

PLANT SCIENCE WITH DR DAVIDE BULGARELLI

TALKING POINTS

Knowledge:

1. What is microbiota?
2. What is the rhizosphere?

Comprehension:

3. Can you explain why Davide and his team look at the DNA of microbes?
4. Can you explain why it would be useful to study ancient varieties and wild relatives of crops?

Application:

5. Which elements of plant science would you like to research?
6. What questions would you want to ask if you were a member of Davide's team?

Analysis:

7. What are the motives behind Davide's work?
8. How is Davide's research similar to any investigations you've done in class?

Synthesis:

9. How would you design an experiment to look at microbiota?
10. Can you see a possible solution to the world's growing demand for food?

Evaluation:

11. Norman Borlaug was awarded the Nobel Peace Prize. How would you judge if a scientist deserved such a prize?
12. Davide highlights the importance of collaboration. How good are you at collaborating on projects and why?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

1. Research the lives and work of the three plant scientists Davide highlighted:
 - Gregor Mendel
 - Barbara McClintock
 - Norman Borlaug (and The Green Revolution)

What did each of these scientists add to the field of plant science? Who do you find most inspiring and why?

2. Make the most of these educational resources:

- The School of Life Sciences at the University of Dundee is passionate about engaging the public in plant science and how important they are to us. Their dedicated site is a treasure trove of resources for those interested in plant science, genetics and biotechnology: www.lifesci.dundee.ac.uk/impact/public-engagement/public-engagement-projects-and-events/engagement-plant-sciences
- This short animation by the School of Life Sciences examines the interaction between soil microbes and plants. We highly recommend watching to understand the good, the bad and the ugly of the soil microbe world! https://www.youtube.com/watch?v=JdbDRyfiad4&feature=emb_logo
- Check out the Dundee Botanic Garden's website and enjoy its wide range of plants: <https://www.dundee.ac.uk/botanic/>
- The Global Plant Council hosts a list of useful links relating to plant science. There is information on specific branches of crop science, including forestry, agriculture and food production: <https://globalplantcouncil.org/resources>
- The British Society of Plant Pathology has some great resources related to the research Davide's lab conducts on plants and microbes: <https://www.bspp.org.uk/education/>
- The James Hutton Institute, where Davide is based, is a world-leading scientific organisation in Scotland which works on land, crop, water, environmental and socio-economic science: <https://www.hutton.ac.uk>