

COVER PAGE

PROJECT INFORMATION

Please complete the fields below with information regarding your project.

Project Title Toward a more sustainable Macdonald Farm: Assessment & Strategic Planning

Brief Description Conduct a feasibility study which will lay the groundwork for a long term strategic plan to implement more sustainable field practices at the Macdonald Campus Farm

Total Estimated Project Budget \$171,504 **Estimated Amount Requested from SPF (\$100-\$400K)** \$128,490

Campus(es) Impacted Downtown Macdonald Gault Nature Reserve Other _____

CONTACT INFORMATION

Project Leader

This person must be a current McGill University student, administrative staff, or academic staff.

Name	<u>Paul Meldrum</u>	Affiliation	<u>Administrative Staff</u>
Phone	<u>514-714-7989</u>	Faculty/Unit/Organization	<u>FAES - Mac Farm</u>
Email	<u>paul.meldrum@mcgill.ca</u>	Campus	<u>Macdonald</u>

Project Team Members

The SPF encourages you to be inclusive, collaborative (especially between staff and students), diverse, and interdisciplinary when possible. To list more members, please complete a second cover page. You may e-mail it to SPF Staff to include with your application.

Name	<u>Viacheslav Adamchuk</u>	Affiliation	<u>Academic Staff</u>
Email	<u>viacheslav.adamchuk@mcgill.ca</u>	Faculty/Unit/Organization	<u>FAES - Bioresource Eng</u>
Name	<u>Nancy Lavigne</u>	Affiliation	<u>Administrative Staff</u>
Email	<u>nancy.t.lavigne@mcgill.ca</u>	Faculty/Unit/Organization	<u>FAES - Mac Farm</u>
Name	<u>Martin Chaumont</u>	Affiliation	<u>Administrative Staff</u>
Email	<u>martin.chaumont@mcgill.ca</u>	Faculty/Unit/Organization	<u>FAES - Mac Farm - Field</u>
Name	<u>Michael Bleho</u>	Affiliation	<u>Administrative Staff</u>
Email	<u>michael.bleho@mcgill.ca</u>	Faculty/Unit/Organization	<u>FAES - Mac Farm - Hort</u>
Name	<u>Maxime Leduc</u>	Affiliation	<u>Postgraduate</u>
Email	<u>maximeleduc@gmail.com</u>	Faculty/Unit/Organization	_____

SUBMISSION INFORMATION

In line with the [SPF Eligibility Criteria](#), our team certifies that this project will take place at McGill University, is sustainability focused, is requesting seed funding, and is action oriented.

Yes No

Our team has read the [SPF Terms & Conditions](#) and agrees to respect them.

Yes No

Our team understands that this application is not confidential and consents to have its contents shared with relevant stakeholders during the review process if needed.

Yes No

BIG WAVE (\$100,000-\$400,000) PRE-APPLICATION FORM

Instructions: Please answer the questions below as clearly and concisely as possible. You will be able to detail your project further in an official application should your proposal be accepted. Once you have completed this form, save it and submit it online. SPF Staff will respond with feedback on your application within 2 weeks. Once the document is finalized, it will be provided to the SPF Governance Council for their review and decision. As a reminder, all SPF applications are assessed using the [SPF Eligibility & Evaluation Criteria](#):

ELIGIBILITY CRITERIA		EVALUATION CRITERIA		
AT MCGILL	SUSTAINABILITY FOCUSED	ANALYSIS	IMPACT	FEASIBILITY
SEED FUNDING	ACTION ORIENTED	COLLABORATION	SUPPORT	CAPACITY BUILDING

Before starting, you may find it helpful to consult the [SPF Sustainability Brief](#) and [Vision 2020 Climate & Sustainability Action Plan](#).

PROJECT IDEA

Criteria assessed in this section: **ALL ELIGIBILITY & EVALUATION CRITERIA**

- 1. What is your project idea? In your response, please describe how the idea will help contribute to sustainability at McGill. Describe the idea thoroughly and concisely, outlining the key activities and anticipated timeline. Limit ~600 Words**

Our idea is to investigate more sustainable agricultural field practices for the Macdonald Campus Farm. First, we will request Big Wave pre-application funding for a feasibility study which will feed into a strategic plan. Five external experts and a student worker will be hired to collect necessary data to create the feasibility study. Next, a multi-stakeholder group (Farm Research and Teaching Committee) will combine student & community feedback with the feasibility study results in order to write a long term strategic plan. The strategic plan will be synthesized by a hired student, and a graphic designer will create an attractive executive summary. With this strategic plan, we will be able to garner high level support and funding for the transition, and complete a Big Wave request to implement the changes outlined in the plan.

The feasibility study will evaluate the following scenarios: 1) current practices ; 2) areas that can be improved to be more ecologically sound; and 3) potential conversion to organic production. It will be important to canvas and include all of those who use the Farm (professors, students, Farm staff) to ensure their needs are met. The feasibility study will be completed with the collaboration of Farm employees, scientists, sustainability officers, student organizations, and the afore-mentioned group of 5 independent professionals, which will include an agro-economist, field water management engineer, forage specialist, organic crop specialist and a soil fertility agronomist. These professionals have a PhD or are recommended by the Coordination des Services-Conseil. The use of external professionals at McGill University is not a disavowal of the expertise of current researchers and professors on campus since they will be consulted during the process, but rather for legal reasons, the reduction of conflicts of interest, protection through liability insurance, and access to MAPAQ funding for advisor services and other financial programs when it comes time to implement a strategic plan. The MAPAQ will cover \$28,014.00 of the costs related to professionals.

During the process, we will hire a student to assist with the various processes, including digitizing historical data, updating inventory of farm equipment, and participating in meetings and consultation with stakeholders. We will also explore the possibility of incorporating the design of the consultation process as part of a student project, perhaps in a business management class, and ask MCSS to canvass students for their opinions. The recommendations of the external professionals and Farm stakeholders, along with the results of the student survey, will be reviewed by the Farm Research and Teaching Committee, chaired by the Assoc. Dean of Research at Macdonald Campus. This committee will synthesize the recommendations, and a student will be hired to write the

recommendations into a strategic plan, to be approved by the Dean. Once we have a strategic plan, we will then assess the resources needed to implement the plan and apply for funding through MAPAQ programs and the SPF Big Wave program.

Ultimately, the goals are to direct the Macdonald Farm to more sustainable field operations in line with McGill's Climate and Sustainability Strategy, to create conditions for accurate and visionary research, ensure a good relationship and reputation with our urban neighbours, mitigate financial risk, provide a roadmap for long-term investment, and set up a monitoring system to follow up on actions and ensure accountability for the new practices implemented.

2. What will be the impact of your project? If applicable, have you considered scaling the project to create impact at the university level? Note: Big Wave projects should have a significant impact on the McGill community and/or operations.

Limit ~200 Words

Due to the complexity of the Macdonald Farm, any change in agricultural practices is a very large and expensive endeavour, and will have a major impact on the various stakeholders such as researchers and students, as well as the economic viability of the Farm. This feasibility study will lay the foundation for a sound, sustainable strategic plan while aligning the Farm with its research, academic, production, and outreach responsibilities. Ultimately, data collected for monitoring will be used by researchers and students at McGill and other universities, as well as farms across the country. Agriculture students (FMT, undergrad, grad) will learn about these new techniques and take these practices home to implement on their own farms or as industry advisors. It will be a model of how to economically implement sustainable practices, and the steps necessary to switch from conventional to organic or a more environmentally responsible agriculture. The feasibility study will lead to a strategic plan that will expose students to best management practices for sustainable agriculture, enhance the McGill Feeding McGill program, and align our practices with Montreal's vision for green space. It will also will put us in a better position to secure MAPAQ subsidies, and be a socially responsible model for the general public who will visit the Farm.

3. Identify 3 key stakeholders that will be involved in or impacted by the project. Please attach a letter from these stakeholders indicating that they support your work towards developing the project. These stakeholders must be diverse and should include at least one student group and one university staff/faculty group. Note: Projects involving modifying a campus space, making an installation, hiring a full-time staff member, etc. must seek permission from the appropriate stakeholder(s) in advance. (e.g. Building director, Campus Planning and Development Office, supervisor, etc.)

Stakeholder's Name	Title	Role in the Project
Salwa Karboune	Associate Dean (Research)	User
Anja Geitmann	Dean, Faculty of Agricultural	User
Nikulas Dworek	President, MCSS	User

4. What is your estimated total project budget? Briefly list the main categories of expenditure and the corresponding funding amounts. Limit ~200 Words

The total cost will \$171,504, see Budget-Big Wave-Macdonald Farm for a detailed breakdown and explanation of each cost.

5. Why is funding needed from the SPF? Have you requested or do you anticipate requesting funding from other sources? If applicable, please list the sources and the estimated amounts in your response. Note: if your project involves cost savings or reductions for future years, a financial model will be required in the full application. Limit ~200 Words

A feasibility study is crucial to develop a clear, forward thinking Strategic Plan. It requires expert professionals to provide objective assessments of current practices and practical options for improvement. Funding from MAPAQ will cover 16% of the costs (\$28,014.00), but we need financial assistance from the SPF to cover the remaining 82% (\$128,490 - see Budget-Big Wave-Macdonald Farm.

PROJECT PLANNING

Criteria assessed in this section: **ALL ELIGIBILITY & EVALUATION CRITERIA**

While most projects do not need financial support for the planning phase, as part of the Big Wave funding stream, you may request funding for project planning in addition to implementation. Please note an approval of planning funding does not guarantee funding for project implementation. After your planning is complete, you will either be required to complete a report or submit a full application, which is required to access implementation funding. Additionally, planning funding is considered part of the total project funding; therefore, the total combined funding requested should be less than or equal to \$400,000.

6. Is your project ready to be reviewed in a full application by the SPF Governance Council if requested? You will have a maximum of one year to complete a full application after receiving a request.

- Yes, we have already assessed the project thoroughly and would like to submit a full application at this time.
- No, we haven't yet fully designed the project and need to further plan the project (e.g. through a community consultation process, design phase, feasibility study, or other project planning activities.) before submitting a full application.

7. If you answered no to question 6 and need support to complete the planning process, please detail the following:

- a brief explanation of the need for project planning funding,
- a plan for this phase with key activities and timeline,
- the main expenditures for this phase along with their corresponding amounts, and
- the expected outcome from this phase of the project.

Limit ~600 Words

As per the recommendations of the SPF Governance Council, we are submitting the pre-application for a feasibility study to develop a strategic plan. Once we have the strategic plan, we will then submit a full application to the Big Wave program to implement the plan. At that point, we will have specific actions and a timeline to facilitate implementation.

APPENDIX

Relevant Support Documents

List any appendix documents in order in the table below.

Please keep the total number of pages as low as possible (recommended max 10). Please include any relevant support letters.

Doc #	Appendix Document Title	# of Pages
1	Budget_Big_Wave_Macdonald_Farm.xlsx	4
2	Professional_Contract_Service.pdf	4
3	Dean Geitmann Letter of Support	1
4	Assoc. Dean Karboune Letter of Support	1
5	MCSS President Dworek Letter of Support	1

Item	Unit	Nb unit	\$/unit	Total	Comment
Outside income					
Financial help from Agri-Réseau	MAPAQ grant	1	\$28,014.00	\$28,014.00	Subsidy confirmed by Agri-Conseil July 27, 2020
Total outside income				\$28,014.00	
Cost					
Professional service cost					
Global agro-economic diagnostics (Luc Gagné, agr)	Contract	1.00	\$18,500.00	\$18,500.00	Global agro-economic diagnostics of the actual situation of the Farm for each sector of activity. See Professional Service description
Analysis of technical and economic results (Luc Gagné, agr)	Contract	1.00	\$5,850.00	\$5,850.00	Analysis of technical and economic results of dairy, field and vegetable sectors of the farm with the comparison of results with other Quebec farms. See Professional Service description
Business plan for new practice adoption (Luc Gagné, agr)	Contract	1.00	\$20,150.00	\$20,150.00	Economic analysis of the different strategies proposed by the agronomists and the engineers for promoting the most profitable solutions for the Farm. See Professional Service description
Agro-economic project Follow up	Contract	1.00	\$5,520.00	\$5,520.00	See Professional Service description
Microtopography (Rosane Chapot, agr, ing, Ph.D.)	Contract	1.00	\$9,990.00	\$9,990.00	Microtopography of the fields will allow preparation of levelling plans and provide data to research for future experiments. See Professional Service description
Field water management diagnostics (Rosane Chapot, agr, ing Ph.D.)	Contract	1.00	\$19,045.00	\$19,045.00	Conversion to organic production requires management changes and correction of all possible abiotic stresses for crops that can no longer be mitigated with chemical products. One method is to control excess water through surface and sub-surface drainage. By assessing and planning the drainage and levelling requirements, it will be easier to identify the fields that are ready for organic conversion and to budget for other required field improvements. Also, it will position the Farm to apply quickly for any future subsidies of the MAPAQ that could cover the cost of field improvements. Finally, it will facilitate researchers in selecting fields for their experiments. See Professional Service description
Field levelling and water management plans (Rosane Chapot, agr, ing Ph.D.)	Contract	1.00	\$18,515.00	\$18,515.00	
Soil precision analysis (Ève Pontbriand-Sarao, agr.)	Contract	1.00	\$9,044.00	\$9,044.00	Precision analysis of soils will provide a clear and precise picture of the actual carbon content and assessment of improvements in soil carbon sequestration in the future. This is also important in planning precision applications of fertilizer and lime, crucial for facilitating uptake of nutrients by crops, and reducing nutrient losses and cost of production. Precise soil analysis will also help prioritize which fields are ready for organic conversion, and provide data for field experiments. See Professional Contract service document
Organic conversion strategy (Vicky Villiard, agr.)	Contract	1.00	\$9,490.00	\$9,490.00	The agronomist will assess the current situation of field crop and fruit and vegetable production practices, including soil health, agronomic practices, farm equipment, labour and scientific needs. Then, with the collaboration of other professionals, Farm employees and researchers, she will provide technical recommendations that will be evaluated economically before being included in a plan. See Professional Contract Service document
Forage systems strategic planning (Maxime Leduc, Ph.D. agr.)	Contract	1.00	\$10,400.00	\$10,400.00	The agronomist will assess the forage management practices that are the base of the dairy herd health, productivity and profitability. This will include seeding, harvesting, storing, feeding, and the use of pasture. Then he will provide recommendations in line with the other professionals for improving actual management of the forage systems. See Professional Contract Service document
Translation of strategic plan	Contract	1.00	\$3,000.00	\$3,000.00	Hired professionals will likely be providing reports in French; this will allow smooth communication for the final products to the Farm Research and Teaching Committee and the broader McGill community.
Total professional service cost				\$129,504.00	
HR hire by university					
Research/academic associate for winter, summer & fall 2021	semester	3	\$9,000.00	\$27,000.00	We will hire a research/academic associate to work with Farm staff to compile historical field data so we can be up to date with our information for the feasibility study leading to a strategic plan. Other duties will include organizing the consultation process of students, researchers and Farm staff, presenting the results to the Farm Research and Teaching Committee (FRTC), compiling the reports of the consultants for review by the FRTC
Total HR hired by university				\$27,000.00	
Total cost				\$156,504.00	
Amount requested to SPF				\$128,490.00	
Proportion (SPF/Total cost)				82%	



January 18, 2021

Sustainability Projects Fund
McGill University

Re: **Big Wave Application – Macdonald Farm**

Dear members of the SPF Governance Council,

The application of the Macdonald Campus Farm for funding of a strategic plan for sustainable field operations represents a major move forward in the goal of the Farm and the Faculty of Agricultural and Environmental Sciences to practice and demonstrate industry leading environmental stewardship. I wholeheartedly support the plan to have independent professionals review our current practices with an eye to implementing more regenerative procedures and the potential of adopting organic practices in strategic areas.

I am particularly pleased with the fact that this project includes a significant partnership with the MAPAQ, which will not only bring financial benefits, but forge a stronger relationship that will lead to better learning and professional opportunities for our students, more collaboration with research programs, and a practical, environmentally conscious demonstration farm for Quebec's rural and urban population.

The Macdonald Campus Farm plays a significant role, not only in the Faculty of Agricultural and Environmental Sciences, but as a showcase of sound agricultural practices to both farmers and the general public. The timing is excellent, as the creation of a strategic plan for regenerative agriculture will put the Macdonald Farm in good position to welcome thousands of visitors when the Macdonald Farm Community Engagement Center opens in 2022.

To support the project I commit human resources from the Farm Research and Teaching Committee to review the reports of the consultants, providing direction as to what should be included in the final version of the Strategic Plan, and reviewing and eventually approving the final version of the Strategic Plan. As this plan will be the foundation on which we build the future of the Macdonald Campus Farm, I commit to exploring various funding opportunities with the aim to obtain the financial resources required to implement this plan.

It is my hope that you will join us as we embark on this review and renewal of the Macdonald Campus Farm.

Sincerely,

Anja Geitmann, Dean AES



**Faculty of Agricultural
and Environmental Sciences
Macdonald Research Office**
McGill University

Dr Salwa Karboune
Associate Dean, Research
Salwa.karboune@mcgill.ca

**Faculté des sciences de
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January 18th, 2021

To: Sustainability Projects Fund

Re: Big Wave Application – Macdonald Farm

Dear members of the SPF Governance Council,

The Macdonald Campus Farm plays an integral role in facilitating agricultural and environmental research. In order for this to happen, the Farm must continually evolve and adopt new procedures. As a Faculty of Agricultural and Environmental Sciences, it is important that we lead in farm practices that are environmentally sound. It is equally important that we have accurate, comprehensive and accessible data to make good management decisions, and to be able to conduct reliable and innovative research. The plan outlined in the Macdonald Farm Big Wave Application will help us to achieve these goals – it is comprehensive and fosters collaboration between the independent professionals working on the project and our experienced and innovative researchers at Macdonald and McGill.

The Farm Research & Teaching Committee (FRTC) will review and synthesize the recommendations, and present their final needs to the professionals who will collectively write the strategic plan. I cannot stress enough how crucial it is to formulate a strategic plan for management of the Farm fields that will be regenerative and ecologically responsible in a manner that will open doors to a wide variety of research trials. I am hopeful that the SPF Governance Council will see the value of this strategic plan and approve the application.

Sincerely,

A handwritten signature in blue ink, appearing to be "SK" with a flourish.

Dr. Salwa Karboune
Associate Dean (Research)
Faculty of Agricultural and Environmental Sciences

STAFF POSITION INFORMATION

Please complete the fields below with information regarding the position that you would like to fund through your project. Should you have more than one type of position, please fill and attach a form for each position.

Position Title	Strategic Plan Assistant
Brief Description of Role	Compile/organize data and reports produced by consultants, to assist the Farm Research and Teaching Committee in creating a Strategic Plan for Farm field operations

1. **This position is:** New Already exists on campus
2. **Please describe which McGill Unit/Department/Group/Association will host the position.** *Limit ~100 Words*

Macdonald Campus Farm

3. **Who will supervise the employee? Please list the supervisor's name and role at McGill.** *Note: The supervisor must provide a letter detailing their commitment. Please include this in the application appendix. Limit ~100 Words*

Paul Meldrum, General Manager, Macdonald Campus Farm, in collaboration with a member of the Farm Research and Teaching Committee.

4. **Campus(es) where employee will work:** Downtown Macdonald Gault Other _____

5. **Please provide a detailed task list and/or job description.** *Limit ~400 Words*

Collect data from the Farm's field unit on inputs, historical costs. Compile a list of all machinery in the Field Unit, Lods Agronomy Research Centre and Horticulture Research Centre. Conduct survey of McGill students and meet with academic users of the Farm with the external consultants to gain an understanding of the needs and vision of the different stakeholders. Assist the FRTC in preparation of documents and communication with stakeholders.

6. **Please share how you have determined the hours and wages included in the budget.** *Limit ~200 Words*

We are expecting the assistant to work 900 hours to complete the assigned tasks. The hours have been determined based on previous experiences with reviews and planning exercises. We are looking for a candidate at the level of research associate/academic associate, so at this level, the rate of pay is set at \$30/hour.

7. **If applicable, please share how you will integrate the employee into the existing team/group structure.** *Limit ~100 Words*

The employee will participate in meetings with the external professionals, students and academics, Farm staff and specified meetings of the Farm Research and Teaching Committee and/or any sub-committee of the FRTC.

8. **What will happen to the position after the project funding concludes? Is there an intent to institutionalize this position?** *Limit ~200 Words*

This is a temporary position designed specifically to assist the FRTC in devising and writing a strategic plan for the field operations of the Macdonald Campus Farm. Once the plan has been completed and approved, it is expected that the position will be terminated.

9. **If applicable, please briefly describe how you plan to recruit the employee.** *Limit ~200 Words*

The employee will be recruited through a job posting within McGill University

10. My project team already has a candidate in mind to fill this position: Yes No

If yes, please disclose. *You may wish to attach a CV for the candidate in the application appendix. Limit ~100 Words*



January 18, 2021

To: SPF Governance Council

From: Paul Meldrum, General Manager, Macdonald Campus Farm

Re: Letter of Commitment for Staff Position – Strategic Plan Assistant

Dear Members of the SPF Governance Council,

I can confirm that I am firmly committed to overseeing the work of the Strategic Plan Assistant with input and collaboration from the Farm Research and Teaching Committee (FRTC). Moreover, I am committed to providing the resources necessary for this person to perform his/her/their duties to ensure a widely encompassing survey of students and stakeholders on their needs and vision for the Macdonald Campus Farm, and the compilation of these surveys into a report, with the presentation of this report to the FRTC and the professional agronomists who will be conducting analyses of the Farm's field operations.

I have experience supervising student assistants in other projects, as well as many years of supervising students as an instructor and as an employer.

The formulation of a Strategic Plan for the field operations of the Macdonald Campus Farm is crucial to the future viability of the Farm, and by extension, the research, teaching and extension activities at the Faculty of Agricultural and Environmental Sciences. Thus my commitment is essential to see this process through.

Sincerely,

Paul Meldrum
General Manager
Macdonald Campus Farm

514-714-7989

paul.meldrum@mcgill.ca