

Call for Proposals for Research Grants

The Alberta Land Institute announces a Call for Proposals for its research grants competition. The deadline for receipt of applications is **APRIL 29, 2022**. We expect that successful applicants will be notified by MAY 20, 2022.

About Alberta Land Institute

The Alberta Land Institute (ALI) is an independent research institute based at the University of Alberta. We are committed to research that supports and enhances land use policy in the province of Alberta and beyond. Sound policy development should be informed by thorough consideration of costs and benefits – economic, social and environmental. ALI's work focuses on the changing landscape and the ways that planning and policy design can ensure the long-term sustainability of Alberta's agricultural sector, its water and its natural areas. Current and completed research projects conducted or supported by ALI can be viewed online at <https://www.albertalandinstitute.ca/research/research-projects>.

Research Categories

The Alberta Land Institute funds and conducts research in the following three categories.

Discovery Research: Research undertaken to identify and examine emerging and future issues critical to the Institute's mandate. Successful proposals in this category will articulate broad research questions, inform long-range policy development using different disciplines and theoretical perspectives, and offer or inspire new information or innovative solutions to land use and land use management problems. Multiyear proposals may be considered in this category.

Policy Research: Projects focusing on a specific issue of immediate and critical concern to ALI's stakeholders, providing concrete analysis of policy alternatives, land use instruments, etc., and supported by comprehensive academic research. The primary purpose of projects in this category is to fill knowledge gaps and support decision making in Alberta.

Educational Projects: Projects aimed at translating and transmitting existing or new ALI or other relevant knowledge beyond the academic community in order to shed light on issues specifically relevant to ALI's partners and stakeholders and to support public discussion and policymaking in Alberta.

Research Areas

ALI is currently prioritizing three research areas: Sustainable Agriculture: Soil Health; Land Use, Resilience, and Environmental Risk; and Ecosystem Service Markets. The theme of this call for research proposals falls under Sustainable Agriculture and is part of the Institute's Soil Health Initiative (see below). Research proposals which are not focused on soil health but advance ALI's priority areas may be submitted after consultation with ALI's Research Director.



Selection Process

Applications will be pre-screened by ALI staff and reviewed by a Research Advisory Committee. Upon the recommendations of the Research Advisory Committee, the Research Director will make the final decision on the awards. All prospective applicants are invited to contact ALI's Research Director, Eran Kaplinsky, by email at eran.kaplinsky@ualberta.ca in order to discuss the suitability and scope of the proposal prior to formal submission.

Requirements

Applicants must submit a completed application form along with a Tri-Agencies personal data form for themselves and for each Co-Investigator. Application forms, guidelines, and additional information are available at: <https://www.albertalandinstitute.ca/research/call-for-proposals>. Please review the guidelines carefully before completing the application form. Applicants must submit one PDF file containing all required information and documentation on or before the deadline to: albertalandinstitute@ualberta.ca

The following must be submitted within two months of project completion (i.e., by August 30, 2023 for one-year projects) for publication on the ALI website:

- A Final Report describing the research methodology, findings, and conclusions, as well as – and in a substantive manner – the policy issue that the research addresses and the implications of the report for policy and/or practice. The Research Director may set out other reporting requirements.
- A short (2–4 pages), non-technical summary of the final report.

Subsequent applications will only be considered if satisfactory final or interim progress reports of all previous and existing ALI grants have been fulfilled prior to the new application.

Any published work that is derivative of the research supported by the grant must acknowledge the financial support received from the Institute. ALI must be provided with a copy of any publications.

Please refer to the attached Grant Guidelines and Application for further information on the application process.

Contact

Inquiries regarding the nature of the project can be made by email to eran.kaplinsky@ualberta.ca. All other inquiries may be addressed to: albertalandinstitute@ualberta.ca Please clearly indicate the nature of your email in the subject line.



2022 CALL FOR PROPOSALS

The Alberta Land Institute is accepting for consideration research proposals in the Sustainable Agriculture research area, specifically focused on our Soil Health Initiative. Through this research initiative, ALI aims to strengthen public policy and improve producer and other land user practices in the area of soil health. ALI is particularly interested in proposals that will explore the ways in which regulatory and economic policy promotes or hinders soil health and sustainable agriculture.

Prospective applicants are strongly encouraged to discuss their proposals with ALI before submitting a formal application.

1. Sustainable Agriculture: Soil Health Initiative

Albertans feel a strong tie to the land, and the province is fortunate to have an abundance of agricultural lands. However, the health of Alberta's soil is at risk due to climate change, rapidly growing urban and peri-urban areas, and a continual push for economic growth.¹ Alberta's resilience in the face of these threats is directly related to the quality of our soil. The loss and degradation of productive soils jeopardizes the value of agricultural land and Alberta's food security for future generations.² Maintaining sustainable and healthy soil is also important for carbon sequestration and biodiversity.³ Recognizing that soil is a non-renewable resource on anthropogenic time scales is imperative when managing agricultural and natural lands.⁴ Thus, the concept of soil health has emerged as a holistic framework to assess and manage the agronomic and environmental functions of soil.⁵

Sustainable management of agricultural soil is particularly important for Alberta; not only is the agriculture sector vital for provincial economic well-being, accounting for 1.2% of Alberta's Gross Domestic Product⁶, agriculture also serves as a source of identity for producers and communities⁷. The management of soil is complex, as it is a private resource but its degradation and loss are a cost to society.⁸ Policy tools can encourage the adoption of beneficial management practices for soil health.⁹ In Alberta, particular concern exists about the contamination and degradation of agricultural soils.¹⁰ Further, although it has slowed since its peak in 1984-1992, agricultural land conversion continues at a concerning rate, and the resulting

¹ Alberta Land Institute, "Breaking Down Silos: Advancing the Soil Health Research Agenda" (22 January 2019).

² Alberta, Alberta Agriculture and Forestry, *Food Security in the Context of Agricultural Land Loss in Alberta: A Policy Research Document* (Edmonton: Government of Alberta, 2017). <https://open.alberta.ca/dataset/7fefa49b-a668-457a-8996-7ca567f02685/resource/65b162c7-5b9e-4d61-b9f4-f483f9e0b574/download/food-security-ab-ag-land-loss.pdf>.

³ Eric C. Brevik et al, "Connecting the public with soil to improve human health: Connect public with soil to improve human health" (2019) 70:4 *Eur J Soil Sci* 898–910.

⁴ Ronald Vargas Rojas et al, "Healthy soils: a prerequisite for sustainable food security" (2016) 75:3 *Environ Earth Sci* 180, s12665-015-5099–7.

⁵ Rattan Lal, "Soil Health and Climate Change: An Overview" in Bhupinder Pal Singh, Annette L. Cowie & K. Yin Chan, eds, *Soil Health and Climate Change* (Berlin: Springer-Verlag Berlin Heidelberg, 2011) 3.

⁶ Alberta, "Agriculture: Industries in Alberta," online: *Government of Alberta*. <https://alis.alberta.ca/occinfo/industry-profiles/agriculture>.

⁷ Brenda Heelan Powell, "Agricultural Lands: Law and Policy in Alberta" (2019) at 110, online (pdf): *Environmental Law Centre*. <https://aref.ab.ca/wp-content/uploads/2020/01/Agricultural-Lands-Law-and-Policy-in-Alberta-November-2019.pdf>.

⁸ *Supra* note 1.

⁹ Groupe AGÉCO, "The Power of Soil: An Assessment of Best Approaches to Improving Agricultural Soil Health in Canada" (December 2020). <https://www.equiterre.org/sites/fichiers/finalagecoreport.pdf>.

¹⁰ *Ibid.*



fragmented agricultural land is particularly vulnerable to conversion pressures.¹¹

ALI is seeking proposals for research that can assist decision-makers in enhancing stewardship efforts, increasing understanding of social and economic barriers to improving soil health, and improving environmental and policy outcomes for soil health. Key gaps identified in the literature and at ALI's workshop entitled "Breaking Down Silos: Advancing the Soil Health Research Agenda", include soil health information and education, regulation and policy, and funding and incentives.

Research Questions and Gaps

ALI, with input from its stakeholders, has identified several research gaps in the area of soil health. Below is a non-exclusive list of questions of current interest.

Policy & Regulation

- What are the intended and unintended consequences of policies and regulations currently in force on soil health and, more broadly, on the environment and agriculture? How are these programs and policies evaluated? Is soil health a useful concept for other industries and sectors (e.g., reclamation, forestry, municipal)?
- What are the most effective roles for each level of government in protecting soil health?
- In Alberta, could local Agricultural Service Boards and the Agricultural Fieldmen they employ play a more effective role in promoting soil health?
- What lessons can be learned from soil health and sustainable agriculture initiatives or institutions in other jurisdictions?

Adoption, Barriers, & Incentives

- What are the economic impacts of current soil health policies, regulations, and best management practices at the farm level? What incentives do they create for adoption and retention?
- What are the costs of soil degradation – including productivity, operating and equipment, and off-farm environmental systems?
- What are the economic impacts of policies on both private and public benefits? How can we incorporate on and off-farm, public and private benefits in economic analysis?
- What type of economic information or analysis is useful for producers to inform their decisions around practice change? Is this information similar across all regions, climates, and production systems? What economic information is useful for policy makers?
- Approximately 40% of agricultural land in Canada is held by lease, and that figure is growing.¹² What are considerations for protection of soil health on rented land? How can tenant producers be incentivized to manage soil health?

¹¹ Stan, Kayla Dawne & Arturo Sanchez-Azofeifa, "The Edmonton-Calgary corridor: Simulating future land cover change under potential government intervention" (2017) 63 *Land Use Policy* 356–368.

¹² Statistics Canada. "Number and area of farms and farmland area by tenure, historical data" online: *Statistics Canada*. <https://doi.org/10.25318/3210015201-eng>.

- The current economic climate for producers can make it challenging to break out of existing production cycles and attempt new, more sustainable methods. What barriers exist for producers to adopt soil health practices? Are there tax or insurance barriers that could disincentivize practice change? Are barriers to adoption similar for all types of soil health practices? What is the relative importance of various motivators (economic, social, ecological, technological) for behaviour change and adoption of best management practices at the farm level? What incentives exist for producers to adopt soil health practices and modify their production behaviours? What mechanisms are there to support producers to transition to different practices?
- Consumers and supply chains are more aware of the environmental impacts of food choices. Large agri-food processors are demanding additional certifications and proof of sustainable practices. How does soil health factor into sustainability certification? How do Alberta's and/or other province's current soil bylaws, policies, best management practices, and programs like the Environmental Farm Plan match emerging company and consumer demands and sustainability certification requirements?

Soil Health Data and Knowledge Mobilization

- Current definitions of soil health that lack benchmarks, data, and defined indicators are difficult to incorporate into actionable policy frameworks. What are the impacts of these deficiencies on policy creation? What metrics and data are most important for soil health policy and economic analyses?
- Available data and scientific information are not being fully adopted or utilized by producers.¹³ How do we educate producers and empower them to use available data, mapping, and resources for soil health?
- Challenges exist for producers as available data is inaccessible or is of insufficient resolution to be useful at the farm level. How does the available soil health data and access to that data match the needs of producers? How could resolving gaps in data aid producers in making informed decisions related to soil health?
- Inadequate access to information and a lack of confidence on how to translate general practices into the on-farm context are cited as significant barriers to practice adoption. How are research and knowledge currently being disseminated to producers? Are there better ways to engage with producers? How have education and extension approaches changed over time, and what are potential models for coordinated extension delivery at a provincial or national scale?
- How can soil stewardship efforts be better aligned? What structure or approach could be useful for improving coordination and providing strategic direction for soil health efforts, provincially or across the country?
- Many producers may not be explicitly aware of legislation or regulations, instead relying on plain language fact sheets or other extension materials.¹⁴ How can we ensure that standards and requirements in legislation are adequately translated into information that producers can access and use?

¹³ *Ibid.*

¹⁴ Alberta, 2018 Environmentally Sustainable Agriculture Tracking Survey, *Report by Kynetec Canada* (2018), online: Government of Alberta. <https://open.alberta.ca/dataset/4eb85c95-c8de-40c3-ace5-7acc129ff663/resource/db7a2ef7-8ed8-4303-a1da-4717127ee0af/download/2018-environmentally-sustainable-agriculture-tracking-survey-052018.pdf>.

Budget and Project Period

These proposals will be funded in one of two streams:

1. A maximum of \$75,000 for a one-year period. The expected date of completion is July 2023. Funding for continuation of the research may be available in subsequent years depending on the potential policy implications and the proposed approach.
2. A maximum of \$150,000 for up to two-years. The research will be funded in partnership with RDAR (Results Drive Agricultural Research). For more information on RDAR, see www.rdar.ca. All applications in this stream are subject to pre-approval.

2. Open Category

The Alberta Land Institute is accepting for consideration research proposals in the Open category. Proposals must fit one of the three Research Categories within ALI's research portfolio: Discovery Research, Policy Research, or Educational Projects, and must engage directly in the theme of Soil Health, or a current area of study within the Institute's mandate: (1) Land Use, Resilience, and Environmental Risk, and (2) Ecosystem Service Markets. A description of the research categories is provided below.

All prospective applicants are encouraged to contact ALI's research director, Eran Kaplinsky at eran.kaplinsky@ualberta.ca to discuss their proposals before submitting a formal application.

Research Categories:

Land Use, Resilience, Environmental Risk

- o ALI is seeking proposals for research that can assist decisionmakers to minimize and mitigate environmental risk and promote more resilient settlement and land use policy in Alberta. ALI is particularly interested in a better understanding of: the environmental risks, their patterns in Alberta, and the potential responses to such risks; the regulatory framework and the policy and economic incentives which affect public and private land use decisions; and the dissemination of relevant information within government and to the public.

Ecosystem Service Markets

- o The Institute will consider new research proposals focusing on ecosystem service markets and market-based instruments for conservation.

Budget and Project Period

Proposals will be funded to a maximum of \$50,000 for one-year projects. Funding for further research may be available in subsequent years depending on the potential policy implications and the proposed approaches.

