

# Plant Health in a CHANGING CLIMATE

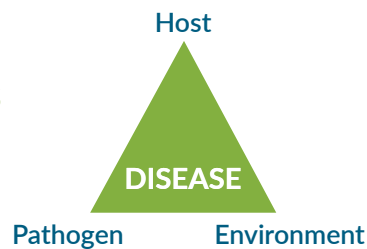
Plant health is **your** health.



Plant diseases are **among the biggest threats** to food security and quality.



The changing climate impacts **plant health**, making our crops and forests more susceptible to diseases.



## Climate change affects plant viruses

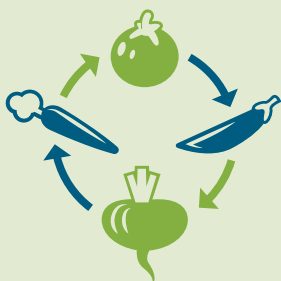
- Viral diseases are the second most common type of disease in plants, causing annual losses of \$30 billion and affecting food production around the world.
- Insects account for 64% of the transmission and dispersal of plant viruses. Changes in the environment affect insect reproduction and distribution, influencing the occurrence of plant viral diseases.
- Warmer temperatures increase silverleaf whitefly populations causing an increase in *tomato yellow leaf curl virus* in tomato crops worldwide.

Sources: Scholthof et al., 2011 (DOI: 10.1111/j.1364-3703.2011.00752.x); Ramos et al., 2019 (DOI: 10.1016/j.agry.2019.03.020); Trebecki, 2020 (DOI: 10.1016/j.virusres.2020.198059); Zayan, 2019 (DOI: 10.5772/intechopen.87055); Elad and Pertot, 2014 (<https://doi.org/10.1080/15427528.2014.865412>); and Velásquez et al., 2018 (DOI: 10.1016/j.cub.2018.03.054).



Scientists are using models to **predict how plant health is affected** by prolonged droughts and floods, increased temperatures, and unexpected freezes.

Scientists rely heavily on **seed banks and plant biodiversity** to develop crops that can withstand extreme weather conditions.



Plant scientists are developing **several strategies to improve plant health** in the face of climate change, including the promotion of symbiotic microbes, novel resistance mechanisms, and sustainable crop rotations.



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