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Scientists say plants 'scream' when stressed – 3rd April 2023

Level 4

Plant lovers help plants grow by talking to them. Scientists from Israel believe plants may be able to talk back. Researchers found that plants make sounds like a human scream when they are stressed. We may be able to interpret the sounds and give plants what they need. However, the sounds are too high for the human ear to hear. We can only hear frequencies of up to 16 kilohertz. Plants make sounds up to 250 kilohertz.

The research was done in an acoustic chamber. Scientists found that stressed tomato plants create sound waves. A researcher said: "Each plant and each type of stress is associated with a specific identifiable sound." She said animals and insects could hear the sounds. If humans understood these sounds, they could help us understand when plants and crops need water. Farmers could water their fields more efficiently and save water.

Level 5

Plant lovers talk to plants to help them grow. Scientists believe plants may be able to talk back. Researchers found that plants emit sounds when they are stressed. The noises are similar to a human scream. The sounds are specific enough for us to be able to interpret and attend to a plant's needs. Unfortunately, the sounds are at a frequency that the human ear cannot hear. We can only hear frequencies of up to 16 kilohertz. Special AI algorithms detected ultrasonic sounds from plants that were up to 250 kilohertz. The AI also detected different types of plant sounds.

The research was done in an acoustic chamber in an adapted greenhouse in Israel. Scientists found that vibrations from stressed tomato plants turned into sound waves. A researcher said: "Plants usually emit sounds when they are under stress. Each plant and each type of stress is associated with a specific identifiable sound." She said animals and insects could hear the sounds. Understanding these sounds could help us understand when crops are dehydrated. Farmers could irrigate their fields more efficiently. This could conserve water.

Level 6

Plant lovers believe that talking to plants helps them grow. Scientists have discovered there could be a grain of truth in this belief. Researchers have discovered that plants emit sounds when they are stressed. The noises are akin to a human cry or scream. The scientists believe the sounds are specific enough for us to be able to interpret them and to attend to their needs. Unfortunately, plant sounds are at too high a frequency for the human ear to pick up. Humans can only hear frequencies of up to 16 kilohertz. The scientists used special AI algorithms to detect ultrasonic sounds emitted by plants that were up to 250 kilohertz. The AI also differentiated between different types of plant sounds.

The research was conducted in an acoustic chamber in an adapted greenhouse at Israel's Tel Aviv University. Scientists discovered that vibrations from stressed tobacco and tomato plants turned into sound waves. Lead researcher Professor Lilach Hadany said: "Plants usually emit sounds when they are under stress. Each plant and each type of stress is associated with a specific identifiable sound." She suggested that fields of crops could be quite noisy, saying: "While imperceptible to the human ear, the sounds emitted by plants can be heard by...bats, mice, and insects." Interpreting these sounds could help us understand when crops are dehydrated. Farmers could irrigate their crops more efficiently, and thus conserve water.