

## “Plant researchers – the world need you!”

Interview with Prof. Ronald

**Prof. Ronald (b. 1961) is an American plant pathologist and geneticist. She is a professor in the Department of Plant Pathology and the the Genome Center at the University of California, Davis. She is also a member of the Innovative Genomics Institute at UC Berkeley and a Key Scientist at the Joint BioEnergy Institute in Emeryville, California. On the occasion of Mendel's birthday, she will deliver the keynote speech in Düsseldorf at the GPZ Annual Meeting (GEsellschaft für Pflanzenzüchtung e.V.). Gregor Mendel Foundation spoke with her in advance:**

**When and how did you discover your passion for plant research?**

*Prof. Ronald:* As a kid I spent a lot of time backpacking in the Sierra Nevada mountains with my brothers and wanted to learn more about the natural world. One day we hiked to a saddle where we saw a man and a woman with a botany book on their laps. I was fascinated with the idea that one could have a career in plant biology and spend their life hiking through the mountains and identifying flowers. That moment set me on my life path.

**Gregor Mendel would celebrate his 200th birthday this year. What is fascinating about this scientist?**

*Prof. Ronald:* That he took advantage of his time and garden to discover genetics. It shows that good science requires time and patience (and it also helps to work in a beautiful place).

**Mendel experienced scientific dispute - his results were too revolutionary. Why are some innovations accepted without opposition, while others are accepted late or never?**

*Prof. Ronald:* Sometimes scientific discoveries or applications are rejected because they are revolutionary. Sometimes they are rejected because of an epidemic of disinformation and misinformation. Consider vaccines (eg COVID vaccines) and biotechnology crops (eg, insect resistant, Bt crops). Both of these advances clearly save lives (vaccines) or dramatically reduce chemical sprays for farmers in low income countries (Bt crops) yet both these amazing advances have been rejected by some consumers because there is SO MUCH misinformation spread.

**- Continue the sentence...**

- **Research is not done as an end in itself, the biggest tasks in plant sciences are...**  
to help farmers feed the growing population without further destroying the environment.
- **The world is changing rapidly. Climate change, awareness of sustainability, and changing eating habits require ...**  
scientific research and voting for politicians that support scientific research and who base policies on evidence rather than misinformation.

- **Genetic resources are...**

essential. I am grateful to the individuals and organizations who continue to safeguard plant genetic diversity as we need these resources to develop crops that are resilient in the face of a changing climate.

**What is your view of the research and breeding community in Europe/Germany?**

*Prof. Ronald:* The European scientific community has generated and continues to make key discoveries relevant to all aspects science. I treasure my friendships with my European colleagues, The world has benefitted in many ways starting with Biffen, Mendel, Pasteur etc

**You bridge new breeding methods to organic agriculture. Do you believe that this will be accepted by society in Europe?**

*Prof. Ronald:* Farmers and scientists seek aim to reduce the use of synthetic fertilizers and harmful pesticides while maintaining or increasing yields. Organic farmers use many modern breeding approaches- mutagenesis, hybridization, marker assisted breeding etc. to achieve these goals. However, in the US and Europe the National organic standards prohibit the use of genetic engineering to develop new crops. In Europe, genome editing remains prohibited. Living where food is abundant or can be easily imported, makes it difficult from some people to grasp how modern breeding technologies touch their lives. Breeding technologies are just a distraction from the big questions: How do we produce enough food without further harming the environment? How do we reduce toxic inputs? How can we reduce food insecurity? How can we better “farm carbon” to remove CO2 from the atmosphere. Other important goals are fostering soil fertility, managing cropping systems in terms of supporting genetic diversity, and supporting rural livelihoods. Those are the grand challenges of agriculture today, that technology can help address.” Europeans want these things too so most will eventually support biotechnologies when one of these goals are clearly met.

**What advice do you give to young plant researchers in the Mendel Year?**

*Prof. Ronald:* The world need you! Keep up the good work. You will make advances that today we cannot even imagine that will dramatically improve agriculture.

**Thank you!**

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