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# ORDER/ADDRESS OF THE HOUSE OF COMMONS ORDRE/ADRESSE DE LA CHAMBRE DES COMMUNES

8555-421-184

NO.-N° Q-184	BY / DE Mr. Poilievre (Carleton)	DATE April 28, 2016/Le 28 avril 2016
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RETURN BY THE LEADER OF THE GOVERNMENT IN THE HOUSE OF COMMONS  
DÉPÔT DU LEADER DU GOUVERNEMENT À LA CHAMBRE DES COMMUNES

Mr. Lamoureux

PRINT NAME OF SIGNATORY  
INSCRIRE LE NOM DU SIGNATAIRE

SIGNATURE  
MINISTER OR PARLIAMENT SECRETARY  
MINISTRE OU SECRÉTAIRE PARLEMENTAIRE

JUN 14 2016

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**INQUIRY OF MINISTRY  
DEMANDE DE RENSEIGNEMENT AU GOUVERNEMENT**

PREPARE IN ENGLISH AND FRENCH MARKING "ORIGINAL TEXT" OR "TRANSLATION"  
PRÉPARER EN ANGLAIS ET EN FRANÇAIS EN INDIQUANT "TEXTE ORIGINAL" OU "TRADUCTION"

QUESTION NO./N° DE LA QUESTION Q-184	BY / DE Mr. Poilievre (Carleton)	DATE April 28, 2016
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Reply by the Minister of Agriculture and Agri-Food  
Réponse du ministre de l'Agriculture et de l'Agroalimentaire

Signed by the Honourable Lawrence MacAulay, PC, MP

PRINT NAME OF SIGNATORY  
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MINISTER OR PARLIAMENTARY SECRETARY  
MINISTRE OU SECRÉTAIRE PARLEMENTAIRE

**QUESTION**

With regard to the 60 acres of Central Experimental Farm land that was assigned to the National Capital Commission in November 2014: (a) within the last 10 years, (i) what specifically has this portion of the farm been used for, (ii) what species of plants have been grown there, (iii) what experiments have been conducted there, (iv) what significant or successful research has come specifically as a result of this 60 acres of land; (b) has the Department of Agriculture and Agri-Food conducted any studies in order to ascertain what the impact of this loss of land will be, in general, and on experimental research capabilities; (c) what has the Department of Agriculture and Agri-Food done to date to mitigate the impact of losing this land; and (d) what does the Department plan to do in the future to mitigate the impact of losing this land

**REPLY / RÉPONSE**

ORIGINAL TEXT  
TEXTE ORIGINAL

TRANSLATION  
TRADUCTION

**Agriculture and Agri-Food Canada (including the Canadian Pari-Mutuel Agency)**

(a)(i) This portion of the Central Experimental Farm encompasses mostly what is known as Field 1. Although the plots in Field 1 were originally established for conducting specific single experiments, they evolved into a controlled research platform (like living laboratories) that can be used to conduct experiments requiring many years of field trials and data collection. These long term research plots provide very specific conditions for research that will help us understand key problems facing farmers today. For example, AAFC scientists have used the controlled research platform to study a variety of issues affecting soil health and crop yields, including the effects of tillage on Fusarium head blight infection, GHG emissions, and soil carbon sequestration. In the last 10 years, research conducted on this field includes:

Soil Tillage

The long-term soil tillage experiment has been underway since 1992. Changes caused by tillage and crop rotations take a long time to manifest their effects on soil quality, plant growth and yields. It also takes years to assess and understand the effects of management practices (tillage/crops) on the wider environment (e.g., greenhouse gas emissions, soil carbon sequestration). The data collected from these long-term experiments become more reliable and more valuable the longer the experiment is conducted. These data are essential for validating the computer models that are used to make economic and environmental predictions related to farm production.

Carbon Cycling

A soil carbon cycling experiment, started in 2007, is a part of an international network of soil experimental plots conducted in collaboration with three other countries. The location of these plots (in terms of climate, soil type and cropping system) is an important factor in making them unique. The CEF plots are one of seven long-term experiments conducted by AAFC (three in eastern Canada) that focus on tillage, and are the second oldest in the country. They also rank among the longest running tillage experiments in North America.

### Fusarium Head Blight

The field study of wheat production and Fusarium Head Blight (FHB) outbreaks started in 2014. The goal of this research is to collect long-term soil biodiversity data (bacterial, fungal) from different times over the growing season. The data will provide information on the structure and dynamics of the microbial communities interacting with FHB. This study takes advantage of the fact that the disease is present in some of the plots and the soil has been well characterized. It will take at least 6-8 years for the microbial community to reach steady-state levels.

### Greenhouse Gases Emissions

Since 2005, AAFC has been conducting field studies to measure greenhouse gases emissions (CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>) from soil under different tillage and crop rotations. The long term aspect of this study will give accurate and meaningful data that will be used to improve agriculture practices.

### Long-term Canola Rotation

The goal of this long-term canola rotation study, which has been underway since 2012 at CEF, Quebec and Nova Scotia, is to better understand how canola fits into the existing cropping systems. In order to assess the economic, ecological and environmental impact of growing canola in existing cropping systems, long-term and cumulative data are essential.

### Historical Varieties

Historical varieties selected from different decades from the 1930s to today are grown together for purpose of comparing their agronomics qualities. Maintaining this research in the same field over a number of years allows for accurate assessment of attributes for each of the varieties. For example, a recent study examined the influence of increased atmospheric CO<sub>2</sub> concentration on growth and yield. This experiment has been running since 1992.

### R&D Sensor Network

Since 2010, a network of sensors has been collecting a large amount of weather and soil environmental data for soil modeling studies.

- (ii) The species of plants that have been grown on this portion of the farm include mainly wheat, corn, soybeans, oats, barley and canola.
- (iii) The main experiments are described in section (i). Some plant breeding experiments have also been conducted for over 100 years to produce new varieties of wheat, corn, barley, oats and soybeans.
- (iv) Marquis Wheat

This wheat was developed by Charles Saunders at the CEF in the early 1900's, and it has been called the greatest practical triumph of Canadian agriculture. It has been credited as important as the railway in opening the Canadian west to settlement. In 1918, Marquis wheat was planted in over 20 million acres in Canada and the USA, replacing all other spring varieties grown at that time. Field 1 was used in the early development of Marquis.

### 2007 Nobel Peace Prize

Some of the work on soil carbon cycling performed on Field 1 contributed to the work of the Intergovernmental Panel on Climate Change, who was awarded 2007 Nobel Peace Prize.

### Maple Arrow Soybean

The production of soybeans was limited to southern Ontario until the 1970's. In 1976, Harvey Voldeng, from the CEF, released Maple Arrow, which allowed the expansion of soybean cultivation into eastern Ontario, increasing the area planted in soybeans in Ontario from 150,000 hectares to one million today. Soybeans are now even grown in Manitoba and Quebec thanks to the work at the CEF.

### Maple Glen Soybean

Maple Glen was developed in 1987 by Harvey Voldeng and Elroy Cober. This variety is excellent for the production of tofu and greatly increased the demand for Ontario soybeans by the Japanese market. It received the Eastern Seed of the Year Award in 2015.

### Naked Oats, AC Gehl

AAFC's Dr. Vern Burrows, a world recognized authority on oat breeding who has been breeding oats at the CEF for 60 years, developed a variety called AC Gehl, a hullless oat, also called naked oat and the Rice of the Prairies. This variety, which cooks and looks like rice, has twice the protein, 10 times the fibre and eight times the iron of white rice.

### Weather Station

The weather station on the CEF has been in constant operation since 1889 and moved to its current location in 1952. Manual observations have been performed since its establishment and have been complemented by automated measurements since 2000. Its data is more reliable and used by many, even to fill the gaps in data from the Ottawa Airport site. The weather station requires being in the middle of a wide open flat space for accurate records to be obtained. New construction too close to its current location would change the local climate.

### Wonder Winter Wheat

Fusarium head blight is a serious disease of many cereals. This variety of soft red winter wheat was developed at the CEF in 2002 by Dr. Radhey Pandeya for pastry production and was four times more tolerant to Fusarium than other varieties.

### Short Season Corn Lines

In the 1950's and 60's researchers at CEF developed corn lines that needed less time to reach maturity. That work was fundamental in enabling producers to grow corn in colder areas farther north.

### Frederick Wheat

This soft white winter wheat, developed at CEF, was popular for at least 15 years, occupying 90 percent of the wheat acreage in Eastern Canada, and was used as a quality and yield standard. It was once calculated in the 1980's that the value of developing Frederick was over \$500 million.

**Natto Food Type Soybeans**

In addition to soymilk and tofu, soybeans are used for this Japanese delicacy – natto (fermented soybeans). The first Canadian natto food type soybeans were developed at the CEF and opened up a new market for Ontario farmers.

- (b) AAFC has not conducted any studies on the impact of the loss of land. It is clear that the long-term experiments would be affected. Some could be restarted elsewhere, and this would cause a delay of only a few years. For other experiments, the data collected over the last 10-20 years could not be followed or compared to that collected at other sites across the country and the world.
- (c) AAFC has not conducted any studies on the impact of the loss of land.
- (d) The Government of Canada remains committed to the research at the Central Experimental Farm.