



PICTURE PERFECT DEFENCE: DETECTING DISEASES WITH PHOTOS

A PLANT'S INVISIBLE ENEMY



Bacterial wilt is a disease that affects plants, caused by a harmful germ or "bacterium" called *Ralstonia solanacearum*. This bacterium multiplies in the roots of the plant and spreads to the rest of the plant, blocking the flow of water up the stem. This causes the plant to wilt and eventually die. Bacterial wilt affects lots of plants, including tomatoes.



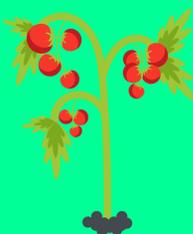
EYE SPY WITH MY LITTLE EYE

When a tomato plant has the disease, the only way to work out how sick it is, is to look at the plant and see how much it has wilted. However, this method is not very reliable as different people may have different opinions. That's why scientists are trying to find better ways to measure how bad the disease is.



SAY CHEESE! SNAPPING PHOTOS TO MEASURE DISEASE

Some scientists have come up with a clever idea to measure bacterial wilt in plants. They take photographs of tomato plants before and after they become infected with the bacteria. They put these images into a computer program that can tell them some information about the plants. For example, the computer program can measure the size of the plant, the width of the stem, and other characteristics. By looking at these measurements, the scientists can tell how bad the disease is. They can even tell if a plant is sick much earlier than just by looking at it.



SPOTTING SICK PLANTS IN A FLASH

By using this technique, they can find out which plants are sick and separate them from the healthy ones. This helps stop the disease from spreading and causing more damage. It also saves valuable resources like water because they don't waste it on plants that will die and not grow any tomatoes. Using this computer program also saves lots of money because it's much quicker and cheaper than humans doing it, so we can make cheaper food for everyone.



SUPER SCIENTISTS SAVING PLANTS

In the future, the scientists want to use this technique to learn more about why some plants get sick while others stay healthy. This knowledge will help us grow healthier crops in the future. They also want to use photographs and computer programmes like this to study other plant diseases.

