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PROJECT TITLE: Provide a clear, descriptive title for the proposed project (max. 250 characters)			
Field Trials for Growing Wild Rice on Inland Paddies			
SECTION 1. APPLICANT INFORMATION			
Legal Name of Business or Organization (for academic institutions, please include the department name)			
Southeast Resource Development Council			
Contact Information			
Last Name		First Name	Initial
Irvine		Roberta	
Role or Position with Organization			
Project Manager			
Applicant Type		Choose an Item	
Are you a Non-Profit Organization		<input checked="" type="radio"/> YES	<input type="radio"/> NO
Mailing Address (Street and/or Postal Box Address)		Village/Town/City	
		Winnipeg	
Rural Municipality		Postal Code	Province
Winnipeg		R3C 0T6	MB
Email Address		Phone Number	Cell Number
roberta@myeragroup.ca		204 391 4256	same
CO-APPLICANT INFORMATION: all applicants who identify as a Researcher (including Academic Institutions) or a Government of Canada Department or Agency <u>will be required</u> to identify a non-researcher Co-Applicant			
CO-APPLICANT 1			
Legal Name of Business of Organization			
Myera Group			

Contact Information				
Last Name		First Name		Initial
Hardy		Bruce		
Role or Position with Organization				
President & CEO				
Mailing Address (Street and/or Postal Box Address)		Village/Town/City		
51 Rosser Rd		St. Francis Xavier		
Postal Code	Province	Phone Number	Cell Number	
R4L 1A4	MB	204 295 5580	same	
Email Address	bruce@myeragroup.ca			
Describe the role and responsibility of the co-applicant as it pertains to this project (<i>max. 1,000 characters</i>)				
<p>Southeast Regional Development Council (SERDC) and Myera Group will be the project overseers for ensuring all components of the project are completed. This will entail using project management systems to define the scope, activities, deliverables and outcomes to ensure the activities are completed on time and that outcomes are met. SERDC and Myera Group are seeking to help grow Indigenous inclusion in the agronomy and agri-food sector. Myera Group will coordinate the project partners and help to ensure this project results in capacity building interactions and reconciliation with Indigenous communities. This project is about Indigenous empowerment and reconciliation because it will provide the research results to identify new methods for growing wild rice on land.</p>				
CO-APPLICANT 2				
Legal Name of Business or Organization				
Contact Information				
Last Name		First Name		Initial
Role or Position with Organization				
Mailing Address (Street and/or Postal Box Address)		Village/Town/City		
Postal Code	Province	Phone Number	Cell Number	
	MB			

Email Address			
Describe the role and responsibility of the co-applicant as it pertains to this project (<i>max. 1,000 characters</i>)			
RESEARCH TEAM INFORMATION			
PRINCIPAL INVESTIGATOR			
Legal Name of Business or Organization			
University of Manitoba			
Contact Information			
Last Name	First Name	Initial	
Thompson	Shirley	J	
Role or Position with Organization			
Associate Professor			
Mailing Address (Street and/or Postal Box Address)	Village/Town/City	Postal Code	Province
70 Dysart Rd.	Winnipeg	R3V 1B8	MB
Describe the role and responsibility of the principal investigator as it pertains to this project (<i>max. 1,000 characters</i>)			
<p>Dr. Thompson will develop a scientific method and written protocol for field test trials with the objective to establish an ideal approach for farming wild rice in Manitoba. She will take the primary role to develop strong partnerships with reciprocal accountability with First Nations, Myera and students. Dr. Thompson will supervise the graduate students, teachers and undergraduate students to deliver programming and strictly follow protocols for the field trials to ensure integrity of the results. Dr. Thompson will take the responsibility for keeping project on track and supervising graduate students and developing educational programming with experts and direct the film to cover this trial and instruction video on wild rice production. Dr. Thompson will write articles with students and experts to publish these findings.</p>			
Related Research Information – complete the following			
A.	Total number of referred papers ever published in scientific journals.	45	
B.	Total number of papers ever published in full in refereed conference proceedings.	22	

C. List; beginning with the most recent, the publications that have been published in the last 3 years. Use the same authorship order as it appears in the original publication (max. 1,500 characters)

Thompson, S., Thapa, K &Whiteway, N. (2019). Sacred Harvest, Sacred Place: Mapping harvesting sites in Wasagamack First Nation. *Journal of Agriculture, Food Systems, and Community Development*, 9 (1).

Ahmed, N., & Thompson, S. (2019). The blue dimensions of aquaculture: A global synthesis. *Science of the Total Environment*, 652: 851-861.

Ahmed, N., S. Thompson, M. Glaser. (2019). Global aquaculture productivity, environmental sustainability, and climate change adaptability. *Environmental Management*, 63(2): 159–172.

Thompson, S. (2018). Take Three: Filming Three Participatory Videos with displaced Indigenous People from Little Saskatchewan First Nation and Lake St. Martin First Nation. *International Journal of Humanities, Arts and Social Sciences*, 4(4):168-178 doi: <https://dx.doi.org/10.20469/ijhss.4.10002-4>.

Oyegunle, A. & Thompson, S. (2018). Wasting Indigenous Communities: A Case Study of Waste Management in Garden Hill and Wasagamack First Nations in Northern Manitoba, Canada. *The Journal of Solid Waste Technology and Management*, 44 (3): 232-247. DOI: 10.5276/JSWTM.2018.232

Ahmed, A., Ward, J., Thompson, S., Saint, C. & Diana, J. (2018). Blue-Green Water Nexus in Aquaculture for Resilience to Climate Change, *Reviews in Fisheries Science & Aquaculture*, 26:2, 139-154, DOI: 10.1080/23308249.2017.1373743.

Ahmed, N., S. Thompson, M. Glaser. (2018). Transforming organic prawn farming in Bangladesh: potentials and challenges. *Journal of Cleaner Production*, 172: 3806–3816.

CO-INVESTIGATOR(S)

If applicable, provide the full names and organizations of up to five co-investigators and their roles pertaining to this project.

1	Full Name	Legal Name of Business or Organization
	Laura Telford	Manitoba Agriculture
Role & Responsibility <i>(max. 500 characters)</i>	Ms. Telford will offer guidance about organic fertilizers as part of the filed trial work.	
2	Full Name	Legal Name of Business or Organization
	Colin Mousseau	Long Plain First Nations
Role & Responsibility <i>(max. 500 characters)</i>	Colin Mousseau will provide guidance about the traditional healing powers of wild rice.	
3	Full Name	Legal Name of Business or Organization

Role & Responsibility <i>(max. 500 characters)</i>		
4	Full Name	Legal Name of Business or Organization
Role & Responsibility <i>(max. 500 characters)</i>		
5	Full Name	Legal Name of Business or Organization
Role & Responsibility <i>(max. 500 characters)</i>		
SECTION 2. PROPOSED PROJECT INFORMATION		
1. If project confidentiality is required, indicate and describe		
For proposal:	<input type="radio"/> YES	<input checked="" type="radio"/> NO
For results and reports:	<input type="radio"/> YES	<input checked="" type="radio"/> NO
If you have selected YES to any of the above, indicate why project confidentiality is required <i>(max. 500 characters)</i>		
Will the project generate intellectual property?		<input type="radio"/> YES <input checked="" type="radio"/> NO
2. Funding Stream: Select Funding Stream		
Choose an Item		
3. Project Focus Area: Select Focus Area		
Grain Innovation and Crop Production		
4. Expected Project Outcomes		
Number of new highly qualified personnel (Masters, Doctorate, Post Doctorate level) that will be hired as part of the project.		7

Indicate up to three measurable project outcomes (max. 750 characters)	
A.	The research from this project will create new agronomy systems to Manitoba Metis/First Nations which will result in a ramped up wild rice industry for Manitobans. Knowledge will be gained about growing on inland paddies from seeding to harvesting.
B.	Positive Economic Impact – There is pent up demand in the wild rice market as the largest wild rice supplier in Manitoba sells 300,000 pounds of wild rice currently and would sell 500,000 pounds if there was enough supply to meet demand. The estimated future market potential is up to three million pounds (Murray Ratuski, 2019). Once wild rice paddies are ramped up to the size of an average Manitoba farm at 891 acres (MB AG), net revenue would be \$109,593 per farm based on UC Davis data from 2005.
C.	

5. Project Description: provide a concise overview of your project (max. 4,000 characters)

Most of the wild rice cultivation in the United States is done by inland paddies. In Minnesota six million pounds of wild rice is harvested per year on 20,000 acres. In Canada, there are no dryland wild rice growers, and there is pent up demand for wild rice supply, Indigenous communities have expertise in harvesting wild rice and would benefit from growing more wild rice in order to meet unmet demand in the marketplace. This project will use field trials which will demonstrate how to grow wild rice inland versus in lakes. There will be 15 field trial plots of six meters by six meters in size.

The research results from this project will further the vision of SERDC and Myera Group to strengthen and develop new agronomy and agri-food processing opportunities for Metis/First Nations farmers in Manitoba and beyond. This is timely since according to Stats Canada, Indigenous agriculture is increasing, and non-Indigenous agriculture is declining. Reconciliation includes agriculture. Indigenous communities are wary of Non-Indigenous business plans to commercialize their ancestral forms of agriculture; the SERDC represents eight First Nations communities and has their best interest at heart. Myera Group, with its technical expertise creates the prototypes, builds demand, and develops products for the supply chain. This creates an economic engine for prosperity in the communities. Creating prosperity in agriculture empowers communities to succeed since they are in control of their own resources and there is a mechanism to generate sustained income for their families.

According to Sustainable Development (SD), a license is not required to harvest wild rice on private land. This project will work with both groups to ensure all regulatory permits are gathered and incorporated into the field trial work. SERDC, SD and Dr. Shirley Thompson will work with Broken Headfirst Nation to find suitable land for the field trials. Certified seed varieties for paddies will be sourced locally or purchased from the University of Minnesota or California; these institutions, along with U of M have published reports about how to prepare the site, irrigate, establish the stand, manage pests and weeds, seeding rate, harvesting methods, transportation considerations and after harvest paddy management. (U.C Davis 2005). Harvesting can be done with a regular combine and a local farmer has the equipment required for future scale up. Once the rice is harvested, it is separated by length of kernel, cured, parched, dehulled and scarified. The last step is to clean, grade and pack the wild rice, SERDC will work with Shoal Lake Wild Rice, a local wild rice processor to carry out these activities. Shoal Lake has agreed to work with Indigenous bands and co-pack for them under their own Indigenous brand.

Wild rice (*Zizania* sp.) is the only native cereal crop that grows in Canadian waterways from the Atlantic Ocean to Manitoba. Due to ideal environmental conditions with clean, free flowing water and many shallow lakes, MB produces the world's top-quality wild rice but with limited production. Despite this food resource potential in their traditional territories, many Indigenous communities, particularly remote and rural ones, have high food insecurity. Wild rice has been a staple food of Indigenous people for centuries (reference), providing health and food security. This research will validate agronomy practices for inland wild rice paddies and training programs for Indigenous students.

This project aims to bring widespread social, economic & environmental benefits to Indigenous communities. Ideally, expanding wild rice cultivation would increase productivity, profitability, and sustainability. Improving sustainable livelihoods is possible through increasing the availability of food which can provide food security and nutritional benefits among Indigenous communities.

6. Describe the research plan and methodology, including the activities and scientific approaches that will be used to achieve each of the outcomes listed above (max. 8,000 characters – use next page if additional space is required)

The project plan consists of four components: (1) community engagement and research in Indigenous communities, (2) Geographical information system analysis of suitable areas for wild rice inland cultivation. (3) field trials of integrated wild rice cultivation in 20 x 20-foot (6x6 meter) plot sizes. (4) stakeholder analysis through meetings and workshops. To investigate production capability and cultural fit a field trial will be conducted with community engagement. A field trial will expand wild rice inland cultivation in five new areas in association with Indigenous communities and industry partners. Field trials will be conducted to answer questions about knowledge and behaviour of farming systems by Indigenous communities. The protocol for the field trials will involve testing five varieties with three different treatments (15 plots in total). The baseline treatment will not have fertilizer, another treatment will have organic fertilizer and the last treatment will be fertilizer from fish waste. Field trial protocol will include measurement of water flow, efficacy of the fertilizer treatments, levels of pests, weed control, productivity and yield. It should be noted that Fresh Water Fisheries has approached Dr. Thompson about assisting them with the disposal of their fish waste, which would be the source of this fertilizer. Using fish waste fertilizer will improve the sustainability of the research, due to this by-product of the fish industry needing to be sustainably used and disposed of.

The University of Minnesota and the Minnesota Agricultural Experiment Station and the College of Food, Agricultural and Natural Resource Sciences as well as the University of California Davis have data about successful wild rice varieties for paddy growing. Their top recommendations are Barron, Itasca Cycle-12, Franklin and Dawn SR. Certified seed will be purchased from the California Foundation Seed Services. The researchers in this project will consult with the University of Minnesota to explore the best options for Manitoba growing conditions and for licensing rights. Mike Armstrong from Sustainable Development Manitoba is offering guidance about licenses for water; because the trials are on private First Nations land, licensing regulations do not apply.

A Geographical Information System (GIS) will identify suitable land for cultivation. (Thompson, 2014). Once the site has been selected a dyke will be built on the 20 x 20-foot trial plots. Agriculture Canada and Manitoba Agriculture produced a guidebook for wild rice production in 1984. This guide offers specific details as to when to build the dyke, the slope needed, proximity to drain sites and how to ramp up plot size after the trial stage. The paddy seedbed will be prepared using a rototiller (10-15 cm deep). Seeding will take place in the fall at a depth of 2.5 – 7.5 cm with 40 plants meter squared. A bulk (organic) fertilizer spreader can be used for seeding. As soon as the seed is in the ground, the paddies must be flooded to protect the seeds from birds and to maintain an adequate germination percentage. Seed germination averages from 30-65 percent. Water levels in the paddies will be held at 45 cm maximum in order to create optimal growing conditions.

Brokenhead First Nations wants the wild rice to be grown organically in keeping with their cultural traditions. The researchers in this project will consult with Elders and the organic specialist at Manitoba Agriculture to find the best methods for achieving a high yielding harvest organically. At harvest time the paddies will be gradually drained, which takes two weeks. Wild rice plants are ready for harvest when they are 1-2 meters tall. The trial plots will be harvested by hand. Once ramp up occurs, a combine will be used which collects 75-90 percent of the kernels on the stalks. (A Guide to Wild Rice Production, 1984).

A wide range of tools and primary data collection will be used to support an analysis of opportunities and challenges for growing wild rice via inland paddies. Workshops, interviews, community meetings and field surveys will be carried out in Brokenhead and Wasagamack First Nations in Manitoba. A combination of participatory, quantitative & qualitative methods will be used. The community will decide about acceptable sites they are interested in cultivating, a license is not required since the plots are on private land. The impact of a higher yielding crop will be analyzed for the food security impact through a food security survey (Thompson et al, 2012) and a sustainable livelihoods analysis (Thompson et al, 2014). As well, the education curriculum and program impact for youth will be analyzed by training evaluations after educational programming and to see the impact on the students, there will be a national work-integrated enterprise survey undertaken.

Stakeholder analysis (SA) through meetings and workshops with academics, Indigenous community leaders, knowledge holders, policy makers and researchers will be undertaken. Analytical Hierarchy Process (AHP) and the Delphi method will be applied to SA to identify priority setting, resource allocation, decision making, and opportunities and constraints for wild rice culture. Policy workshops will be arranged with key stakeholders for comprehensive SA and will focus on wild rice farming systems, water management, ecological issues, cultural and land-based rights of Indigenous people. Policy workshops will be hosted at the University of Manitoba.

7. Past Research
<p data-bbox="103 128 1511 184">A. Describe past research experiences, intellectual property and/or activities relevant to the project from the last 5 years (max. 2,000 characters)</p> <p data-bbox="103 207 1507 411">Dr. Thompson has published many articles regarding aquaculture, farming, video, enterprise and partnerships with First Nations. Dr. Thompson has done some mapping of land use resources, including wild rice in Island Lake and Hollow water traditional territories. As well, she has helped four businesses start in First nations by carrying out feasibility analysis and business plans. Although the space for articles was limited a few more articles are listed here published within the last three years to show her involvement with First Nation food issues and aquaculture, as well as community development. She has produced a video that discussed wild rice at Hollow Water First Nation.</p> <p data-bbox="103 420 1263 483">Ahmed, N., S. Thompson, M. Glaser. (2018). Integrated mangrove-shrimp cultivation: potentials for blue carbon sequestration. <i>Ambio – a Journal of the Human Environment</i>, 47(4): 441–452.</p> <p data-bbox="103 491 1276 554">Thompson S. (2018). Information Technology to Empower Farmer Action on Sustainable Agriculture and Food Security. <i>Agri Res & Tech: Open Access J.</i>; 13(2): 555877.</p> <p data-bbox="103 562 1211 625">Olsen Harper, A. & Thompson, S. (2017). Structural oppressions facing Indigenous students in Canadian education. <i>Fourth World Journal</i>, 15 (2), 41-66.</p> <p data-bbox="103 634 1247 768">Martin, D. E., Thompson, S., Ballard, M & Linton, J. (2017). Two-Eyed Seeing in Research and its Absence in Policy: Little Saskatchewan First Nation Elders' Experiences of the 2011 Flood and Forced Displacement. <i>The International Indigenous Policy Journal</i>, 8(4). Retrieved from: https://ir.lib.uwo.ca/iipj/vol8/iss4/6 DOI: 10.18584/iipj.2017.8.4.6</p> <p data-bbox="103 777 1218 873">Ahmed, N. Cheung, W. Thompson, S. & Glaser, M. (2017). Solutions to blue carbon emissions: Shrimp cultivation, mangrove deforestation and climate change in coastal Bangladesh. <i>Marine Policy</i> 82:68-75 · August 2017 DOI: 10.1016/j.marpol.2017.05.007</p> <p data-bbox="103 882 1269 978">Ahmed, N., S. Thompson, & M. Glaser. (2017). Transforming organic prawn farming in Bangladesh: Potentials and challenges. <i>Journal of Cleaner Production</i>, http://dx.doi.org/10.1016/j.jclepro.2017.06.110.</p>
<p data-bbox="103 1031 1140 1058">B. If applicable, how does this project build on previous research? (max. 1,000 characters)</p>

8. Project Equipment: for Capacity Building activities only.

A. Provide a detailed list of item(s) that you intend to purchase and describe how each item will be used in your research project (max. 1,500 characters)

N/A

B. Indicate if you are aware of other individual(s) who have this capacity in Manitoba and please describe (max. 1,000 characters)

N/A

9. Knowledge Transfer Plan - Provide a knowledge transfer plan that includes the tools and activities that will result in changes to production practices, development of new products, policy and program development, and/or advancement in research. **Information is to be based on the work completed between the estimated project start and end dates.**
(max 4,000 characters)

Knowledge transfer (KT) will be community-driven and culturally appropriate, to reflect local food and health priorities. Project evaluation and dissemination will include: (1) developing guidelines for inland wild rice cultivation for Indigenous communities; (2) creating useful material to promote cultivation including educational videos and "how-to" toolkits; (3) policy recommendations (e.g., policy briefs, working papers) to stakeholders for sustainable environmental practices of growing wild rice inland; (4) articles will be published in Indigenous magazines and newspapers. Key focus is to provide educational resources appropriate for communities to see the benefits of cultivating wild rice. Another thrust of this project is to disseminate policy recommendations to stakeholders (e.g., community members, Indigenous leaders, government officers, NGO workers, industry partners, and policymakers) for benefiting Indigenous communities in northern Manitoba. Outcomes will be shared with targeted government departments.

SERDC and Myera Group will work with MB Agriculture and AAFC crop diversification centres to arrange lectures and demonstrations to be held across the province. Audiences include Indigenous farmers and community members, producers, food industry members, researchers and government. Participation in local agri-food events, conferences, press releases, trade shows and media interviews will be used as well as social media to ensure all targets are reached. Specifically, Indigenous farmers will be informed about crops that can be grown to deliver health outcomes, as well as information regarding processing and marketing of local foods/ingredients. Business strategies will be initiated towards the end of the project and will provide direction for future product development, community-based processing and marketing of a unique Indigenous-branded line of agri-foods; this will ensure continued economic prosperity.

Furthermore, promotion of the results will be through the investigators and applicant's current social media platforms, including websites, Facebook and Twitter. Results will be communicated in peer-reviewed journals as well as disseminated at national and international conferences to the scientific community. Team members will be encouraged to publish in open access formats and/or make prepublication versions of manuscripts available to the public via websites like ResearchGate; these manuscripts will be also available via websites.

SECTION 3. ECONOMIC BENEFITS OF PROPOSED RESEARCH AND OTHER SECTOR IMPACTS

A. Economic Benefits of the Proposed Research - Clearly articulate how the proposed project will result in economic benefits including any impacts on markets and trade as well as potential return on investment (ROI) to Manitoba. ROI attempts to measure the link between research and development activities with profits or other monetary gains over time (for example: number of patents, bibliometrics, funds leveraged from industry, and number of highly qualified personnel) *(max. 2,000 characters)*

This research will result in new opportunities for Indigenous farmers and entrepreneurs by establishing the protocol for growing wild rice inland; this will offer the ability to augment the production of wild rice in lakes, thus increasing overall supply. The data on wild rice production in Canada is not formalized and hard to find. Based on conversations with a processor in Manitoba, there is pent up demand for wild rice in the marketplace and his company could sell 50% more wild rice if the supply were available. A solid indicator for the strength of the market is that the value-add market for wild rice is growing. A paper by Oelke, Teynor, Carter et al. from 2019 states “Sales in the blend market have increased an average of 15% each year since 1961 when the first blend of wild rice, long-grain rice, and herbs was sold”. This is good news for Manitoba since we have two large wild rice processors here (Shoal Lake Wild Rice and Wild Man Ricing). To date wild rice production has been variable year over year due to climate and unpredictable water levels.

Canadian Wild Rice Production (lakes)

Year SK

,000 pounds green rice MB Farm Gate Value – SK Production

2015 4,350 N/A \$5,437,000

2014 1,272 450 est. \$1,590,000

2013 1,334 750 \$1,400,175

Source: Westside Wild Rice Growers Association North West Communities Co.

In comparison to the figures above, Minnesota produces six million pounds of wild rice per year on paddies. The market information for Minnesota is scarce but California’s industry was valued at \$18,000,000 in 2001. Based on the table above, there is a lot of room for Manitoba to increase production. Any new production in Manitoba will mean more jobs and training for Indigenous people working in the paddies or with Manitoba processors.

B. Other Sector Impacts – Clearly articulate how the proposed project will advance the growth and sustainability of the agriculture, agri-food and/or the agri-product sectors in Manitoba. The impact should focus on benefits related to but not limited to production and processing, climate adaptation, environmental sustainability and public trust *(max. 2,000 characters)*

The results of this project will positively impact both the agriculture and agri-food sector. Identifying new methods for growing wild rice will contribute to increased production of these crops on First Nations land. Even small harvest yields to start will have a positive impact for the communities. For example, even 5,000 pounds of organic wild rice can mean \$60,000 dollars at retail, based on today’s price of \$12.00 per pound (Northbay Traders). This is significant for First Nations and if several communities can be supported to grow wild rice in paddies, the economic impact is solid.

The ultimate plan is to create a sustainable, clean tech economy by working with Metis/First Nations communities to build fish tanks near the wild rice paddies, so the fish waste becomes a renewable source of fertilizer. In order to set up this circular economy training will be required in aquaculture, computer/IT technology, operations management, supply chain management and marketing.

Public trust will continue to be built between First Nations communities and government as well as other entities along the supply chain.

SECTION 4. PROPOSED TIMELINE AND BUDGET

Timeline			
Estimated Start date (no earlier than April 1, 2020)	Estimated End Date (no later than March 31, 2023)	Duration (in months)	
Milestones: indicate when significant milestones will be achieved (i.e. the hiring of a graduate student, purchase of a large piece of equipment, etc.)			
Milestone	Estimated Completion Date	Description	
Milestone 1	Dec 2020	Site selection and hiring of 7 students. Develop community contacts for surveys and workshops.	
Milestone 2	Dec 2020	Research and confirm the best varieties of seed for the Manitoba climate x 5 varieties. Develop protocols. Design survey questions for interviews.	
Milestone 3	March 2021	Prepare the sites - April 2020-March 2021 Conduct interviews	
Milestone 4	April 2021	Seed and fertilize based on field trial protocols.	
Milestone 5	March 2023	Harvest and compare plot results. September 2021 - March 2022. Create video and curriculum - April 2022 - March 2023.	

Budget: complete all applicable fields; refer to the program Guidebook for more information on eligible and ineligible costs. Please note that the budget is organized by fiscal year, which runs from April 1 to March 31.

Cash Expenses

Salaries, Wages and Benefits

Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost Requested
Graduate Student Wages	\$ 17,500.00	\$ 0.00	\$ 35,000.00	\$ 0.00	\$ 17,500.00	\$ 0.00	\$ 70,000.00
Fellowships	\$ 30,000.00	\$ 0.00	\$ 30,000.00	\$ 0.00	\$ 30,000.00	\$ 0.00	\$ 90,000.00
Summer Student Wages	\$ 60,000.00	\$ 0.00	\$ 60,000.00	\$ 0.00	\$ 60,000.00	\$ 0.00	\$ 180,000.00

Description of Communications and Promotions	\$30,000 for teacher certification/curriculum development/educational resources development for the students at Brokenhead; 5000 \$ for filming and film edition at Brokenhead FN; KT regarding field trials with partners						
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Facility and Equipment Rentals							
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Requested
Facility Rental							\$ 0.00
Land Rental	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 15,000.00
Small Equipment Rental	\$ 9,740.00	\$ 9,740.00	\$ 6,140.00	\$ 6,140.00	\$ 6,140.00	\$ 6,140.00	\$ 22,020.00
Sub Total Facility and Equipment Rental	\$ 14,740.00	\$ 14,740.00	\$ 11,140.00	\$ 11,140.00	\$ 11,140.00	\$ 11,140.00	\$ 37,020.00
Description of Facility and Equipment Rentals	equipment rental for extra establishing/sowing/harvesting equipment, e.g. spreader, rollers, ATVs, tillers; land rental for experimental plots						

Capital Assets and Equipment: Capital Assets and Equipment are not eligible expenses for Basic and Applied Research Projects. For Capacity Building projects, each eligible Capital Asset and Equipment expense must be greater than \$10,000.							
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Requested
Medium and Large Scale Equipment							\$ 0.00
Incremental Lab Equipment and Installation Costs							\$ 0.00
Sub Total Capital Assets and Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Description of Capital Assets and Equipment	n/a						

Materials and Supplies									
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost	Total Requested	Total Requested
Small Equipment (less than \$10,000)							\$ 0.00		\$ 0.00
Consumables	\$ 19,575.00	\$ 19,575.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 53,375.00	\$ 53,375.00	\$ 53,375.00
Lab Supplies							\$ 0.00		\$ 0.00
Office Supplies							\$ 0.00		\$ 0.00
Chemicals							\$ 0.00		\$ 0.00
Sub Total Materials and Supplies	\$ 19,575.00	\$ 19,575.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 53,375.00	\$ 53,375.00	\$ 53,375.00
Description of Materials and Supplies	fertilizer, pest mitigation, seed, water supply, electricity and others over 3 years								

Travel – Related to Knowledge Transfer Events and Conferences									
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost	Total Requested	Total Requested
Accommodations							\$ 0.00		\$ 0.00
Airfare							\$ 0.00		\$ 0.00
Meals							\$ 0.00		\$ 0.00
Transportation (non Airfare)							\$ 0.00		\$ 0.00
Mileage							\$ 0.00		\$ 0.00
Sub Total Travel	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Name of Traveller and Description of Travel									

Travel – Related to Research Activities									
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost	Requested	Total
Accommodations	\$ 6,000.00	\$ 6,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00
Airfare	\$ 9,000.00	\$ 9,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00
Meals	\$ 3,200.00	\$ 3,200.00	\$ 3,200.00	\$ 3,200.00	\$ 3,200.00	\$ 3,200.00	\$ 9,600.00	\$ 9,600.00	\$ 9,600.00
Transportation (non Airfare)	\$ 2,200.00	\$ 2,200.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 6,400.00	\$ 6,400.00	\$ 6,400.00
Mileage							\$ 0.00	\$ 0.00	\$ 0.00
Sub Total Travel	\$ 20,400.00	\$ 20,400.00	\$ 18,300.00	\$ 18,300.00	\$ 18,300.00	\$ 18,300.00	\$ 57,000.00	\$ 57,000.00	\$ 57,000.00
Name of Traveller and Description of Travel	Travel to candidate sites and FNs, including the KT/outreach personnel and of the personnel which will determine ideal plot land								

Summary of Cash Expenses									
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost	Requested	Total
Salaries, Wages and Benefits	\$ 107,500.00	\$ 0.00	\$ 125,000.00	\$ 0.00	\$ 107,500.00	\$ 0.00	\$ 340,000.00	\$ 0.00	\$ 0.00
Subcontracted Services	\$ 3,500.00	\$ 3,500.00	\$ 15,500.00	\$ 15,500.00	\$ 9,500.00	\$ 9,500.00	\$ 28,500.00	\$ 28,500.00	\$ 28,500.00
Professional Fees	\$ 10,000.00	\$ 10,000.00	\$ 12,000.00	\$ 12,000.00	\$ 10,000.00	\$ 10,000.00	\$ 32,000.00	\$ 32,000.00	\$ 32,000.00
Training, Seminars, Conference and Registration Fees	\$ 0.00	\$ 0.00	\$ 5,000.00	\$ 0.00	\$ 5,000.00	\$ 0.00	\$ 10,000.00	\$ 0.00	\$ 0.00
Communications and Promotions	\$ 28,000.00	\$ 12,500.00	\$ 29,000.00	\$ 12,500.00	\$ 26,500.00	\$ 10,000.00	\$ 83,500.00	\$ 35,000.00	\$ 35,000.00
Facility and Equipment Rentals	\$ 14,740.00	\$ 14,740.00	\$ 11,140.00	\$ 11,140.00	\$ 11,140.00	\$ 11,140.00	\$ 37,020.00	\$ 37,020.00	\$ 37,020.00
Capital Assets and Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

Materials and Supplies	\$ 19,575.00	\$ 19,575.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 16,900.00	\$ 53,375.00	\$ 53,375.00
Travel – Related to Knowledge Transfer Events and Conferences	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Travel – Related to Research Activities	\$ 20,400.00	\$ 20,400.00	\$ 18,300.00	\$ 18,300.00	\$ 18,300.00	\$ 18,300.00	\$ 18,300.00	\$ 57,000.00	\$ 57,000.00
Total	\$ 203,715.00	\$ 80,715.00	\$ 232,840.00	\$ 86,340.00	\$ 204,840.00	\$ 75,840.00	\$ 641,395.00	\$ 242,895.00	\$ 242,895.00

Overhead: expenses required to run a business, which cannot be directly attributed to any specific business activity, product or service. Overhead will be capped at 8 per cent of the Eligible Cash Expenses (see Total Cash Expenses above). For more information, refer to the program Guidebook.									
Expense Type	Total Cost 2020/21	Requested 2020/21	Total Cost 2021/22	Requested 2021/22	Total Cost 2022/23	Requested 2022/23	Total Cost	Requested	Total
Overhead	\$ 13,712.50	\$ 11,000.00	\$ 15,887.50	\$ 12,000.00	\$ 11,512.50	\$ 8,500.00	\$ 41,112.50	\$ 31,500.00	\$ 31,500.00
Sub Total Overhead	\$ 13,712.50	\$ 11,000.00	\$ 15,887.50	\$ 12,000.00	\$ 11,512.50	\$ 8,500.00	\$ 41,112.50	\$ 31,500.00	\$ 31,500.00

UofM overhead on CRD is \$2712.50 year 1, \$3887.50 year 2, \$3012.50 year 3 (not requested). Remaining overhead relates to admin fees

In-Kind Contribution: non-monetary goods and services that are not reimbursable by the program, but may be considered by the program administrator as part of the applicant's contribution requirement. The total value of in-kind contributions must not exceed 50 per cent of the applicant's contribution. For more information, refer to the program Guidebook.			
Expense Type	Total 2020/21	Total 2021/22	Total 2022/23
Salaries & Wages	\$ 80,000.00	\$ 85,000.00	\$ 90,000.00
Land, Equipment and Facilities	\$ 20,000.00	\$ 25,000.00	\$ 10,000.00
Materials and Supplies	\$ 10,000.00	\$ 15,000.00	\$ 5,000.00
Inventory			\$ 0.00
Sub Total In-Kind Contribution	\$ 110,000.00	\$ 125,000.00	\$ 105,000.00

Description of In-Kind Contribution	Usage of large ag equipment for establishing and harvesting crop land. Salaries for project management, internal oversight and KT personnel salary.					
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Summary: Total Project Costs By Year						
Total Project Costs (Total Cash Expenses + Total Overhead Expenses + In-Kind Contributions)	Amount 2020/21	Amount 2021/22	Amount 2022/23	Total Costs		
	\$ 327,427.50	\$ 373,727.50	\$ 321,352.50	\$ 1,022,507.50		

Summary: Total Requested By Year						
Total Requested (Requested Cash Costs + Requested Overhead)	Amount 2020/21	Amount 2021/22	Amount 2022/23	Total Requested		
	\$ 91,715.00	\$ 98,340.00	\$ 84,340.00	\$ 274,395.00		

Total Cash Contributions to Project						
Indicate the amount of funding and the source of funding for each applicable source.						
Project Funding Type	Amount 2020/21	Amount 2021/22	Amount 2022/23	Total		
Applicant Cash Contribution	\$ 47,863.50	\$ 56,871.84	\$ 50,163.50	\$ 154,898.84		
Funding From Other Industry Sources*				\$ 0.00		
Funding from Other Government Sources (Federal)*	\$ 69,099.00	\$ 84,765.66	\$ 73,099.00	\$ 226,963.66		
Funding from Other Government Sources (Provincial)*				\$ 0.00		
Funding from Other Sources (non government and non industry)*	\$ 8,750.00	\$ 8,750.00	\$ 8,750.00	\$ 26,250.00		
Total Client Contribution	\$ 125,712.50	\$ 150,387.50	\$ 132,012.50	\$ 408,112.50		
*Include only dollar amounts which have been approved and/or confirmed from external partners						

SECTION 5. DECLARATION AND SIGNATURE

I confirm that I have read and understood the objectives, principles and criteria set out in the terms and conditions in the CAP Ag Action Manitoba Program Guidebook, and understand that the applicant must meet the following conditions in order to be eligible for funding:

1. The applicant must demonstrate to Manitoba Agriculture that it has or can acquire adequate human resources, experience and skills required to carry out its responsibilities.
2. The applicant agrees to comply with the terms and conditions of the CAP Ag Action Manitoba Program.
3. The applicant agrees to provide financial documentation for all expenditures.
4. The applicant grants the Minister of Agriculture or its designate the right to conduct a compliance audit on the project described in this application.
5. The applicant agrees to provide appropriate recognition for the financial assistance of federal and provincial governments.
6. The applicant will make available to the Provincial Minister any communication materials developed under this program and agree that the Provincial Minister may use such materials for promotion purposes.
7. The applicant agrees that, unless authorized, costs incurred before the signing of the contribution agreement are not eligible for reimbursement.
8. The applicant agrees that Canada and Manitoba will not be liable for any claims for damage from the recipient or third parties related to the activities carried out by the recipient or on his/her behalf.
9. The applicant is in compliance with federal, provincial and municipal requirements.
10. There are no conflict of interest situations with the applicant relative to the CAP Ag Action Manitoba Program and Manitoba Agriculture.
11. The application has been signed below by the CEO/Chairman/President, owner(s) or a legally authorized representative who is duly authorized to accept the terms and conditions by clicking on the box below indicating acceptance. If the applicant does not have the authority or does not accept the terms and conditions, the application must not be submitted.
12. The applicant understands that, if the application is accepted, the applicant will be required to enter into a Contribution Agreement with Manitoba Agriculture which sets out the terms and conditions for funding.

I understand that the information contained in this application is being collected for the purpose of assessing and reviewing my eligibility for funding under the CAP Ag Action Manitoba Program, and that such information will be used and disclosed for application assessment and review purposes, including verification of the information submitted as well as program review, statistical purposes and performance reporting.

Financial, commercial, scientific or technical information provided in this application will be treated in accordance with federal legislation, including The Access to Information Act and The Privacy Act and similar provincial Acts including The Freedom of Information and Protection of Privacy Act.

I agree that the project, if approved, will recognize the CAP Ag Action Program, and the federal and provincial governments for their contribution and support.

I consent to my personal information being disclosed to the extent reasonably necessary to determine my eligibility for Canadian Agricultural Partnership the CAP Ag Action Manitoba Program, to Agriculture and Agri-Food Canada (AAFC) for program administration and to AAFC and other organizations for audit purposes. I also consent to the use or disclosure of my information for the purposes of:

- (a) a survey of program participants and program review, statistical purposes, Manitoba premises ID and performance reporting; and
- (b) public release by AAFC or Manitoba Agriculture of my name, the amount of funding received and the general nature of the project or activity undertaken by me for which funding is being made available.

The applicant consents to the information contained in this form (including personal information) being disclosed to the Program Administrator.

Once you have completed filling out the application, save and email as an attachment to agaction@gov.mb.ca.

I understand that my personal information will otherwise only be used or disclosed with my consent or with other legal authority.

The information provided in this application is, to the best of our knowledge, complete, true and correct.

I represent that the above consents are made on behalf of the applicant (if applicable) and any other person named in this application.

By checking the box below, you are agreeing with the information contained in Section 5, an ink signature is not required.

Date application completed and submitted

August 23, 2019

- I acknowledge that I am not a current Manitoba government employee, or a current or former member of the Legislative Assembly of Manitoba.
- I have read and agree with the Terms and Conditions contained within the Guidebook associated with this CAP activity
- I would like to be subscribed to the Manitoba Agriculture e-Newsletter

FOR OFFICE USE ONLY

Application has been reviewed and deemed complete.

Program Officer Assigned:	Deb	Date Application Received:	08/23/2019
<i>AccessManitoba</i> Client ID:	8016724	<i>AccessManitoba</i> Task ID:	1000227386
Version 3.0		June 19, 2019	