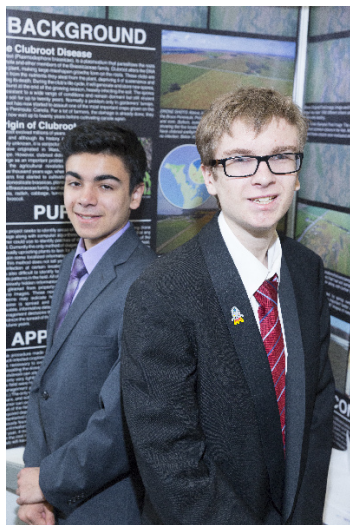


# CWSF 2018 - Ottawa, Ontario



## Griffon Thomas, Zachary Rodgers

### The Clubroot Epidemic

**Challenge:** Innovation

**Category:** Senior

**Region:** Bluewater

**City:** Lion's Head, ON, Northern Bruce Peninsula, ON

**School:** Bruce Peninsula District S.S. & E.S.

**Abstract:** This project created and tested an innovative technique that any farmer could use to identify patches of clubroot infected canola, given only drone footage of the field and computer algorithms specifically programmed as part of this venture. This unique procedure successfully proved that it was possible to obtain an accurate measurement of how widespread the clubroot infection was within the field that was under investigation.

#### Biographies

**Griffon** - Griffon Thomas is a hobbyist programmer and lover of mathematics. He plays chess, solves Rubik's Cubes, and occasionally tries to learn a bit of Korean. While doing so, he often listens to Vaporwave, a type of highly obscure music spawned from the internet's collective compost heap of 90's music and commercials. He is a student at a small K-12 school with only 150 students in Lion's Head, Ontario. Griffon just returned from that school's class trip to Europe, and this August he will leave Canada for a full year, hosted in South Korea on a Rotary exchange. He became involved with The Clubroot Epidemic project after his partner Zach ask...

**Zachary** - I began work on this project in early summer. At that time I did not know I was going to be doing it as a science fair project. I used my drone to take aerial footage of fields as a favour to local farmers in my community. Once the school year began I started seeking help from my friend, Griffon Thomas, to see what else could be done with the footage. We continued to explore the complexity of the images and began to look for patterns. Eventually we decided that the information we found would be more valuable to share than to just know for ourselves. As the regional science fair approached we continued to research clubroot, make image comparis...

#### Awards

#### Value

|   |                |
|---|----------------|
| Excellence Award - Senior - Bronze Medal<br>Sponsor: Youth Science Canada   |                |
| Carleton University Entrance Award<br>Senior Bronze Medallist - \$1,000 Entrance Award<br>Sponsor: Carleton University              | \$1 000        |
| University of Ottawa Entrance Scholarship<br>Senior Bronze Medallist - \$1000 Entrance Scholarship<br>Sponsor: University of Ottawa | \$1 000        |
| Western University Scholarship<br>Bronze Medallist - \$1000 Entrance Scholarship<br>Sponsor: Western University                     | \$1 000        |
| <b>Total</b>  | <b>\$3 000</b> |

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