to export agriculture and agri-food products to priority markets?

1. ***Innovation:***

*Analyzing and understanding the various facets of innovation, impediments to innovation, and identify government policy changes needed to foster greater innovation throughout the agri-food value chain.*

*Keywords: Research and Development (R&D), Technology Adoption and Implementation, Innovation Adaptation, Commercialisation, Productivity Growth, Disruptive Technologies, Public and Private Funding*

*Examples of related policy questions of interest:*

* What is the role and structure of Public Private Partnerships (PPP’s) to enhance private sector investment in R&D and accelerate innovation?
* What are the returns on R&D by agriculture and agri-food sub-sector and what are the implications for policy?
* What are the impacts of artificial intelligence and other advanced or disruptive technologies in the Canadian agriculture and agri-food sector?

1. ***Environmental Sustainability:***

*Analyzing the impacts of agricultural production and food manufacturing on the whole supply chain, the economy and the environment.*

*Keywords: Climate Change, Extreme Weather Events, Pest Management, Food Loss and Waste, Greenhouse Gas (GHG) Emissions, Water/Soil Quality and Preservation*

*Examples of related policy questions of interest:*

* What would be the impact on the various components of the value chain of a reduction in food waste at the post farm gate level?
* What are the regional impacts of climate change on the supply chain, and the optimal mitigation and adaptation options?
* What are the impacts of carbon pricing on competitiveness?

1. ***Consumer Demands:***

*Analyzing issues around consumer demands for agriculture and agri-food products including the factors affecting demand, as well as the development and effectiveness of policies and regulations to address information asymmetry, consumer trust and consumer willingness to pay for food quality attributes.*

*Keywords: Public Acceptance, Science, Communication & Education, Standards & Regulations, Plant Health, Animal Welfare, Human Health, Organic Production, Genetically Modified Organisms (GMO, Gene Edittion.*

*Examples of related policy questions of interest:*

* What would be the impact of lab created meat or other emerging disruptive technologies on the Canadian food supply chain based on consumer acceptance level?
* What are the lessons learned from GMO’s that could serve to introduce new technologies?
* How do we create a bridge between specialists in new technologies and the public?
* How have social license issues affected the behaviours of key agriculture and agri-food sectors?