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# The Regional Municipality of Durham Report

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To: Planning and Economic Development Committee  
From: Commissioner of Planning and Economic Development  
Report: #2023-EDT-10  
Date: September 5, 2023

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**Subject:**

Precision Agriculture Field Day

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**Recommendation:**

That the Planning and Economic Development Committee recommends:

That this report be received for information.

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**Report:**

**1. Purpose**

1.1 The purpose of this report is to provide an overview of “Precision Agriculture Field Day”, an event held in Durham Region on May 30, 2023.

**2. Background**

2.1 Durham Region is home to 3,360 local agri-food business establishments, including 1,200 farms. Approximately 27,000 people are employed by Durham’s local agri-food value chain, yet labour shortages continue to limit our agri-food growth capacity.

2.2 Precision Agriculture Field Day was hosted in partnership with the Region of Durham’s Economic Development and Tourism Division (Invest Durham), Durham Farm Connections (DFC) and the East Central Soil and Crop Improvement Association.

2.3 The event organizers invited 50 high school students studying environmental science, information-communication-technology, and green industries to a Durham Region farm to learn about how technology is used on farms, how farming, technology and the environment integrate on the farm, and the career opportunities in agriculture related to their respective areas of study.

### **3. Previous Reports and Decisions**

3.1 In June of 2022, Regional Council endorsed “Growing Agri-Food Durham – A Five-Year Plan to Grow the Agri-Food Industry, see [#2022-EDT-10](#). The Precision Agriculture Food Day even directly supports the following actions:

Goal 6: Identify opportunities and solutions for the workforce and labour shortages in the agri-food industry.

- (a) Educate youth in the region about diverse career opportunities available in agriculture through videos, presentations, resource sharing and agricultural programming.

Goal 8: Partner with organizations and agricultural organizations to deliver and expand agricultural literacy in the Region.

- (d) Have an active role in educating non-farm communities about agriculture in partnership with DFC.

### **4. Precision Agriculture Field Day Event Details**

4.1 Durham Farm Connections was a key partner in the delivery of this event. DFC provides agriculture education opportunities for the farm and non-farm communities in Durham Region to ensure the viability of the agri-food sector.

4.2 Four videos were created for the students to help them learn about the agri-technology and precision agriculture techniques they would be seeing at the field day. The East Central Soil and Crop Improvement Association sponsored the development of these videos which can be used as an educational resource in the future. The videos have been posted for public viewing on the Durham Farm Connections - YouTube account.

4.3 There were four demonstrations at the event, each led by agriculture industry professionals and leaders in agri-technology:

- a. No-till corn planting: The students learned about the technology and mechanics of the tractor and corn planter, including GPS mapping, auto-steer, planter sensors, fertilizer placement, and input/resource efficiencies.
- b. Precision fertilizer and spray application: Students watched a self-propelled nutrient and spray applicator machine pass over the growing corn crop. Discussion included the computer programming, soil/crop analysis and environmental considerations that are made for each nutrient that is applied on a crop.
- c. Drone flight demonstration: Students watched how drones can be applied to agriculture through a flight demonstration. Discussion included drone technology for spreading cover crop seeds, mapping fields with optics technology and working in the field without physically interacting with the soil and crop.
- d. Soil health and soil protection: Students learned how soil and agriculture work hand in hand, including how agricultural practices improve the function of soil micro-organisms, as well as improving overall soil structure. Soil is the foundation of growing most food in Durham and precision practices and technology relate to healthier soil.

4.4 Career opportunities in agriculture was the key theme for the field day. Students learned about the variety of opportunities to work in agriculture, including computer programming, soil science, equipment mechanics, and customer relations, among others. The field day featured a lunch time speaker, Craig Rickard, a Clarington grain farmer, to share his journey into a career in agriculture.

4.5 Students and teachers participating in the field day completed evaluations which identified that most students hadn't considered a career in agriculture prior to attending the field day. Comments included:

- a. how drones can be used in agriculture;
- b. how farming interacts with the environment;
- c. the variety of career opportunities in agriculture; and
- d. the videos were excellent agricultural teaching resources.

4.6 The Precision Agriculture Field Day was very well received by the students. Many noted they appreciated learning more about agriculture and the opportunities that exist beyond farming. The demonstrations were a highlight for the students, and the teachers appreciated the interactive learning opportunities that were delivered.

## **5. Relationship to Strategic Plan**

5.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

### Goal 3: Economic Prosperity

- 3.5: Provide a supportive environment for agriculture and agri-food industries: Agriculture and agri-food industries are key drivers of our regional economy.

## **6. Conclusion**

6.1 Precision Agriculture Field Day provided an opportunity to showcase some of Durham's most advanced farmers, farming operations and precision agriculture specialists, while encouraging the growth of a future agriculture workforce in Durham Region.

6.2 A similar event will be hosted again in the future to continue to promote and educate about the opportunities for careers and advanced technology in Durham Agriculture.

Respectfully submitted,

Original signed by

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Brian Bridgeman, MCIP, RPP, PLE  
Commissioner of Planning and  
Economic Development

Recommended for Presentation to Committee

Original signed by

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Elaine C. Baxter-Trahair  
Chief Administrative Officer