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SPF Application Form

Section A - Cover Page

Fill out this Cover Page and save it to your files for future reference before uploading it on the SPF website.

Project Title Ecological Improvement of Dairy Cow Pasture at the Macdonald Campus Farm

In one to three sentence(s), explain what your project is about:

Using best mangement pratices for creating an environmentally friendly pasture at Macdonald Farm to sequester carbon, provide an enhanced environment for birds and insects, to improve dairy cattle nutrition and well-being, to use the Mobile Chicken Coop, and to demonstrate this system to students, the general public and industry.

Indicate the McGill campus(es) where your project will be implemented:

(●) **Macdonald** ( ) **Downtown** ( ) **Gault Reserve** ( ) **Bellairs Research Institute** ( ) **Other (Specify):**

Approximate Budget Requested to the SPF ($):	106,000	**Approximate Total Project Budget** *(incl. other sources of funding if applicable)* ($):	127,000

List 1 to 3 main item(s)/expense(s) for your project that SPF money will be used for *(incl. approx.% of total budget)*: Labour (20%)/ fence construction & repair (30%) / machinery (25%)

Indicate which of the following team members...

... will be in charge of monitoring the project's budget *(maximum 1 person)*: Nancy Lavigne

... will be the Project Lead *(Project Lead will be the contact person for the SPF Staff)*: Paul Meldrum

The Project Lead stays for the entire duration of the project: ☒ **Y** ☐ **N**

If no, explain in a few sentences your leadership transition plan for one or both of the Project Lead for sustainable continuation of the project:

PROJECT TEAM MEMBERS *(read details about SPF Evaluation Criteria #5 for more information)*

The SPF encourages your team to be inclusive of individuals who voluntarily self-identify as members of marginalized communities (e.g. women, Indigenous people, people of colour, LGBTTQI, student parents, members of ethnic minorities, immigrants, people with disabilities).

1. Project Team Member

First Name & Last Name Paul Meldrum
Phone *(daytime; only put #)* +1 (514) 714-7989
Email paul.meldrum@mcgill.ca
Affiliation *(select one)* Administrative Staff (ST)
Specify if Other Farm Manager
Faculty/Unit/Organization Macdonald Campus Farm
Campus *(select one)* Macdonald

2. Additional Project Team Member

First Name & Last Name Maxime Leduc
Phone *(daytime; only put #s)* +1 (819) 440-9128
Email maxime.leduc@mail.mcgill.ca
Affiliation *(select one)* Post-graduate (PG)
Specify if Other Forage & ruminant specialist
Faculty/Unit/Organization Valacta
Campus *(select one)* Macdonald

3. Additional Project Team Member

First Name & Last Name Nancy Lavigne
Phone *(daytime; only put #s)* +1 (514) 398-7701
Email nancy.t.lavigne@mcgill.ca
Affiliation *(select one)* Administrative Staff (ST)
Specify if Other
Faculty/Unit/Organization Macdonald Campus Farm
Campus *(select one)* Macdonald

4. Additional Project Team Member

First Name & Last Name Philippe Seguin
Phone *(daytime; only put #s)* +1 (514) 398-7855
Email philippe.seguin@mcgill.ca
Affiliation *(select one)* Academic Staff (AC)
Specify if Other
Faculty/Unit/Organization Department of Plant Science
Campus *(select one)* Macdonald

More mandatory information to be provided on next page.

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SPF Application Form
Section A - Cover Page

PROJECT TEAM MEMBERS (CONT'D)

5. Additional Project Team Member
First Name & Last Name _____
Phone *(daytime; only put #s)* _____
Email _____
Affiliation *(select one)* _____
Specify if Other _____
Faculty/Unit/Organization _____
Campus *(select one)* _____

6. Additional Project Team Member
First Name & Last Name _____
Phone *(daytime; only put #s)* _____
Email _____
Affiliation *(select one)* _____
Specify if Other _____
Faculty/Unit/Organization _____
Campus *(select one)* _____

7. Additional Project Team Member
First Name & Last Name _____
Phone *(daytime; only put #s)* _____
Email _____
Affiliation *(select one)* _____
Specify if Other _____
Faculty/Unit/Organization _____
Campus *(select one)* _____

8. Additional Project Team Member
First Name & Last Name _____
Phone *(daytime; only put #s)* _____
Email _____
Affiliation *(select one)* _____
Specify if Other _____
Faculty/Unit/Organization _____
Campus *(select one)* _____

To list more members, fill a 2nd Cover Page form and save it separately. You may then e-mail it to SPF Staff directly, also specifying your project title.

Has any member on your team been part of an SPF project in the past? ☒ **Y** ☐ **N** *If yes, list all the projects they have been part of in a one-page appendix, which you will be asked to submit later in the application process.*

OPTIONAL:
If applicable, total number of team members voluntarily self-identifying as members of marginalized communities: _____
Represented marginalized communities: Women _____ Ethnic Minorities _____ _____
Specify if Other(s) and/or add more: _____

Relevant link(s): *(to website(s) or social media)* _____

If you plan to recruit volunteers to help implement your project, please indicate how many: _____

How did you learn about the SPF? *(select one)* SPF Staff **Specify if Other** _____

Please check the boxes to confirm that you have read and agree to the following information:

☒ All of our project team members understand that the SPF is publicly funded and therefore, by default SPF projects are not confidential. We agree that if needed, the SPF Steward, the SPF Administrator and/or the SPF Working Group members read and/or share the application and/or communicate part of its content in the case where they would need to (e.g. to receive professional advice, connect our team to stakeholders, etc.).

☒ If our project is approved, all our project team members agree that their name, email, and phone number as well as their participation to the project be disclosed (e.g. for contact information or through our application and progress/final reports published on the SPF website).
If you do not check this box, the SPF staff will communicate with you to know whose information to remove before sharing your project online.

☒ All our project team members have read and understood the SPF Terms & Conditions, and we confirm that we agree to respect them.
If any aspect of the SPF Terms & Conditions are unclear to you, contact the SPF Staff before you submit your application so that you can check this box in confidence. Also note that, if your project is approved, all project team members will have to confirm in writing (through email or signing the document) that they agree to the SPF Terms & Conditions before officially starting the project.

Thank you! Save this form to your files for future reference and then fill Section B - 'Project Overview' of the SPF Application Form to complete the first stage of the SPF application process.

Date 1/16/19

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SPF Application Form

Section B - Project Overview

Answer the following questions and save this form to your files for future reference before uploading it on the SPF website with Section A - Cover Page.

Project Title Ecological Improvement of Dairy Cow Pasture at the Macdonald Campus Farm

Project Lead First & Last Name Paul Meldrum **Phone** *(daytime)* +1 (514) 714-7989 **Email** paul.meldrum@mcgill.ca

*Before you fill out this Project Overview, make sure you have consulted all related application documents online, including the SPF Evaluation Criteria, the SPF Glossary, the SPF Project Flow Diagram, and the SPF Sustainability Brief. Read all questions first before starting answering them. Answer **exactly** what is being asked: go straight to the point and stay clear and succint. If need be, you will have a chance to include additional information in appendices at a later stage of the application process. The characters' limit (including spaces) is indicated for each question so that you can draft your answers in Word first if you want to (you will have to remove all formatting in Word before pasting here). Note that any skipped line will make you loose the line's characters (approx. 140 characters). Once you successfully pass this first stage of the application process, the SPF Staff will ask you to fill a Project Plan, in which you will specify your expected impacts, S.M.A.R.T. objectives and main activities, outputs, success indicators, stakeholders, main risks and mitigation measures, preliminary timeline, and costs. Although it is OK for you not to have all these details ready at this stage, having thought about them in advance will help you succeed in responding to the following questions.*

Project Vision To create a model for sustainable pasture management to improve cow comfort and enhance the natural environment

A vision depicts the ideal future that someone is hoping for. Thus, a vision is a dreamed aspiration that someone intends to lead or contribute to, and it does not necessarily need to currently seem realistic. As such, tell us how you see McGill campuses in an ideal world once your project is completed successfully. The vision does not need to be completed within the timeline of the SPF funding.

Project Goal To develop an ecological pasturing system that enhances animal nutrition & comfort while enhancing the environment

A goal is the overarching desired tangible realization (and thus change) to be achieved within the project's lifespan. The goal contributes to the project's vision in a palpable and realistic manner. The project's goal may last longer than the SPF funding lifespan. In line with the SPF mandate, when achieved, your project's goal should result in a culture shift (e.g. change in ideas, habits, behavior).

1. What is the specific sustainability-related issue/challenge that you see on McGill campus(es) that you want to address? *(530 char. max. ~80 words)*

As part of McGill's objective to achieve carbon neutrality by 2040, the Macdonald Campus Farm can contribute by pasturing non-lactating dairy animals and a small flock of laying hens in an intensively managed rotational grazing system that provides optimum nutrition to the animals while improving soil organic matter and creating a natural environment for birds and pollinators. This could be used as a model for the industry, as well as to demonstrate a sustainable system to students, field advisors and the general public.

2. What is your project idea and how will it help address the above issue/challenge? *(2000 char. max. ~300 words)*

The project is subdivided into two parts. The first is the improvement of existing pasture for bred heifers and dry cows in the Mac dairy herd using Best Management Practices (BMP) for pasture that include legume and grass species selection, innovative, user fridndly and animal friendly fencing systems for intensive grazing, planting of trees and bushes to generate shade during the summer, water systems, and a rotational grazing strategy to manage the grass for a prolonged grazing season. The second part is for putting in place a knowledge transfer strategy for McGill students, dairy producers and other visitors by using the Macdonald Campus Farm as a demonstration site. This integrates extremely well with the courses available in Animal Science, Plant Science, Natural Resource Science and the Farm management and Technology program. It will also be an important part of public visits that will ensue with the opening of the Macdonald Farm Community Engagement Centre. Intensively managed rotational grazing dairy cattle will help reduce the Macdonald Farm's carbon foot print by: 1) improving productivity of the pasture, which stores carbon; 2) reducing the amount of labour and equipment used in harvesting forage to feed cattle that might normally be housed indoors; 3) reducing the storage of manure in manure pits; and 4) increasing longevity of dairy cows by providing exercise and better comfort on pasture. Changing long-standing practices in agriculture is complex and often requires convincing by example. The adoption of BMP for efficient and effective pasture management at McGill's Macdonald Campus Farm will be beneficial in the education of students at McGill by providing a practical and feasible example of BMP for pasture in addition to facilitating the transfer of knowledge to the producers.

3. What impacts do you want your project to have on McGill structures, processes and/or systems? Also specify how this should positively transform peoples' behaviors/perspectives/habits on McGill campus(es). *(935 char. max. ~135 words)*

Effectively implemented and managed, this project will introduce an environmentally friendly method to feed and house non-lactating dairy animals using BMP that drastically improve the inefficient, old-fashioned pasturing methods of our grandparents' generation, where cattle ran out of feed by the end of June and either got thin or had to be fed hay. With properly managed rotational grazing providing fresh grass, access to clean water and shade, the cattle will perform well, develop good muscle tone and be in better condition. It will change heifer raising on the Macdonald Farm and potentially on other farms, while demonstrating to McGill students, staff, and the community as a whole that McGill is taking initiative to reduce carbon emissions on its dairy farm and to improve the well-being of its animals - two major societal critiques regarding the dairy industry at this moment.

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SPF Application Form

Section B - Project Overview

4. What institutional and financial arrangements will make these impacts continue after SPF funding? *(530 char.max.~80 words)*

Once the pasture infrastructure is established, it will become part of the Macdonald Farm management system and can conceivably be used for at least 20 years with minimal regular maintenance. Money to maintain the system will come from the Farm's operating budget.

- ABOUT SUSTAINABILITY -

5. How do you intend to address social, environmental, and/or economic dimensions of sustainability in your project's objectives? *(1350 char. max. ~200 words)*

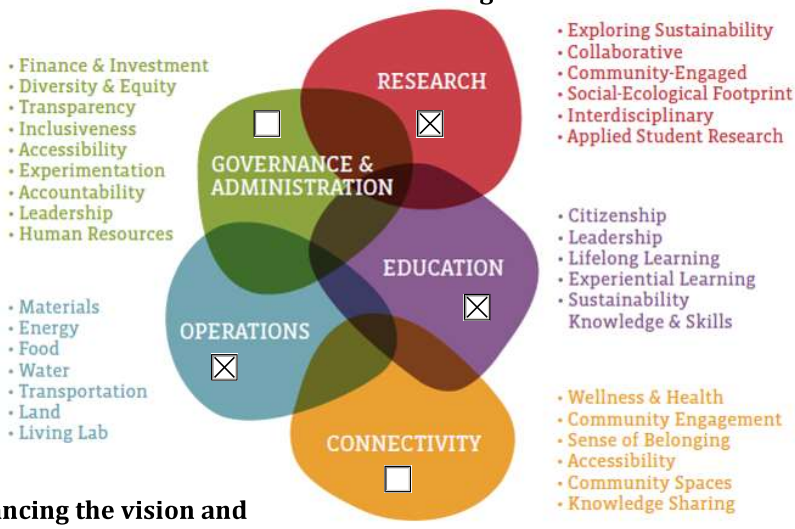
The environment and animal welfare are two main current concerns for consumers. The adoption of BMP for pasture and the continuing use of this pasture will address these concerns by reducing the carbon footprint related to milk production and improving the comfort and well-being of dairy cows. The reduction of the carbon footprint will be obtained by 1) improving productivity of the pasture; 2) reducing the amount of labour and equipment used in harvesting forage to feed cows when inside; 3) reducing the storage of manure in manure pits; and 4) increasing longevity of dairy cows by providing better comfort on pasture. The animal welfare concerns will be addressed by showing that offering cows the opportunity to demonstrate natural behaviours through grazing pastures and by alleviating the potential for heat stress by providing shade on pasture during the summer. The economic cost will be attenuated by reducing cost of manure applications and forage harvesting as well as reducing cow injury and lameness associated with complete indoor confinement. Data will also be collected during the first 2 years to measure this economic benefit.

6. In addition to having sustainability-related objectives (Q5), how will you ensure that your project is also executed/ managed sustainably (e.g. material local sourcing; accessibility - see the SPF Sustainability Brief)? *(530 char.max. ~80 words)*

For this project we will collaborate with the MAPAQ and Valacta to develop a pasture management strategy and work with local seed retailers for seeding the field.

Beside appear the five categories in which the McGill students, faculty, and staff think the University can make a positive difference within society. The McGill Sustainability Strategy, Vision 2020, describes a specific vision and goals for each of these categories, as they were defined by the McGill direct stakeholders through a comprehensive consultation process.

Vision 2020 Categories



7a. In the figure, check all the categories under which your project falls *(you can select only one if no others apply to your project).*

7b. Among the categories that you checked, select the one that you think is most relevant to your project:

Dominant Category: Operations

7c. How does your project concretely contribute to advancing the vision and goals described under the Vision 2020 category that is most relevant to your project? *(800 char. max. ~115 words)*

The long-term objective of McGill is to become a carbon neutral institution by 2040, of which the reduction of carbon emissions at the dairy farm will need to be a part. In the short-term, the project will (O-2): optimize the environmental performance of McGill's buildings and (O-3): develop a Waste Reduction and Diversion Plan by improving carbon sequestration of the pasture and reducing carbon emission from the manure pit. It will also reduce forage loss consumed by the cow. The project will (E-1): increase access to extra-curricular opportunities in sustainability for undergraduate students by offering an example of BMP for pasture. The project will (R-1): Enhance the visibility of sustainability research at McGill by being the only university farm promoting this practice across Canada.

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SPF Application Form

Section B - Project Overview

8. How does your project relate to any current/past initiative(s) on McGill campus(es) (e.g. other SPF projects)? If applicable, also indicate: 1) how your project complements the initiative(s), and 2) how you will partner with them in implementing your project (e.g. working together on some activities, sharing material/resources/costs). *(2000 char. max. ~300 words)*

This project could be complementary to the following project: Mobile Chicken Coop Renovations (SP0175) by using the chickens in this project to consume parasites present in the field after the cows/heifers have finished grazing. Also, this project is related to current research of Dr. Elsa Vasseur focusing on dairy cow longevity in relation to the provision of exercise and outdoor access for dairy cows. It also ties in nicely with the Farm's support for the Permaculture Garden, the Macdonald Student-run Ecological Gardens (MSEG) and the Macdonald Farm Community Engagement Centre.

9. List the other stakeholders on/off of McGill campus(es) that you will partner with for your project. *(530 char. max. ~80 words)*

Note: *Under Stage 2 of the SPF application process, in the Project Plan, you will be asked to indicate your final key partners and specify how they will participate in your project. You will also be able to submit any documents that you want in appendices to demonstrate your communications and agreements with these key partners (e.g. support letters, emails).*

Canadian Forage & Grassland Association, Valacta, MAPAQ, Animal Science, Plant Science and Natural Resource Science departments

10. What key recommendations and/or lessons learned from current or past initiative(s) do you plan to build your project upon? *(800 char. max. ~115 words)*

From observing past initiatives, it is important to organize the project in a way that will ensure its existence and relevance for many years. It is also important to make sure that the project is realistic for dairy producers to implement on their farms in order to encourage adoption of this approach.

- ABOUT SPF FUNDING -

11. Why do you think that your project should be funded by the SPF rather than by, or in addition to, another source of funding - i.e. what aspects of your project make it specifically relevant to the SPF mandate? *(530 char. max. ~80 words)*

This project is relevant to the SPF mandate because it will improve soil organic matter, increase carbon sequestration and provide an improved environment for dairy cattle, birds and pollinators. It can demonstrate that production agriculture can not only co-exist with the natural environment, it can actually enhance it while becoming more sustainable. The Macdonald Campus Farm is well-positioned to take the lead in this approach, and to demonstrate the benefits to producers, students and the general public.

12. What other sources of funding have you approached for your project? If applicable, also provide the relevant details on these sources (e.g. responses given, amounts already committed, what these amounts will pay). *(530 char. max. ~80 words)*

Canadian Forage & Grassland Association will provide 18k$ over two years for demonstration sites leading to carbon sequestration practices. We are asking MAPAQ to contribute 3-5k$ for planting trees and hedges for shade, windbreak and wildlife. Valacta will be asked to contribute advice from their forage and/or organic production specialists valued at approximately 4k$.

Thank you! After you save it to your files, you can now upload this form and Section A - Cover Page on the SPF website to complete this first stage of the application process. The SPF staff will contact your team within two weeks to provide feedback and accompany you towards next stage - Project Plan. Congratulations for applying to the SPF!

Date 1/15/19

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SPF Application Form
Section C - Project Plan

Answer the following questions and save this form to your files for future reference before uploading it on the SPF website.

Project Title Ecological Improvement of Dairy Cow Pasture at the Macdonald Campus Farm

Project Lead First & Last Name Paul Meldrum **Phone** *(daytime)* +1 (514) 714-7989 **Email** paul.meldrum@mcgill.ca

Before you fill out this Project Plan, make sure you have consulted all related application documents online, including the SPF Evaluation Criteria and the Project Plan Flowchart. Also make sure to consult the SPF Glossary, as it clearly defines each term underlined in this form, as well as the Sample Project Plan, which gives some concrete examples for each term. Last, also do not forget to refer back to your 'Section B - Project Overview' to make sure that all the details you specify here align with it. For more support, consult the SPF website and the SPF staff.

Project Vision To create a model for sustainable pasture management to improve cow comfort and enhance the natural environment

As indicated in your Section B - Project Overview.

Project Goal To develop an ecological pasturing system that enhances animal nutrition & comfort while enhancing the environment

As indicated in your Section B - Project Overview.

1. List 1 to 3 main impacts you expect/wish to have with your project - these must relate to the above Vision and Goal:

As per question #3 of your Project Overview. If you think of more than 3 impacts, only indicate the ones you think are the most relevant to sustainability at McGill.

	Expected/Desired Impact *(200 char. max. ~30 words)*
A	Improve the quality of the pasture to provide adequate nutrition for proper growth and health required by dairy heifers and dry cows that will be equal to or greater than those in the barn
B	Sequester carbon and enhance the pasture environment for cattle and wildlife by planting trees and shrubs
C	Use this project as a demonstration to the dairy industry, government, researchers and the public of the successful co-existence of agriculture and the environment

2. List 4 to 7 of your objectives to reach the above impacts with your project. Make your objectives as S.M.A.R.T. as possible. For each objective, indicate one key Success Indicator. *(see SPF Glossary, Sample Project Plan, and Sample Indicators)*

Of your 4-7 objectives, you should have a minimum of one "monitoring" objective, one "outreach" objective, and two "other" objectives. A monitoring objective ensures or verifies the progress and effectiveness of your project, thus allowing you to learn from it. An outreach objective ensures that your project is adequately communicated to the McGill community to increase stakeholders' awareness of and/or participation in your initiative. These two types of objectives might lead to project monitoring and outreach activities (next question). The nature of the 2-5 other objectives is for you to decide and tailor to your project. If you have more than 7 objectives, only indicate the ones that relate best to the above impacts and thus to sustainability at McGill. For each objective, specify the key success indicator(s) that you think should be used to assess the objective's degree of achievement/completion. Your indicators can be qualitative or quantitative (e.g. number of participants, participant testimonials, website analytics, quantity of energy saved, etc.). See the document Sample Indicators for inspiration.

#	Type of Objective	S.M.A.R.T. Objectives *(125 char. max. ~20 words)*	Related Impact(s) (A, B, C)	Related Key Success Indicator(s) - also indicate targeted numbers for each *(85 char. max. ~15 words) (ignore the circles for now)*	
1	Outreach	To have the project seen and use by McGill students, professors, dairy farmers, urban school children and the general public	C	Number of McGill students using project and number of outside visitors	◯
2	Monitoring	Manage pasture to ensure optimal grass performance and animal growth. Protect trees and shrubs from cattle	A, B	Grass growth & quality, animal height and weight at end of season, health of trees	◯
3	Other	Reduction of stored manure and forages to reduce carbon footprint	B,C	The amount of manure diverted from storage; reduction in usage of stored feed	◯
4	Other	Increase in biodiversity at Macdonald Farm	B, C	Census of birds & insects to be done by McGill students as part of course work	◯
5	Other	Use Mobile Chicken Coop in pasture paddocks	C	Egg production, health of birds	◯
6					◯
7					◯

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3. List the 4 to 7 most important activities that you need to conduct to reach the objectives you listed before. Make these as S.M.A.R.T. as possible. Also indicate at least one output and a key success indicator per activity. *(Sample Project Plan)*

Your main activities should relate to the objectives you listed. As such, if you consider this crucial to your project, you may end up having an activity that relates to your monitoring objective(s) (e.g. developing a survey, any other activity that will help you and other stakeholders learn through your project) or to your outreach objective(s) (e.g. producing and promoting a video about the project). For each activity, indicate the output(s) that will be created as a result, such as a deliverable (e.g. video, report), training, website, network, design plan, or any other output adding value to the project and helping reach objectives/impacts.

S.M.A.R.T. Main Activities *(125 char. max. ~20 words)*	**Related Objective #(s)**	**Resulting Output(s)**	**Related Key Success Indicator(s) - also indicate targeted numbers for each** *(85 char. max. ~15 words) (ignore the circles for now)*	
Rejuvenate pasture grasses with multiple species	1, 2	Higher productivity	Measurement of grass density, growth of animals	◉
Plant trees and shrubbery	1, 2, 4	Bird habitat; shade for cow	Evidence & census of birds & insects; cattle using shade	◉
Install electric fencing and gates for rotational grazing	1, 2, 3	Intensive pasture mgmt	Ease of moving animals; re-growth of grass in paddocks	○
Install water lines & cement pads for water tanks	1, 2	Access to fresh water	Use of water system by cattle	○
Hiring of student to manage cattle, grass & chicken coop	1, 2, 5	Successful management	Pastures in good shape, cattle and chickens healthy and producing well	○
Workshops for farmers, public & students	1, 5	Knowledge transfer	Feed back from participants, instructors	◉
Install segregated feeding area	1, 2	Management of pasture	Good re-growth of grass after dry period	○

Provide any additional qualitative details that you would like to share with the SPF about your activities.*(800 char.max.~115 w.)*

Use of the Mobile Chicken Coop in this project will allow chickens to graze in the paddocks after the cattle have moved, where they will reduce the number of pesky flies that are harmful to cattle by eating the larvae in the manure paddies, as well as adding nitrogen to the soil through their droppings.

4. Now, about the circles...: Select a total of 3 success indicators that you wish to track more seriously and report on during your project out of all those you indicated for your objectives and activities. These 3 indicators should be the most relevant to your goal and to creating a culture of sustainability at McGill and they should be relatively easy to monitor.

When selecting your indicators, make sure that you will have/plan the time and resources you will need to allocate to monitor them throughout the course of your project. Before you start your project, the SPF may ask you to change a chosen indicator for another that seems more pertinent to the SPF or to the University sustainability reporting. Note that, in addition to these three indicators, you will be asked to track four other generic ones that will be specified in the Award Letter.

You will be required to indicate progress towards your final 7 indicators in your progress and final reports to the SPF. Because the SPF values the experiences and learning that occurs during your project (not only results), these reports will also gather related information through open-ended questions.

We have selected the 3 Success Indicators that we wish to monitor during the project: ☒

5. For all projects, there exist various risks, i.e. factors or preconditions whose probable presence or absence could negatively influence the successful achievement of the project's objectives. Please indicate 2 to 4 main risks for your project and the mitigation measures you intend to use/implement to reduce their likelihood. *(advise if you have more to list)*

It is particularly important that you list all risks to health and safety of the project's team members, direct and indirect stakeholders, and/or the environment.

Main Risks *(65 charac. max. ~9 words)*	**Preventative Measures** *(65 char. max. ~9 words)*
Lack of rain for optimal pasture growth	Temporary feeding area until rains return
Lack of rain could affect success of tree plantings	Use Facilities' mobile watering system to water trees
Slow establishment of new grasses	Soil testing, balancing pH, fertilization, delayed grazing

If needed, list additional Main Risks in a separate appendix.

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6. List the 3 to 10 stakeholders/partners on/off McGill campus(es) that will be involved with and/or impacted by your project, and indicate their respective role in your project. *If your project team (as presented on Section A - Cover Page) does not include a student member or a faculty or administrative staff member, please make sure to have this group represented as part of your stakeholders/partners to better align with SPF Evaluation Criterion #5.*

Stakeholder's Name(s)	Affiliation	Role in the project	Confirmed support/ participation
Dr. Philippe Seguin	Plant Science Professor, McGill	Use the project as a teaching tool, logistical aid	Yes
Dr. Raj Duggavathi	Animal Science Professor, McGill	Use the project as a teaching tool	Yes
Dr. Grant Clark	Bio Resource Eng. Prof., McGill	Use the project as a teaching tool	Yes
Peter Enright	Director, FMT Program, McGill	Use the project as a teaching tool	Yes
Chris Molgat	Faculty Lecturer, FMT, McGill	Use the project as a teaching tool	Yes
Chantal Charette	Dairy Manager, Macdonald Farm	Use the project to raise heifers & dry cows	Yes
Dr. Maxime Leduc	Post-Doc Intern - Forage, Valacta	Logistical support; use project as a demo	Yes
Meghan Guysinger	Mac Poultry Club leader	Use the project as a learning opportunity	Yes
Andre Vezina	Agro-Forestry specialist	Logistical support	Yes
Paul Meldrum	Manager, Macdonald Farm	Logistical support	Yes

- PRELIMINARY TIMELINE ASSUMING THAT PROJECT STARTS IN 3 MONTHS -

Note: *If your project is approved, you will be asked by the SPF staff to fill out a more detailed timeline before any funding can be allocated.*

Key Tasks and/or sub-tasks	Related Output(s)	Responsible Team Member(s) and Time *(initials + if paid, estimated # of hours to do task)*	Start Date	End Date
Re-seeding of pasture	Better grass prod	PM, ML, PS	May 1, 2019	May 15, 2020
Planting of trees	Bird env., shade	PM, ML, 4 students - 240 hours total	Apr 22, 2019	May 3, 2019
Installation of electric fence	Cattle enclosure	PM, ML, CM	May 6, 2019	May 17, 2019
Installation of water lines	Water for cattle	PM, ML	May 6, 2019	May 17, 2019
Installation of segregated Feeding Area	Protect pasture	PM, ML	Jun 3, 2019	Jun 28, 2019
Hiring of student employee	Co-ordinator	PM	Apr 29, 2019	Oct 31, 2019
Installation of signage	Identify project	PM, ML	Jun 17, 2019	Jul 26, 2019

Provide any additional details that you would like to share with the SPF about your timeline. *(530 charac. max. ~80 words)*

Re-seeding of the pasture will begin with a main paddock in May 2019 and will be done in stages to allow establishment of grasses in each new area seeded, while still permitting use of other paddocks by livestock. The labour and equipment for re-seeding will be provided by Macdonald Campus Farm (an in-kind value of $6,800.00). Signage will be installed after major components have been installed and construction work completed.

- ADDITIONAL INFORMATION -

Qualifications: If applicable, a List of Tasks for each position to be funded and the CVs of those to be employed in the project are attached: ☐

List of appendices, if any *(maximum 7 pages of appendices, excluding CVs, but including List(s) of Tasks for all positions to be funded)*:

If a McGill department/unit is to contribute financially to your project, make sure to include a support letter from its Financial/Budget Officer confirming contribution. Note that the SPF Working Group will evaluate your project based on your main application forms (i.e. Sections A, B, and C), not on appendices.

Appendix #	Title/Topic of Appendix	Total Qty of Pages
1	Student co-ordinator	1
2	Tree planter/fence builder	1
3		
4		
5		
6		
7		

- BUDGET -

When completing this form, please refer to the SPF Guide to Budgeting for additional information and explanations. If you would like to submit a more elaborated Financial Model/Business Case in addition to this SPF project budget (for instance, because of the nature of your project; e.g. you plan to generate some revenues through selling some items, revenues that will then allow your project to become financially self-viable), please develop it separately and join it as an appendix to this application. If you need guidance on how to elaborate a Financial Model/Business Case, see suggested resources on the SPF website.

REVENUES

Please indicate any funding you will receive or anticipate receiving to complete your project, including funds from McGill Departments and Units.

Reminder: For McGill department/unit's financial contributions, make sure to include a letter from its Financial/Budget Officer confirming contribution in appendix. Note that this contribution will also need to be confirmed at the end of the project.

(A) **Funding Source(s)**		(B) **Amount** ($)	(C) **Status**
1.	Sustainability Projects Fund (SPF)	$106,318.00	Unconfirmed
2.	Canadian Forage and Grasslands Association (CFGA)	$18,000.00	Confirmed
3.	MAPAQ	$3,000.00	Unconfirmed
4.			Unconfirmed
REVENUES GRAND TOTAL - add all (B)		**$127,318.00**	

EXPENSES

1. Salaries & Wages *(only if applicable)*

If applicable, indicate the job position(s) under your project and the associated costs. See the SPF Guide to Budgeting for further instructions.

(A) **Position Title**	(B) **~# of Hours per Week**	(C) **~# of Weeks**	(D) **Hourly Wage*** ($)	(E) **Subtotal** ($) (B x C x D)	(F) **20% Benefits**	(G) **Total Cost** ($) (E x F)	(H) **Funding Source(s)****
Pasture Coordinator	20	24	$14.00	$6,720.00	1.2	$8,064.00	1
Tree Planter/Fence Builder	40	4	$14.00	$2,240.00	1.2	$2,688.00	1
Tree Planter/Fence Builder	40	4	$14.00	$2,240.00	1.2	$2,688.00	1
Tree Planter/Fence Builder	40	4	$14.00	$2,240.00	1.2	$2,688.00	1
Expenses Subtotal 1 - add all (G)						**$16,128.00**	

Do you already have a specific person in mind for filling the above position(s)? ☐ Y ☒ N

Do you have a personal and/or professional affiliation with the above position(s)? ☐ Y ☒ N

If you answered 'Y' to one or both of the above questions, please disclose:

2. Other Expenses

Indicate all of the expenses associated with your project; think back to all of your project's activities and all of the items that you need to complete them. It may be beneficial to group by category (not required); if you do so, please use the following categories: Materials-Supplies, Equipment, Printing, Events, Transportation, One-time Profess. Fees, and Miscellaneous.

(A) **Item Description** (inputs)	(B) **# of Units**	(C) **Unit Cost** ($)	(D) **Total Cost** ($) (B x C)	(E) **Funding Sources****
Electric Fence	1	$9,027.49	$9,030.00	1
Repair Existing Fence	1	$10,000.00	$10,000.00	1
Secure laneway fence	1	$8,000.00	$8,000.00	1
Water system	1	$4,596.39	$4,600.00	1
Trees	1	$9,315.79	$9,315.00	1
Field Seeding	1	$5,250.00	$5,250.00	1
Repair 40 hp tractor	1	$10,000.00	$10,000.00	1
Mower for tractor	1	$12,995.00	$12,995.00	1
Feeding area	1	$10,000.00	$10,000.00	1
Hoof trimming stall	1	$10,000.00	$10,000.00	1
Expenses Subtotal 2 - add all (D)			**$89,190.00**	

(A) **Item Description** (inputs)	(B) **# of Units**	(C) **Unit Cost** ($)	(D) **Total Cost** ($) (B x C)	(E) **Funding Sources****
Herbometer	1	$1,000.00	$1,000.00	1
Agro-Forestry Consult	1	$3,000.00	$3,000.00	3
Workshops for 2 years		$18,000.00	$18,000.00	2
Expenses Subtotal 3 - add all (D)			**$22,000.00**	

EXPENSES GRAND TOTAL (Subtotals 1 + 2 + 3) **$127,318.00**

* *See the SPF Guide to Budgeting for the conditions and Hourly Wages applicable to hiring under the SPF.*

** *To indicate the one or many Funding Source(s) that will pay for the expenses, use their respective number as you listed under Revenues (SPF or other).*

Thank you! After you save it to your files, you can now upload this form and any appendices on the SPF website to complete the application process. The SPF staff will contact your team within two weeks to provide feedback. Congratulations for applying to the SPF!

Date 1/16/19

Appendix 1 – Tasks for Student Coordinator

The student coordinator will spend approximately 20 hours/week managing the pasture performing the following tasks:

- Assist in erection of electric fence, planting of trees and installation of water lines
- Monitor pasture growth for management with cattle and chickens
    - Move cows into next paddock at appropriate time
    - Move chicken coop to new part of pasture
- Clip paddocks with tractor and mower after cows have moved to prevent uneaten grass from going to seed, and to promote fast and even re-growth
- Measure and monitor grass growth and productivity with herbometer
- Clean water tubs regularly to remove algae and assure fresh water for cattle
- Monitor health of cattle, observe cattle behavior, verify number of animals
- Daily Mobile Chicken Coop chores:
    - Collect eggs & record production
    - Record temperature
    - Check health of birds
    - Replenish water & fill grain feeder
    - Move mesh fence to provide fresh pasture
- Check electric fence that it is energized
- Trim grass under fence wire (both interior and perimeter fences) to prevent grounding
- Participate in field demonstrations and workshops

Appendix 2 – Tree Planter/Fence Builder (3)

Three short-term positions are available to plant trees, erect the electric fence and assist in laying out the water lines. These employees will be supervised by Dr. Maxime Leduc from Valacata, and Paul Meldrum, General Manager of Macdonald Campus Farm, both of whom have extensive experience in intensive rotational grazing and electric fencing systems. The tasks are as follows:

- Install posts, insulators and electric fence high tensile wire
- Install electric fence gates
- Install electric fencer with proper ground rods
- Lay out ¾" plastic water lines and install taps for water tubs
- Plant trees and shrubs for shade and bird habitat

Appendix – Participation in past SPF Projects

Paul Meldrum, Manager, Macdonald Campus Farm

- **MSEG (Macdonald Student-run Ecological Garden)**
- **Mobile Chicken Coop**
- **Permaculture Garden**
- **New Orchard (Horticulture Centre – Mac Farm)**
- **B-Shack**